WMO

INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE

UNEP

IPCC WGII
Fourth Assessment Report
Climate Change Impacts, Adaptation and Vulnerability

Expert Review of First Order Draft

Specific Comments

Chapter 13

December 5, 2005

Discussion of expert review comments and record keeping

IT IS RECOMMENDED THAT:

- AUTHORS BEGIN WORK ON THE COMMENTS IMMEDIATELY. SUBSTANTIVE COMMENTS NEED TO BE SEPARATED FROM NON-SUBSTANTIVE, AND THE TWO SHOULD BE TREATED DIFFERENTLY
- CONTACT IS MADE BETWEEN AUTHORS AND THEIR REVIEW EDITORS IN DECEMBER

Substantive comments

- The chapter writing team should discuss all substantive expert review comments, by email and/or at Merida.
- Substantive comments require full and proper consideration. The *Principles Governing IPCC Work* state that:
    - genuine controversies should be reflected adequately in the text of the Report and
    - it is the role of the Review Editors to advise the lead authors on how to handle contentious/controversial issues
- You must record the outcome of these discussions in this document, under the column 'Notes of the Writing Team'.

Non-substantive comments

- For non-substantive comments, a very brief entry should be made in the column 'Notes of the Writing Team'. The following terms are acceptable:
    - Addressed
    - Not applicable
    - Text removed
    - A tick to denote a comment has been addressed (somewhere on the document this should be stated)

General

- The record can be kept electronically, or with pen-and-paper.
- The document becomes part of the traceable account of the Working Group II Fourth Assessment. When completed to the satisfaction of the Review Editors, a copy should be returned to the TSU by the **28th February 2006**.

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
13-0	A	0				**Co-chair and TSU comments** FOD has improved substantially the ZOD. However, as shown in the specific comments, there is a tendency to generalize concepts, developments and other inputs without taking care of the heterogeneity of the socio-economic and cultural levels of the national communities in this Latin American ethnological plurality. Some sections of this Chapter, which happily are very few, using probably non fully checked information, assume that references on draft laws, regulations, procedures, plans and projects are implemented when by experience and facts they or the installations and services on which they should be based, are non-existent. The chapter does not include certainty estimations. **(Osvaldo Canziani)** The chapter is a bit too long and would be easy to be reduced in 2.2 pages. The number of contributing authors is not the ideal (04) half of them from one country. Headings: the introduction is missing. There are only two figures in this Chapter, both of which are in the case studies. This is a missed opportunity. For the readership of the AR4, which is mainly non-specialist decision- and policymakers, the best way to reach them is through figures and tables which summarize information. The Executive Summary does not pull out the key findings and highlight the material from the TAR, as it should. Again, this is a missed opportunity It would be worth trying to arrange the bullet points under sub-headings, to see whether you have the balance right, and how many are new since the TAR. There are five on present	See Av response Addressed

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
						climate trends, two on current adaptation, one on future climates, five on future impacts and one on vulnerability. Nothing on adaptation to future climate changes. Some summarizing/synthesising tables and figures could be added. Good examples are Ch 4 Table 4.5 (impacts for increments of global temperature change) and Ch 11 Table 11.11 (Impacts at future timeslices under different SRES scenarios). If Chapter 13 could do something like this, it would be great material for the SPM/TS, and would give the chapter much more punch. For examples of the kind of figures we are looking for, I would refer you to Chapter 4 Fig. 4.9 (map of global impacts for three different temperature changes) and 4.10. Fig 4.10 is a sectoral burning embers diagram, but could be easily adapted for the regional case. **(Carla Encinas)**	
13-1	A	0				With respect to impacts on health, it would be important to also include the impacts caused by Heat Waves, particularly on children under the age of 5 years and on the elderly over the age of 60 years. In Peru, a study has revealed that the rise in extreme temperatures generates greater risks of contracting illnesses among children, especially in communities with significant rates of chronic malnutrition. Among others, these illnesses include hyperthermia, which is caused by heat waves and has the following symptoms: a high fever, diarrhea, respiratory and neurological problems. Hyperthermia can cause death, particularly among children under 5 and among elderly people over 60. This risk is increased when the heat waves occur together with relatively high humidity rates. These were precisely the conditions in the summer of 1998 in some areas of the northern coast of Peru: the minimum environmental temperature recorded positive anomalies of up to 7°C. Moreover, according to the same study, a rise of 2 to 4° C in the environmental temperature may represent a four-fold increase in the mortality risk (Samalvides, 1999). For example, infant mortality rates due to acute diarrheic illnesses doubled in Piura during the 97-98 El Niño occurrence. (Lenkiza Angulo Villarreal , Soluciones Prácticas-ITDG)	Solicito las citas, lo acepto
13-2	A	0				GENERAL COMMENTS: (1) The chapter needs much work in the writing: some sections are very difficult to read. Some sections still read like "cut and paste"	Addressed

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						from existing articles (like ZOD). (2) Two messages are clear in the chapter: (a) Dynamic climate models (GCMs) produce climate change projections with a degree of uncertainty that makes it difficult for decision-makers and policy makers to use (at least with respect to rainfall projections). (b) Huge efforts have been made and are still being made by societies to learn to adapt to current climate variability including extreme events. Thus, the chapter leads to conclude that an effective way to advance in developing strategies for improving adaptation to climate change is to concentrate in developing strategies to reduce vulnerability and increase resilience of societies to current climate variability (including extreme events). If this is the message the authors want to convey, should the chapter mention it more explicitly? (Walter Baethgen, International Research Institute for Climate and Society, Coulmbia University)	
13-3	A	0				I though that this chapter was a good overall summary of climate change in latin and central america. I have included some up to date information on events that occurred since the first draft was prepared (droughts, fires), and more information on the consequences of fires, which are one of the greatest climate-linked threats to forest and cerrado ecosystems. I think the extra information could be included by tightening the english and reducing the text throughout the report. If i has to identify a weakness, then i would focus on the lack of information on biodiversity. This is partly because very little is known, but this lack of knowledge (and the efforts of some projects to address this, such as TEAM) should be highlighted. (Jos Barlow, University of East Anglia)	Ok
13-4	A	0				General comment ….. FOD improve a lot from previous version, more balanced. It is important to iniciate the process to reduce the text to the 30 pages. Additionally some space might be needed to incorporate some of the results from AIACC projects ending this year 2005. (Max Campos Ortiz, Regional Committee on Hydraulic Resources-Central America Integration System)	Ok
13-5	A	0				Throughout chap. 13, and starting in the Executive Summary on p. 3, lines 18-20, there are repeated references to the loss of water resulting from the loss of glaciers. This claim is not well supported with scientific studies, and in fact, it is my understanding from existing scholarship that the relationship between glacier size and glacier runoff is still somewhat unclear. It is vital that this report read and cite the hydrological and glaciological literature on this topic to strengthen the claims about the relationship between melting glaciers and water resources for human consumption. Good studies on this (for Peru) are Bryan Mark and Georg Kaser.	JCG Not accepted. References to Mark studies will be included

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						For a host of publications on this from Kaser, follow the link to publications at the website of the Tropical Glaciology Group: http://geowww.uibk.ac.at/glacio/ (Mark Carey, University of California, Berkeley)	
13-6	A	0				From the opening of the Executive Summary of chap. 13 to the end of this chapter, there are references to "climatic variability and extreme events" (p. 3, line 3). However, there is not sufficient proof provided in the chapter to demonstrate that global warming affects climatic variability or extreme events. I suspect other sections of the IPCC report will provide this scientific rationale, but I believe it should also be referenced and made explicit at the beginning of this chapter. What are distinctions between climate change and climatic variability? What are extreme events? How do we know these are extreme events? Extreme events compared to what (that is, if we examine the historical record and account for demographic changes and increased human vulnerability to climatic events and natural disasters, do we still see a rise in "extreme events" in recent years? Or, are there just more vulnerable populations today? This should be clearer in the text of the chapter.) Is there a link between global warming and precipitation extremes? What is the evidence? I believe it is important to establish the scientific proof (as best it can be proved in the scientific literature) right at the beginning of this chapter. Many readers will not take the time to read the science volume, and this chapter will be more convincing and effective if the explanations for how global warming impacts climatic variability and extreme events are provided right at the beginning, especially since the chapter repeatedly returns to this effect and assumes that warming does, in fact, lead to variability and extremes. (Mark Carey, University of California, Berkeley)	Accepted Cn
13-7	A	0				Congratulations to all of you for an excellent work Check references, some use "et al.". Other all the author are writting, and other the first two authors, I guess, are writting follow by et al. Some are italics others not. (Jorge Carrasco, Dirección Meteorológica de Chile)	ok
13-8	A	0				General comments on the chapter (made for the zod, I insist that): this chapter must be reviewed considering two issues that must be highlighted: 1) regional studies involving more than one county in the region; 2) Stakeholder involvement in those studies, and the new methods applied that include both issues. Also, there are some published papers that propose methods to analyze climatic impacts. Examples of those efforts are: South and Central America (AIACC projects); see: AIACC's Data, Methods, and Synthesis on the Web, http://sedac.ciesin.columbia.edu/aiacc/ The outcomes of that project can be seen in 6 Peer-reviewed publications in 2005, 3	Accepted sections

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
						Peer-reviewed publications in 2004, 4 Peer-reviewed publications in 2003, 3 AIACC working papers, and in 18 other publications. Some of them I will suggest to be included in other lines of this review. In the case of the project "Capacity Building for Stage II Adaptation to Climate Change in Central America, Mexico and Cuba" 8 countries are developing regional studies, focusing explicitly on current and future vulnerability and adaptation. Partial results can be found on www.adaptacion.org. That project uses the Lim, B, I, Burton, S, Huq, et al, 2005. "Adaptation Policy Frameworks for Climate Change: Developing Strategies, Policies and Measure. Lim et al (editor). UNDP- GEF National Communications Support Programme. Cambridge University Press. This publication is being cited by ch2, wgii. It includes several Latin American research studies and results, particulary chapter 9: Sample of case study from Tlaxcala, Mexico. Other projects that have produced interesting results are 1) Particular efforts are being made to assess the drought conditions and impacts for the Caribbean and Mesoamerican regions: the project AMIGO –FRIEND, http://www.met.inf.cu/sequia/amigo.asp; 2) The project that includes several Caribbean countries MACC project. Mainstreaming Adaptation to Climate Change. http://www.oas.org/macc/ (Cecilia Conde, Centro de Ciencias de la Atmósfera, UNAM)	
13-9	A	0				The chapter followed the suggested structure of subheading titles and maximum number of pages. This chapter represents a very difficult task considering the diversity and complexity of the major ecosystems in Latin America as well as social, political and economic differences between countries. Maybe due to these aspects, it is difficult to have an integrated view of main issues. In many parts of the manuscript, one can find the description of different cases but there is no synthetic statement that can add vallue to the cited literature. On the other hand, in some parts of the text, more specific information is needed. Some examples are indicated for the Executive Summary in the next lines as this section is critical to provide the readers with an overview of the document. In this chapter, in general, there is a lot of information from different countries/regions but the section on Weather and Climate stresses needs the organization in subheadings where the different aspects (biodiversity, human health, freshwater resources etc) were presented by regions. It is difficult to infer if some regions are more impacted or if it is simply that some regions are more studied than others.	

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						(Mercedes Maria da Cunha Bustamante, Departamento de Ecologia, Universidade de Brasília)	
13-10	A	0				General: throughout the report, descriptions of environmental characteristics, problems or solutions often refer to specific countries (e.g., p. 12, line 25: what is the value of telling that changes in precipitation were reported for xxx countries, while in fact these changes were limited to quite specific ecoregions, which are not bounded by national borders). Although the information may come from national reports, it may be more appropriate to refer to particular climate- or life zones within a country (or across adjacent countries). Or it may be appropriate to include maps, for instance of projected climatic change, or occurrence of extreme events. Similar under 13.3.3.1, where poverty is described per country, without mentioning that within certain countries there are "pockets" of deep poverty, esp. in some rural areas which are totally outside the official economy, and where local people act opportunistically (often destroying their environment) because the state provides no security or support to better landuse. Sources should be recent, refereed literature (1999-) The FOD uses much grey literature, such as FAO and UN reports. These sources often provide very general statements (like those mentioned in the introduction to this review), which are not particularly useful in defining problems and solutions … I add a number of references with more precise knowledge (see ref. list). Is value added to the assessed literature? Not very often. (Jon Fjeldsa, University of Copenhagen)	accepted
13-11	A	0				style of chapter is possibly too catastrophic and judgemental, I would expect a more dispassionate discussion of data and models. For example, p4 l4: an extinction is an extinction, what is a 'catastrophic extinction'? P4 l29 'erroneously', unless this is specified it sounds merely like an unfounded judgement. Same for 'wrong' on p11, l25. soya is mentioned several times in the chapter. A major development in soya is the accelerated implementation of large areas with transgenic soya which allows for higher use of herbicides and the consequences thereof. combination of economic, climatic and environmental stresses are pushing highland agriculture in two directions: reduction of agrobiodiversity (monocultures) along main highways and close to cities; and moving toward higher altitudes, with consequent needs for adaptation to different conditions, as glaciers retreat, temperatures increase, frost frequency decreases, and competition for land increases (e.g. Halloy, S.R.P., Seimon, A., Yager, K. and Tupayachi Herrera, A., 2005. Multidimensional (climate, biodiversity, socio-economics, agriculture) context of	Dc

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						changes in land use in the Vilcanota watershed, Peru. In: E.M. Spehn, M. Liberman Cruz and C. Körner (Editors), Land Use Changes and Mountain Biodiversity, 2005. CRC Press LLC, Boca Raton FL, USA, pp. 323-337. Halloy, S.R.P., Ortega Dueñas, R., Yager, K. and Seimon, A., 2005. Traditional Andean Cultivation Systems and Implications for Sustainable Land Use. Acta Horticulturae, 670, 31-55.) I see no mention in this chapter of the important work of people studying the recent climate changes. These provide estimates of mean temperature changes for the Andes superior to those given in Table 13.2a and through text. They should be referenced. E.g. Vuille, M., Bradley, R.S., Werner, M. and Keimig, F., 2003. 20th century climate change in the tropical Andes: observations and model results. Climatic Change, 59. Vuille, M., Hardy, D.R., Braun, C., Keimig, F. and Bradley, R.S., 2001. Climate variability on intraseasonal to interannual timescales on the Bolivian Altiplano with special emphasis on the Nevado Sajama region. Ecología en Bolivia, 35, 17-40. Thompson, L.G. et al., 1998. A 25,000-Year Tropical Climate History From Bolivian Ice Cores. Science, 282, 1858-1864. (Stephan Halloy, Instituto de Ecología, Universidad Mayor de San Andrés)	Cn
13-12	A	0				The references are incomplete. The text is clear and it is well-organized. The suggested literature arises my specialty. The repetitions only point to diminish the text extension. Kokot, R.R., 1997. Littoral Drift, Evolution and Management in Punta Médanos, Argentina. Journal of Coastal Research, 13 (1): 192-197. Kokot, R.R., J.O. Codignotto y M. Elissondo, 2004b. Vulnerabilidad de la Costa de la Provincia de Río Negro al Ascenso del Nivel del Mar. Revista de la Asociación Geológica Argentina, 59(3): 477-487. Kokot, R.R., 2004c. Erosión en la Costa Patagónica por Cambio Climático. Revista de la Asociación Geológica Argentina, 59(4): 715-726. (Roberto Kokot, FCEyN (Universidad de Buenos Aires))	Gn AV Addressed. Some of the references will be added if possible (depending on total length)
13-13	A	0				It is necessary to standardize the use of the term “region” (sometimes referred as Region) (Magda Aparecida Lima, Brazilian Agricultural Research Corporation - Embrapa)	ok
13-14	A	0				It is missing many references on authors/papers cited throughout out the chapter. It is missing description of experiments on CO2 fertilizing and implication to the adaptative strategies. There are numerous papers dealing with the implication of global warming on C3 and C4 plants, especially in developed countries. Maybe this subject is commented in other chapters, but they are very important to be discussed under the chapters 13, 17, among others.	Gm Not accepted due to lack of space.

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						(Magda Aparecida Lima, Brazilian Agricultural Research Corporation - Embrapa)	
13-15	A	0				The chapter 13 of this report are a very good synthesis of base-line (diagnosis) of the Latinoamerican region and of the emergent risks of the climatic change. The main criticism that I can make is that, in some cases, bibliography of continental scale has been used to explain local phenomena and vice versa. Another vulnerable aspect of this report can be the use of information published in newspapers of massive circulation, because these articles are usually loaded with sensationalism and, generally, they are tendentious or to be not very informed (or not well informed), like it also happens with some ONG´s. Some aspects like the biodiversity (p. 16) and the agriculture and forestry (p. 20) they are poorly developed, with very little information. However, then in the page 26 (lines 6-10) the graveness of the climatic change is manifested in some arid areas, in those that some species could disappear... This is not very serious if information is not provided that it bases the idea, or the corresponding bibliographical references are presented. In the analysis of risks like consequence of climatic changes, it should be emphasized more - in my approach - the impact in the transformation of wetland and river ecosystems that they are of great scenic value (Pantanal, Iberá, Marshes of the river Magdalena, etc) and also a drastic reduction of the fishing in the rivers of the La Plata River Basin, like it has been demonstrated in the period 1999-2005 as consequence of a very long drought. (Juan José Neiff, Consejo Nacional de Investigaciones Científicas y Técnicas (CONICET))	Addressed. To be considered. GN AV JCG DC
13-16	A	0				A review was made as it was noted on the guide. The structure is adequate, the FOD content and depth represent the current status of knowledge regarding the different subjects involved in climate change. Therefore, It is evident that some subjects reflect more progress than others. Furthermore, this evaluation emphasizes the countries in Latin America that are in the forefront and those that need support to develop their own research. From this it is possible to determine in what way they are affected, how they contribute, prevent or alleviate the impacts on the variability or climatic change. Likewise, there is an added value to the whole document in regard to previous reports, related particularly with demographic and social issues. (Oralia Oropeza-Orozco, of Geography, National Autonomous University of Mexico (UNAM))	
13-17	A	0				There is a need to show better linkages between this IPCC report and the findings and conclusions of the Millenium Ecosystem Report	

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
						(GERMAN POVEDA, Universidad Nacional de Colombia, at Medellin)	
13-18	A	0				The Chapter on Latinamerica has to stregth the necessity and importance of developing and supporting scientific research from local scientists on all climate change issues, including natural systems and human systems and their interactions. Many scientific unknows constraint the capability of establishing adaptaption measures and plans. Such research has to include measurements, diagnostic and modeling studies. Some examples include tropical rainfall at different time-space scales, the interactions between land surface-atmosphere feedbacks, Pricing of Carbon sequestration in tropical forests, Economic valuation of Services of natural systems, etc. (GERMAN POVEDA, Universidad Nacional de Colombia, at Medellin)	
13-19	A	0				The document has an appropriate work out; it follows a very well thought structure, that had been proposed for the chapters by geographical regions of the planet. The document is easy to read, and the authors have consolidated in it technical results of great interest, although they are referred exclusively to the Continental Latin America; this constitutes a concern, since they have excluded of the text interesting results from insular countries that also are part of the Latin American context and that made progresses in their studies on adaptation, as the investigation carried out by Cuba and Dominican Republic, in the Caribbean. Are these works included in Chapter 16 Small Islands? In that case, they would be it in another context far away from the synthesized experiences for Latin America. A lack of balance is evident in the document among the territorial results selected and commented for South America and those referred to Central America. The document employed reports of great interest for the region, elaborated by international and experience organizations like ECLAC, that considered different indicators and its behaviour, such as the related to economic situation, social development, the lack of equity, all of them very tied to the environmental deterioration and the real chances of getting an appropriate conscious intervention, with the support by the governments, so they could be able to revert the current situation and get adequate preparedness in the region to receive the impact of the variability and the climatic change. We don't share the approach of forest compensation for environmental service, on the base of resources that are being destroyed every day in the own region, leaving out the exceptional conditions that can converge in a given country. The text is clear in expressing what happens in the Amazonian and I don't feel that the region as a whole should make business of such compensations; with regard to "other practices of adaptation", authors bet to the transfer of problems to other areas;	

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						while the emissions of GEI stay, at planet level, risen by the emissions of the highly industrialized countries. With regard to the economic scenarios, the forecasts made by the World Bank on the growth of their GDP per capita to medium term 2006-2015, of about 2.6 per cent; they are very optimistic with regard to the real 0.3 percent per annun in the period that goes from 2001 to 2005. The given vision about future impacts and vulnerabilities, is highly explosive, as the region runs toward an abyss and the actions foreseen in matter of recovery, protection and adaptation don't seem would be able to modify this tendency. The document presents a rich diagnosis of the problems in the region, presents a group of partial solutions, but there is a lack of integration in the proposals made, it does not pronounce on how? or the way in which regions or countries might face the challenge that means solve the problems already diagnosed. To our understanding, it is necessary go deeper on the subject of the changes of structures, go ahead from a formal political will to its materialization; to changes in the economic and social patterns, to be made with a vision of fair sustainability. Latin America is indeed the continent with the biggest polarization of wealth that conspires against any principle of adaptation in the aspirations of the scientific community. Poverty, the inadequate knowledge of farmers, the big productions, the training lack, the political priority to the topic of the climatic change, the real access to the technologies and economic resources to face the current vulnerability are key elements in the achievement of a rational adaptation. In conclusion the Latin America chapter leaves a bitter flavor in the readers, our continent goes to the ecological disaster, to the worsening of poverty and less attention to the climatic changes; in this chapter there are not proposals in terms of reordering the territory, establish of adequate priorities on problems, or the conviction that topics as Climatic Change and Adaptation cannot continue to be left out of the intents to achieve the economic development; without a real jump in the quality of life and the protection of the atmosphere. I consider necessary the insertion of an epigraph that approaches the regional economic and social scenarios of the region that establishes the effective viability in the implementation of the identified actions to face the Climatic Change. It becomes indispensable to found a center or a net that receives the works carried out in all the countries of Latin America on climatic change, vulnerability and adaptation in specific dates so that the specialists, members of the team that elaborates these reports may work with the very best information of the wider base	

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						possible. (Carlos Manuel Rodríguez Otero, Instituto de Planificacion Fisica de Cuba)	
13-20	A	0				General Comment: Socioeconomic impacts of events seem to be only addressed in the in agriculture sector Does this chapter cover the Caribbean? (Emilio Sempris, Water Center for the Humid Tropics of Latin American and the Caribbean)	AV GN Adressed About caribbean: There are 28 Caribbean States 11 of which are continental LA countries. CARIBBEAN COMMUNITY CLIMATE CHANGE CENTRE (CCCCC) is located in University of Belize. The Centre implements projects designed to prepare for and to reduce the harmful effects of climate change and sea level rise and seek ways in which the Additionally, the CCCC is intended to position the Region to maximize benefits from new and additional resources arising from the United Nations Framework Convention on Climate Change (UNFCC).
13-21	A	0				The primary strength of this chapter is the detailed environmental information it contains – e.g., trends in and projections of temperature, precipitation, forest cover, etc. The authors seem to be on much weaker ground when they try to address socioeconomic conditions and policy issues. I particularly fear that deficiencies in the economic content of the chapter, which are bound to be noticed by a number of readers, will detract from its impact on the debate over global climate change. I conclude by pointing out that I am an economist and that many of the shortcomings of this chapter have to do with my field of study. Since I have not focused on the chapter's major strengths, which relate to fields such as climate science, this review might seem unduly critical. However, the preceding observations are offered in a constructive spirit. I hope the authors find these observations useful. (Douglas Southgate, Ohio State University)	accepted
13-22	A	0				A short discussion in the text on the following topics is lacking. Latin America harbours a great richness not only on biodiversity of wild species, also on domesticated ones. The conservation and sustainable management policies for the biological diversity should include the regional rich pool of domesticated	

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
						animals and plants impacted by the Climate Change and other current and future socioeconomic pressures. The preservation of these domesticated biodiversity could be consider as a "proactive adaptation action" in order to use them directly or its genes for the development of new varieties of plants and animals able to adapt to the future climatic conditions. In the region there are many traditional and indigenous peoples and communities depending directly on diverse resources from the ecosystems and biodiversity for many goods and services (food, medicines…), they are vulnerable and should be negatively impacted by the Climate Change. Probably they would be the most vulnerable human group in the region. It is necessary to preserve the regional rich traditional knowledge and the mechanisms for coping multi- environmental hazards, many of them useful in the context to adapt to the impacts of the Climate Change. (Avelino Suarez, Ecology and Systematic, Cuban Environmental Agency.)	
13-23	A	0				In general the authors should be able to find plenty of room for cutting down to the maximum page length, as there are considerable redundancies. One overarching point that I would like to highlight is the often contradictory and inconsistent information presented in various places throughout the chapter. Specifically, the authors seem to promote the idea that under climate change scenarios, the entire region of Latin American will simultaneously be getting much drier and much wetter. I can accept a potential rise in extremes and so more of both. But the authors need to be very careful throughout the text in discussing which – more wet or more dry – the area under discussion at the time expects. It seems "wetter conditions" are promoted randomly in certain places (page 32, line 34) and "dry conditions" are promoted randomly in others (page 9, line 39-41). In either case, the authors often promote the idea that infectious disease complications will be increasing without question, in wet or dry scenarios. For instance, expected increases in disease outbreaks are consistently highlighted (e.g. page 9, lines 25-27, see comment 4) even while discussing much drier weather (page 9, lines 17-23). I am left with the impression after reading the report that I have no idea where in Latin America we expect to see an increase in precip and where we expect to see a decline because I've seen mention of floods and drought in different places throughout, in an environment that is expected by default to be more moist. In future drafts I would like to see much tighter logic flow and consistency in discussing expected changes. (Kevin Vranes, University of Montana)	Specif circunstances regarding effects in infectious diseases will be addressed.
13-24	A	0				I think that the whole chapter has been improved from the ZOD, mainly in terms of	

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						its length, repetitions and the notion on climate vulnerability. However, I think that it lost the narrative and information is given without an introduction that refers to the aim of each section, and in a manner that result quite telegraphically given. In the following comments I will try to give some few ideas on this concern, but I am sure I am not the most accurate person to do so. (Monica Beatriz Wehbe, NATIONAL UNIVERSITY OF RIO CUARTO)	
13-25	A	0				The entire chapter is ambitious and the authors efforts have clearly been tremendous. That said, emphasis of principal issues could and should be better highlighted in subsequent drafts, for example the important role of fire (see above). Additionally, there is much work to be done to polish the prose, and the organization of the tables leaves much to be desired. Also in many places the chapter reads as though it is driven by a particular political agenda with respect to "sustainability." Although I am personally sympathetic to the viewpoints expressed, I am concerned that this tone can serve to undercut the impact of the climate change findings, and am not convinced that it properly lies within the scope of the report. (Daniel Zarin, University of Florida)	
13-26	A	1	24	12	26	State for how long this trend has been observed. What was the magnitude of year to year variations in precipitation? Were similar trends observed in the past? (Pierre-Andre Jacinthe, Indiana University Purdue University, Indianapolis)	
13-27	A	1	37	1	37	The term "development" should be specified (Magda Aparecida Lima, Brazilian Agricultural Research Corporation - Embrapa)	Cg
13-28	A	1	38			In the structure presented it will be interesting to consider Population as another item in Assumptions about future trends. (Julio Garcia, National Environmental Council)	Ok
13-29	A	2	4	2	4	Remove the term "unknown" (it does not make sense) (Magda Aparecida Lima, Brazilian Agricultural Research Corporation - Embrapa)	
13-30	A	2	45		49	In the last paragraph (lines 45-49) it is necessary to include a mention about that some climate projections have been constructed for regions into diferent countries; for some regions there is decrease of precipitation. (Jose Daniel Pabon Caicedo, Universidad Nacional de Colombia)	Text changed
13-31	A	3	0	4		There is no mention of the opportunities from climate change, although it is mentioned later on in the chapter. Only a mention on likely positive impacts through reduction of malaria transmission. (Encinas Carla , IPCC WG2 TSU)	Text changed
13-32	A	3	0	4	0	Executive Summary: could be improved adding quantitative information for the description on trends, potential impacts and vulnerability to climate change.	Text changed

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
						(Paulo Moutinho, Amazon Institute for Environmental Research (IPAM))	
13-33	A	3	0			I consider that in the executive summary should include one paragraph related to degradation soil process in Latin América. The soils degradation is an important impact of the climate change in the region. (Oscar Paz, National Climate Change Programme)	Yes
13-34	A	3	1	4	32	No information on certainty levels is included in this ES. (Osvaldo Canziani, IPCC WG2 Co-chair)	Yes
13-35	A	3	1			In the Executive Summary there is very little on adaptation and nothing on indigenous knowledge for adaptation. (Encinas Carla , IPCC WG2 TSU)	Alerta desastres
13-36	A	3	1	43	22	The narrative in the document is poor. There is a lot of interesting information in the text but an effort should be made in order to pass from a list of events and impacts into an actual analysis of the current state of understanding on climate, vulnerability and adaptation in the region. I think this chapter will reach this levels in the following iterations (SOD, TOD). (Víctor Magaña, National Autonomous University of Mexico)	We'll try
13-37	A	3	1			I suggest re-writing the whole section on "executive summary" in the following manner: A first paragraph with a short introduction on LA and main knowledge from TAR. A second paragraph on climatic extremes, trends and main impacts (Including information from current paragraphs 1 and 2). A third paragraph with other impacts (Including current paragraphs 3, 4 and 5). A forth paragraph on current adaptation, including a very short introduction and adding (just mentioning) other type of adaptations (include here, paragraphs 6 and7). A fifth paragraph concerning future conditions together with main expected outcomes (include here, paragraphs 8, 9, 10, 11, 12 and 13). A sixth paragraph on the required adaptations, highlighting both current and future needs. A final paragraph concerning sustainable development. Some specific concerns about this section are commented below, by line. (Monica Beatriz Wehbe, NATIONAL UNIVERSITY OF RIO CUARTO)	Text changed
13-38	A	3	3	43	43	The Chapter is a bit clunky, and there are minor grammar mistakes. I think it provides the information needed. (Antonio Humberto GUERRA, I. Medicina Tropical Alexander von Humboldt, UPCH)	
13-39	A	3	3	3	9	This introductory paragraph may change the data for Katrina (it did not happen in	Yes

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
						Latin America) for the data for Stan (over Central America) for instance. (Víctor Magaña, National Autonomous University of Mexico)	Stan Wilma
13-40	A	3	3	4	32	There should be some reference to the mitigation initiatives in the region, including the reforestation programs aimed at carbon sequestration (Víctor Magaña, National Autonomous University of Mexico)	Idea general de iniciativas
13-41	A	3	3	6	16	Much is said about the negative impacts of climate variability and change, are there any positive (potential) impacts that may be considered an opportunity under climate change? (Víctor Magaña, National Autonomous University of Mexico)	Soya
13-42	A	3	3	3	9	What about hurrivcanes in tropical North Atlantic-Caribbean and the Eastern Pacific?. (Jose Marengo, CPTEC-INPE)	Yes Put a sentence
13-43	A	3	3	3	9	It is necessary to mention here that 2005 was the year with most hurracaines in the Pacific ever, and the desturctive effects of Stan and Wilma in October (Enrique Martínez Meyer, Instituto de Biología, Universidad Nacional Autónoma de México)	Accepted
13-44	A	3	5		6	Executive Summary: In the first paragraph, lines 5 and 6 is written: "Morever, unexpected climatic events were reported, as ....". Extreme rains, hail and hurricanes … are "weather extremes" they are not "climatic extremes". I recomend to change the word "climatic" by words "weather and climate"here and afterward. I (Jose Daniel Pabon Caicedo, Universidad Nacional de Colombia)	Yes
13-45	A	3	5			Include after ...flood episodes", hailstorms and extrem snows. (Oscar Paz, National Climate Change Programme)	Yes
13-46	A	3	5	3	9	Include that…"hurricane Mitch caused 9,214 casualties in Central America in 1998 and material loss extimated in 6,008 Million dollars" (Source: : ECLAC, América Latina y El Caribe: El Impacto de los Desastres Naturales en el Desarrollo, 1972-1999, LC/MEX/L.402; OFDA, Venezuela- Floods, Fact Sheet #10, 1/12/ 2000.) (Emilio Sempris, Water Center for the Humid Tropics of Latin American and the Caribbean)	No
13-47	A	3	7			On the executive summary, on page 3, line 7, after the information about Venezuela, it is also possible to cite the intense precipitations that happened in Mexico during 1999, and the recent disasters caused by Stan and Wilma hurricanes, which not only affected this country but also other countries in Central America and the Caribean. (Oralia Oropeza-Orozco, of Geography, National Autonomous University of Mexico (UNAM))	Yes

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
13-48	A	3	8	3	9	The reference to the tropical storm Catarina, which has been identified as the first South Atlantic hurricane, should remark that it is the first of such cyclonic storms registered in this area of South America. As a supporting reference the article on New Scientist of 24 September 2005, entitled: "Catarina´s shock message" could be mentioned. (Osvaldo Canziani, IPCC WG2 Co-chair)	Yes
13-49	A	3	8			Could be included "In Peru, in 2004, recurrent freezing fronts with hails and temperatures below 20º C, killed 66 childs, afected more than 300,000 families, in the poorest areas of southern peruvian highlands and kills over 250,000 cattle heads (National Institue on Civil Defense, INDECI, 2004) (Julio Garcia, National Environmental Council)	Ver texto
13-50	A	3	8	3	8	There is a comma missing. It should read "…died, 19 were declared…." (Eduardo Usunoff, Instituto de Hidrología de Llanuras)	Yes
13-51	A	3	9			include hurricanes in 2005 (i.e. Stan and Wilma), consult wg1, ch2 for projections on hurricane activity in the Atlantic under climate change conditions. (Cecilia Conde, Centro de Ciencias de la Atmósfera, UNAM)	Yes
13-52	A	3	9	3	9	"hurricane Catarina in March 2004 that damaged over 40 000 buildings in Southern Brazil." (Gilberto R. Cunha, Brazilian Agricultural Research Corporation (Embrapa))	Yes
13-53	A	3	9			It is not fully accepted that the event in Santa Catarina could be defined as an hurricane. Cyclone should be more adequate. (Silvina Solman, CONICET)	No
13-54	A	3	10	1	11	May be better add "some regions"when referring to countries since not all countries experience the trends (Jose Marengo, CPTEC-INPE)	Yes, ver regiones done
13-55	A	3	11		15	It is mentioned the important increases in precipitation were evidence in different countries while in others a declining trend was observed. Authors could add the range of precipitation increase/decrease as the word "important" is vague. (Mercedes Maria da Cunha Bustamante, Departamento de Ecologia, Universidade de Brasília)	Yes significant
13-56	A	3	11			…clear "changes in " climatic trends ? (Monica Beatriz Wehbe, NATIONAL UNIVERSITY OF RIO CUARTO)	Yes Remove done
13-57	A	3	12	3	13	Relative to long-term (>30 years) average (Pierre-Andre Jacinthe, Indiana University Purdue University, Indianapolis)	Yes done
13-58	A	3	12	3	13	It should be mentioned at least the localsin the countries where was observed the increased precipitation, not as as whole. (Magda Aparecida Lima, Brazilian Agricultural Research Corporation - Embrapa)	Yes Region done

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
13-59	A	3	12		14	On page 3, lines 12-14 can be complemented with the literature that is cited later, which reveals the increase of morbidity and mortality due to floods, landslides and storms. (Oralia Oropeza-Orozco, of Geography, National Autonomous University of Mexico (UNAM))	Not applicable
13-60	A	3	12			The increases in precipitation were evidenced in some regions in Argentina, Uruguay,etc. However is not evident that the increase in precipitation was in all Bolivia. (Oscar Paz, National Climate Change Programme)	Yes Region done
13-61	A	3	13			In the rest of the Chapter there is no evidence on "increases" in morbidity…… (Monica Beatriz Wehbe, NATIONAL UNIVERSITY OF RIO CUARTO)	Not applicable
13-62	A	3	14	3	15	This statement is too vague: "declining trend in precipitation". Agreed that the total amount of precipitation in a given "rainy season" in SOME locations is decreasing, but the intensity of rainfall episodes is sometimes increasing, thus sometimes we might have less total rain, but more concentrated in shorter periods of time. Finally tehere is a contradiction with line 40 page 4. (Jose Santos, Escuela Superior Politecnica del Litoral)	No
13-63	A	3	15			"declining trend in precipitation... ", some parts of Central America" and Cuba. (Cecilia Conde, Centro de Ciencias de la Atmósfera, UNAM)	No done
13-64	A	3	15			"declining trend in precipitation.." I think drought conditions should be enhanced in the executive summary as a major threat in Latin America, considering rainfed agriculture, forest fires and water issues. (Cecilia Conde, Centro de Ciencias de la Atmósfera, UNAM)	Yet included
13-65	A	3	15			"„Ecuador , Chile and Peru, this country have in 2004 it´s dryest year in the last decade, and some parts of Central America." (Julio Garcia, National Environmental Council)	No
13-66	A	3	15	3	15	Maybe Western Cental America, instead of "some part of Central America" (Emilio Sempris, Water Center for the Humid Tropics of Latin American and the Caribbean)	Yes done
13-67	A	3	17			The statement on the disappearance of South America´s glaciers is too strong. It is suggested to soften it saying as follows: The glaciers´retreat trend reported in the TAR is being exacerbated reaching critical conditions in....: Replace "will" by "would", and redraft the rest to also mention the impact on natural systems. A suggested text would be: …Andes would disappear with adverse implications on human and natural systems, due to water shortage.. (Osvaldo Canziani, IPCC WG2 Co-chair)	Yes done
13-68	A	3	17	3	17	TAR has not been previously defined (at least in this Chapter)	No

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
						(Eduardo Usunoff, Instituto de Hidrología de Llanuras)	
13-69	A	3	18	3	19	At the beginning of the sentence add and rephrase "Recent research in the Andes shows that in the next 15 years intertropical glacier will have disappeared…." the previous phrasing wasn't clear. (Encinas Carla , IPCC WG2 TSU)	Yes done
13-70	A	3	18	3	19	Are you confident enough to make such a strong statement (80% is a large number) is this a subjective opinion or is based on actual data? (Jose Santos, Escuela Superior Politecnica del Litoral)	Yes Suavizar done
13-71	A	3	19			Replace will by would and re-draft the rest to also mention the impact on natural systems. A suggested text would be …Andes would disappear with adverse implications on human and natural systems, due to water shortage. (Osvaldo Canziani, IPCC WG2 Co-chair)	Yes done
13-72	A	3	20			Include after ..hydropower, animal consumption and development of the "bofedales" (Oscar Paz, National Climate Change Programme)	No Ver Agregar en texto
13-73	A	3	21	3	28	What exactly means 50%? Probably 50% above previous deforestation rates. If so, it has to be said: with an increasing deforestation rate of 50 %, during the last five years, in Brazil. (Osvaldo Canziani, IPCC WG2 Co-chair)	Yes
13-74	A	3	22			Source? Douglas and Smith are not listed. However, Douglas is well published as NO acceleration. Disagrees with Nagy. Miller 2005 is listed as 2004. His numbers are NOT credible. Barros 2003 is listed as 2005. His numbers are in line. (Hans H.J. Labohm, Netherlands Institute of International Relations 'Clingendael')	Addressed Will be eidted n text and table GN AV
13-75	A	3	22	3	24	Can you say something about the magnitud or regional sea level rise with respect to reports in other parts of the world? (Víctor Magaña, National Autonomous University of Mexico)	Addressed Will be put in text Gn AV
13-76	A	3	22	3	24	Example data is not very consistent with information in Table 2 (Monica Beatriz Wehbe, NATIONAL UNIVERSITY OF RIO CUARTO)	Addressed Gn AV
13-77	A	3	23	3	24	The tendency of 4 mm/year cannot extend to all the regions, therefore should clear to where refers (Roberto Kokot, FCEyN (Universidad de Buenos Aires))	Accepted Details are explainded in tables (already done or to be built) Gn AV
13-78	A	3	26	3	29	What is "natural land cover" given that humans have been altering the landscape for more than 10,000 years in the Americas? This statement would be tighter and stronger with specific parameters defining what is meant by loss of "natural" land cover. Further, it is unclear to me in this statement (and the chapter) how exactly global warming causes loss of forests. Aren't humans cutting down the forest	No

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
						much more responsible for deforestation than climate change? (Mark Carey, University of California, Berkeley)	
13-79	A	3	26	3	28	The percentage (50%) used for deforestation of tropical forests in Brazil should be confirmed and adequately referred. That is a polemic subject among national researchers and institutes, so that we need to be carefull in mentioning numbers and percentages of deforestation. (Magda Aparecida Lima, Brazilian Agricultural Research Corporation - Embrapa)	Revise text
13-80	A	3	26			add In the case of Brazil recent data from the ministry of environment shows a reduction of deforestation in the year 2005, although it is not known if the reduction will be maintained. (Luis Pinguelli Rosa, Federal University of Rio de Janeiro)	Main last 5 years
13-81	A	3	26	3	26	"continuous" should be replaced by "continued" (Jose Santos, Escuela Superior Politecnica del Litoral)	Yes
13-82	A	3	27	3	28	(e.g Brazil 50%) has no context - what does this 50% refer to? A 50% increase in the rate over 5 years? (Jos Barlow, University of East Anglia)	Yes
13-83	A	3	27			add In the case of Brazil recent data from the ministry of environment shows a reduction of deforestation in the year 2005, although it is not known if the reduction will be maintained. (Luis Pinguelli Rosa, Federal University of Rio de Janeiro)	Yes
13-84	A	3	28	2	29	Biomass burning has been affecting rainfall in southern Amazonia, not necesssarely the entire climate (Jose Marengo, CPTEC-INPE)	Yes
13-85	A	3	28			add In the case of Brazil recent data from the ministry of environment shows a reduction of deforestation in the year 2005, although it is not known if the reduction will be maintained. (Luis Pinguelli Rosa, Federal University of Rio de Janeiro)	Yes
13-86	A	3	28			add In the case of Brazil recent data from the ministry of environment shows a reduction of deforestation in the year 2005, although it is not known if the reduction will be maintained. (Luis Pinguelli Rosa, Federal University of Rio de Janeiro)	Yes
13-87	A	3	28			Add that the tropical Andes has been identified as the most important hotspot for biodiversity ion Earth, meaning the fastest rates of biodiversity loss on the planet, due to land use change and deforestation. (GERMAN POVEDA, Universidad Nacional de Colombia, at Medellin)	Yes Agregar en el texto DC
13-88	A	3	31			Since it is better to speak about climate projections, the sentence should be amended to read:	Yes

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
						The emergence of more reliable seasonal climate projections, etc. (Osvaldo Canziani, IPCC WG2 Co-chair)	
13-89	A	3	31	3	35	There is progress in some countries on development of early warning systems for risk analysis, but this is not a practice in the most of LA countries. Should say that this is form some countries. (Encinas Carla , IPCC WG2 TSU)	Yes suavizar
13-90	A	3	31		38	The paragraph is about the implementation of early warning systems for different sectors. Are these initiatives ocurring at the same intensity in all regions/countries? (Mercedes Maria da Cunha Bustamante, Departamento de Ecologia, Universidade de Brasília)	Yes
13-91	A	3	31	3	31	where the reliable seasonal forecasts are implemented?. (Jose Marengo, CPTEC-INPE)	Yes
13-92	A	3	32			…last 10 years contributed to the oincrease in their use IN the (Julio Garcia, National Environmental Council)	
13-93	A	3	33	5	36	Does this information come from the TAR? (Encinas Carla , IPCC WG2 TSU)	No No viene del TAR
13-94	A	3	33			development of early warning AND for risk analysis in several ... (Julio Garcia, National Environmental Council)	Yes
13-95	A	3	33			…warning systems for risk "analysis"?... (Monica Beatriz Wehbe, NATIONAL UNIVERSITY OF RIO CUARTO)	Yes
13-96	A	3	35			The reference on the rapid implementation of early warning systems sounds contradictory in this region where the observation and monitoring networks, and very specially GCOS, are so poorly implemented (about 35% regarding recommended sites and below 25% regarding the implementation of the three domains: atmospheric, terrestrial and oceanic). Since any warning system calls for a host of real time weather reports from the GCOS and the WWW observation network, the information on climate monitoring and early warning systems must be very carefully checked. (Osvaldo Canziani, IPCC WG2 Co-chair)	No hay sistema ideal
13-97	A	3	35	3	38	Latin America is very diversified. The text is very generalist, as the component regions work similarly. It should be mentioned the specific regions, even being a executive summary. (Magda Aparecida Lima, Brazilian Agricultural Research Corporation - Embrapa)	Yes
13-98	A	3	36			In the Region still prevails the approach focused on the emergency or disaster response, and even if forcasting systems exist, impacts on small farmers or poor urban populations are increasing due to the low social budgets and the scarce public investments in prevention policies and measures in response to climate impacts	Yes Agregar problema small farmers etc

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
						(Martha Yvette Munguía de Aguilar, Ministry of Environment and Natural Resources)	
13-99	A	3	36	3	38	Considering that this section is dedicated to an executive summary, I think it would be necessary to change the sentence which goes from "Other important issue…" to "…climate variability" to the following one: Another important issue evidenced in the region is that the interest of some stakeholders in the decision making process, destined to adaptation strategies and risk management in order to cope with climate variability, is only recent. (Ana Maria Murgida, P.I.R.N.A. - GEOGRAPHIC INSTITUTE / SCHOOL OF ARTS, U.B.A.)	Yes Change text
13-100	A	3	36	3	38	These lines sound non sense, since, for example farmers, have been incorporating adaptation strategies into the process of decision-making as to cope with climate variability and extremes… I would start the paragraph on adaptations with something like: "One important issue evidenced recently in the region is the increasing concern over climatic impacts which can be positive for developing strategies and increasingly incorporate risk management in the process of decision-making at different levels and at least for coping with current climate variability…." And then the examples. (Monica Beatriz Wehbe, NATIONAL UNIVERSITY OF RIO CUARTO)	Yes Change text
13-101	A	3	38			In most of the countries in the Region policy making processes are not participatory, there could be some experiences within the context of specific projects but is rather an exception. (Martha Yvette Munguía de Aguilar, Ministry of Environment and Natural Resources)	No
13-102	A	3	40	3	40	"in the face" not "on the face" (Jos Barlow, University of East Anglia)	Yes
13-103	A	3	40		43	This paragraph needs some rewording as the establishment of ecological corridors is not necessarily related to climate change as clearer stated in the main text (pages 33/34) (Mercedes Maria da Cunha Bustamante, Departamento de Ecologia, Universidade de Brasília)	Yes Corregir el texto
13-104	A	3	40			Here it reads: '... on the face of massive species extinctions due to climate change ...' Irrespective of attribution, is there any massive species extinction to date? If so, please source. If not, delete. (Hans H.J. Labohm, Netherlands Institute of International Relations 'Clingendael')	Yes Remove in text

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
13-105	A	3	40	3	43	I could not find the reference to "ecological corridors" in the section on "current adaptations" (Monica Beatriz Wehbe, NATIONAL UNIVERSITY OF RIO CUARTO)	No
13-106	A	3	41	3	41	cut "based on conservation strategies" or re-phrase (Jos Barlow, University of East Anglia)	Yes
13-107	A	3	42	3	43	Which zones in which countries? (Magda Aparecida Lima, Brazilian Agricultural Research Corporation - Embrapa)	Yes Add the zones in the text Dc
13-108	A	3	45	3	46	It should be stated the horizon time for the projected warming that is mentioned. (Vicente Barros, Centro de Investigaciones del Mar y la Atmósfera (CIMA/CONICET-UBA))	Yes
13-109	A	3	45	3	46	It should be mentioned the time horizon for warming mentioned. (Inés Camilloni, Centro de Investigaciones del Mar y la Atmósfera (CIMA/CONICET-UBA))	Yes
13-110	A	3	45			The projected warming should be qualified as the "mean" warming. That is, a warming bringing mean surface temperature increases ranging from 1º to 4º. Surface temperatures, as already observed, would be higher in high latitudes. Note that TAR estimates for the 21st century range from 1.4 to 5.8 º C, relative to 1990. (Osvaldo Canziani, IPCC WG2 Co-chair)	Yes
13-111	A	3	45	3	49	There are references to various climate change scenarios (A2, B2) but there is no mention to the uncertainty at regional levels and the importance of this element to assess risk to climate change (Víctor Magaña, National Autonomous University of Mexico)	The range shows the uncertainity
13-112	A	3	45	3	49	for what time slice?, 2071-2100?. (Jose Marengo, CPTEC-INPE)	Yes
13-113	A	3	45	3	46	It is proposed to indicate also the period related to the indicated temperature increase. (Klaus Radunsky, Umweltbundesamt GmbH)	Yes
13-114	A	3	45	3	46	The sign ˚ should be added in each magitude of temperature. (Jose Santos, Escuela Superior Politecnica del Litoral)	No
13-115	A	3	46	3	46	The "scenarios" must be described suscinctly, not just with the letters A, B, etc., and "GCM" not used without some sort of very brief explanation (Antonio Humberto GUERRA, I. Medicina Tropical Alexander von Humboldt, UPCH)	No
13-116	A	3	48	3	49	It should be said both positive and negative. Otherwise it could give the impresión that are only positive anomalies (Vicente Barros, Centro de Investigaciones del Mar y la Atmósfera (CIMA/CONICET-UBA))	Yes

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
13-117	A	3	48	3	49	Future precipitation change scenarios for some regions in Latin America as Central Chile and large areas of the Patagonia show negative values indicating that it is not expected an increase in rainfall in the whole region as it is mentioned (Reference: Camilloni, I. and Bidegain, M. 2005.Escenarios climaticos para el siglo XXI. In: El Cambio Climático en el Río de la Plata. Barros V., A. Menéndez, G.J. Nagy (eds), Chapter 3, 33-39, Ed. CIMA/CONICET-UBA, Buenos Aires,Argentina.) (Inés Camilloni, Centro de Investigaciones del Mar y la Atmósfera (CIMA/CONICET-UBA))	Yes
13-118	A	3	48	3	48	larger rainfall anomalie?. Positive or negative anomalies?. (Jose Marengo, CPTEC-INPE)	Yes
13-119	A	3	48	3	49	Inspection of the last generation AOGCMs delivered for the AR4 shows that is not true that almost all models project less rainfall over extratropical South America. There are some models that project more rainfall over that area. Some references can be picked-up from the corresponding WGI chapter. (Silvina Solman, CONICET)	We dont have tose scenarios
13-120	A	3	49			Regarding the studies on extreme events it is better to change "current" to read "recent". A good number of them is published. (Osvaldo Canziani, IPCC WG2 Co-chair)	Yes
13-121	A	3	49			Again it is stated that there will be more weather extremes in the future. No caveats, no explanation of the underlying mechanism. (Hans H.J. Labohm, Netherlands Institute of International Relations 'Clingendael')	WG 2 chap 2
13-122	A	3	49	4	2	I do not see any regional evidence documented for LA on increasing frequency of extreme events (Monica Beatriz Wehbe, NATIONAL UNIVERSITY OF RIO CUARTO)	No
13-123	A	4	0			The executive summary not include the analisis related to impacts of climate change in the infraestructure (i.e. bridges broken; roads destruyed,etc.) (Oscar Paz, National Climate Change Programme)	Yes
13-124	A	4	1	4	32	Something else should be said about the potential for adaptation in the region since some projects have been in progress in Mesoamerica and the Caribbean in recent years. What can be said about adaptation in particular sectors? (Víctor Magaña, National Autonomous University of Mexico)	PUT ADAPTATION
13-125	A	4	1	4	2	Too much uncertainties in the future of climate extremes, (Jose Marengo, CPTEC-INPE)	Yes
13-126	A	4	1	4	1	replace "extremes" by "weather extremes" (Jose Santos, Escuela Superior Politecnica del Litoral)	Yes
13-127	A	4	2			Scenarios developed within the Peruvian Program on climate change for the northern Piura region of the country sets an increased trend of the El Niño, with	WG 1

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
						high probability (70% of models in A2 scenarios) of a severe El Niño in the period 2009-2015. (Julio Garcia, National Environmental Council)	
13-128	A	4	4		6	The information in this paragraph should be more specific: what groups are facing catastrophic species extinction, what areas are probably most impacted? (Mercedes Maria da Cunha Bustamante, Departamento de Ecologia, Universidade de Brasília)	Yes
13-129	A	4	4	4	6	mention the degree iof uncertainity since this scenario was generated by one model only (Hadley Centre) (Jose Marengo, CPTEC-INPE)	No
13-130	A	4	6			and climate changes, including tropicalization of current desertic areas in northern Peru region. (Julio Garcia, National Environmental Council)	No
13-131	A	4	8	4	9	This treatment is too broad, and this would only depend on climate scenarios. (Encinas Carla , IPCC WG2 TSU)	Yes
13-132	A	4	8	4	9	Where are those 30 or 90 million people or 100 and 180 million to be affected?, Latin America? (Víctor Magaña, National Autonomous University of Mexico)	Yes LA
13-133	A	4	8	4	9	What are the sources of this data? And, it is important to begin to relate this information to Social Vulnerability. For instance: The social vulnerability assessment, associated to climatic variability and change, is very significant in order to consider the different climatic scenarios, and to calculate figures such as "between 30 and 90 million people…", regarding events that do not depend only on natural causes. (Ana Maria Murgida, P.I.R.N.A. - GEOGRAPHIC INSTITUTE / SCHOOL OF ARTS, U.B.A.)	No
13-134	A	4	8	4	33	Under present and future conditions, the social vulnerability is expressed in the different scenarios where there are, and will be, considerable impacts and effects. Actually, I believe that it would be more appropriate that the section that goes from line 8 to line 32 (page 4), should begin with the last PARAGRAPH (L27-L32), for it is the general state of things, and only then, pass to the concrete examples. (Ana Maria Murgida, P.I.R.N.A. - GEOGRAPHIC INSTITUTE / SCHOOL OF ARTS, U.B.A.)	Yes
13-135	A	4	8	4	9	It seems that significant difference in results for different climate scenarios related to climate change for the period until 2025 seems strange as for this time period the	No

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
						climate change does not significantly differ between different emission scenarios. (Klaus Radunsky, Umweltbundesamt GmbH)	
13-136	A	4	11			this speaks of reduction in precipitation whereas p3 l48 speaks of substantial increases for the same areas, and p4 l43-44 says there is no trend. (Stephan Halloy, Instituto de Ecología, Universidad Mayor de San Andrés)	No
13-137	A	4	12			This statement might be true for regions where precipitation becomes a limiting factor for malaria, but not so in other regions, such as Colombia where temperature increase plays a major role to augment malaria transmission rates, as is the case during El Niño. (GERMAN POVEDA, Universidad Nacional de Colombia, at Medellin)	Addressed
13-138	A	4	14			"dengue .. ": increasing transmission areas... Peru, Ecuador and Jamaica (Cecilia Conde, Centro de Ciencias de la Atmósfera, UNAM)	Addressed
13-139	A	4	14			It is relevant to mention that socioeconomic conditions of most of the population are contributing to increase the risks in human health due to the lack of basic services, malnutrition and food insecurity (Martha Yvette Munguía de Aguilar, Ministry of Environment and Natural Resources)	Addressed
13-140	A	4	14			I suggest include to Bolivia because the number of cases of dengue increased in this country in the last years. (Oscar Paz, National Climate Change Programme)	Addressed
13-141	A	4	16	4	18	Is it possible to make this claim without consideration of future developments in technology, population trends, and other human initiatives and behaviors? (Mark Carey, University of California, Berkeley)	Yes Reviser cita DC
13-142	A	4	16		18	Again, it should be mentioned what regions/countries will be probably more impacted by desertification and salinization processes (Mercedes Maria da Cunha Bustamante, Departamento de Ecologia, Universidade de Brasília)	Yes Reviser cita DC
13-143	A	4	16	4	18	It would be welcome if the authors also address the associated impacts on settlements and society that are linked to the identified desertification and salinization processes in many areas of Latin America. (Klaus Radunsky, Umweltbundesamt GmbH)	Yes Reviser cita DC
13-144	A	4	16	4	16	I do not think you can be that accurate on this figure (50%) (Jose Santos, Escuela Superior Politecnica del Litoral)	Yes Reviser cita DC
13-145	A	4	17			…wil be subjected to "increasing" desertification…… (Monica Beatriz Wehbe, NATIONAL UNIVERSITY OF RIO CUARTO)	Yes Reviser cita DC
13-146	A	4	20	4	24	This is not clear. Where are the projections from? (Brazil? All of Latin America?) (Walter Baethgen, International Research Institute for Climate and Society,	Yes LA

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
						Coulmbia University)	done
13-147	A	4	20			Since the variability of crop yields is the result obtained from models, it is opportune and necessary to add the words "modelled" and "used" so to read: "A great variability in modelled crop yields is available, different results are attributed to the GCM and to the incremental scenarios used, etc". (Osvaldo Canziani, IPCC WG2 Co-chair)	Yes done
13-148	A	4	20	4	25	More than "great variability" there is great uncertainty in projected crop yields. Once again, there is need to include the concept of uncertainty in the Executive Summary and in the Chapter in general (Víctor Magaña, National Autonomous University of Mexico)	Yes done
13-149	A	4	20	4	25	The paragraph is not clear. Attribution of crop yield variabilty to GCM or scenario is confusing. I understand the idea but it is not clear in the text. The statement should be rephrased. (Silvina Solman, CONICET)	Done
13-150	A	4	21	4	21	Should specify which incremental scenario used. (Encinas Carla , IPCC WG2 TSU)	Yes done
13-151	A	4	21	4	21	Define "SRES" (Jose Santos, Escuela Superior Politecnica del Litoral)	Done
13-152	A	4	24	4	25	Are changes in coffee planted area a consequence of climate change or it is due to other factors? The sentence is not clear. (Monica Beatriz Wehbe, NATIONAL UNIVERSITY OF RIO CUARTO)	Ok done
13-153	A	4	25	4	25	"expect reduction in planted area in traditional region and possibility of the crop migration for temperate zone in Brazil, and in production in Mexico." (Gilberto R. Cunha, Brazilian Agricultural Research Corporation (Embrapa))	Yes Change text done
13-154	A	4	25			It would be also important to mention that: Besides impacts of climatic trends on aggregate agriculture production, the presence of extreme events will continue affecting agriculture production and livelihoods of rural population locally. (Monica Beatriz Wehbe, NATIONAL UNIVERSITY OF RIO CUARTO)	Add text
13-155	A	4	26			Many countries of Latin America rely on water resources to generate electricity. Disruptions of the hydrological cycle due to climate change and variability lead to electricity shortages and social unrest. (GERMAN POVEDA, Universidad Nacional de Colombia, at Medellin)	Yes Add text
13-156	A	4	27			remove "the" from "resilience of social systems" (Jos Barlow, University of East Anglia)	Yes
13-157	A	4	27			Between weaknesses and decrease interpose "would" (Osvaldo Canziani, IPCC WG2 Co-chair)	Yes
13-158	A	4	27	4	32	Is this a future trend? Is it assumed that institutional weakness and environmental	No

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
						deterioration will continue? (Encinas Carla , IPCC WG2 TSU)	
13-159	A	4	27			It is important to include that in most of the countries develolpment policies have not included a sustainable approach and have marginalized many people currently living in poverty or extreme poverty. (Martha Yvette Munguía de Aguilar, Ministry of Environment and Natural Resources)	Thanks
13-160	A	4	27	4	27	"Low economic growth.." This might be true in general, but in the region there is great inequity, with very small sectors of society showing a large growth, leaving the rest of society with sometimes a negative growth, furthermore, among countries there are clear differences in this issue. (Jose Santos, Escuela Superior Politecnica del Litoral)	Yes
13-161	A	4	27	4	32	The whole pragraph is not clear! I would say: Economic crisis and institutional weakness contribute with the decrease of natural and human systems' resilience and with environmental deterioration caused by socially and economicall induced human actions. Thus, sustainable development in the region is already being threatened by environmental as well as socio economic stresses that in combination with climate change will further exacerbate difficulties in achieving sustainable development. (Monica Beatriz Wehbe, NATIONAL UNIVERSITY OF RIO CUARTO)	No
13-162	A	4	28			to cope with climate variability and CLIMATE change and… (Julio Garcia, National Environmental Council)	No
13-163	A	4	29			Replace "provoked erroneously by human, etc" to read: "due to wrong human actions" (these involve social, economic and environmental actions). (Osvaldo Canziani, IPCC WG2 Co-chair)	Yes
13-164	A	4	29	4	29	The word "erroneously" suggests a cultural bias and is not correctly used here. Using the word "erroneous" is dangerous because it can alienate readers and suggest a strong bias from the authors of this chapter. (Mark Carey, University of California, Berkeley)	Yes
13-165	A	4	30	4	32	"will complicate". This statement sounds too definitve and too pessimistic. Substitute with "could complicate" (Pierre-Andre Jacinthe, Indiana University Purdue University, Indianapolis)	Yes
13-166	A	4	30			Most currently development policies and human actions (Martha Yvette Munguía de Aguilar, Ministry of Environment and Natural Resources)	No
13-167	A	4	30		32	Vague discussion of "any sustainable development plan" seems outside the scope of the report and detracts from its potential impact	Yes

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
						(Daniel Zarin, University of Florida)	
13-168	A	4	31			After the word "plan" add a colon to insert the subsequent complementary text "The necessary integration of climate change issues in national / regional sustainable development plans will bring more reliable results, largely compensating for the efforts involved. (Osvaldo Canziani, IPCC WG2 Co-chair)	Yes Add text
13-169	A	4	32			… such a plan, that is already observed in the increase of the climate related number of emergencies. (Julio Garcia, National Environmental Council)	Yes
13-170	A	4	32			Add after to achieve such a plan "when it exists". (Martha Yvette Munguía de Aguilar, Ministry of Environment and Natural Resources)	No
13-171	A	4	32	4	31	Change "any" to … with climate change will complicate any further attempt to achieve such plan. (Marta Vinocur, Universidad Nacional de Río Cuarto, Agrometeorología)	Yes
13-172	A	4	38	4	40	The sign ˚ should be added in each magitude of temperature, and latitude (Jose Santos, Escuela Superior Politecnica del Litoral)	It is said in the line 37
13-173	A	4	40	3	40	It says ¨Consistent precipitation trends are hardly seen in the region¨. This is not true. In southeastern South America, especially in Argentina, there were consistent and significant positive trends, as quoted in table 13.2a- In addition there other papers showing this fact, which are being added in next comments. There is also a consitent negative trend in Central Chile that can be seen in ClkimateChange 2001. Synthesis Report of the IPCC, Figure 2-6a. page 58 of the Spanish version (Vicente Barros, Centro de Investigaciones del Mar y la Atmósfera (CIMA/CONICET-UBA))	Taken into account
13-174	A	4	40			also in central Andes of Peru, despite the observed increase of anual mean temperature of about 1,3º in the last 50 years, it also includes the increase of at least 30 days of freezing fronts (heladas with temperatures below 0º) in the same period. (Julio Garcia, National Environmental Council)	Thank you but this is information of the TAR
13-175	A	4	40	5	13	13.1. Summary of the knowledge assessed in the TAR.On page 4, lines 40 and 41 where it says: "Consistent precipitation trends are hardly seen in the region. There has been an increasing winter precipitation over the last 40 years in Mexico, as opposed to the decreasing precipitation in northern parts of Nicaragua", in some way it is repeated on page 5, lines 11-13, where it says: "During the warm phase (El Niño), winter precipitation increases and summer precipitation decreases in México and on the Pacific coast of Central America." Although, this is related to	No trends

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
						ENOS, it might be convenient to eliminate one paragraph to prevent the text from excessive space. (Oralia Oropeza-Orozco, of Geography, National Autonomous University of Mexico (UNAM))	
13-176	A	4	40	3	40	Natural ecosystems should read either natural systems or ecosystems (Emilio Sempris, Water Center for the Humid Tropics of Latin American and the Caribbean)	
13-177	A	4	40	4	40	With respect to the statement: "Consistent precipitation trends are hardly seen in the region" .This generalization iv not fully valid. Central Argentina, for instance, has experienced consistent positive trends in precipitation since 1970s. (Silvina Solman, CONICET)	Taken into account
13-178	A	4	42			After Nicaragua add: Minimum monthly temperatures have been increasing In Colombia during the last 40 years at an average rate of 0.08C per year. (GERMAN POVEDA, Universidad Nacional de Colombia, at Medellin)	Is it in the TAR?
13-179	A	4	44			this should be referenced. I am aware that precipitation has increased in the low foothills of the Andes in Northwestern Argentina, however the opposite seems to have happened in the higher elevations where glaciers are rapidly retreating, lakes are drying up and peat bogs (ciénagas) show dying off from drought. The overall trend in this area is clearly drying. Halloy, S.R.P., 1985. Climatología y Edafología de Alta Montaña en Relación con la Composición y Adaptación de las Comunidades Bióticas (con especial referencia a las Cumbres Calchaquíes, Tucumán), #85-02967. University Microfilms International publ.(UMI), Ann Arbor, Michigan, 839 pp. and others (Stephan Halloy, Instituto de Ecología, Universidad Mayor de San Andrés)	Thank you but this is a summary of the TAR (no new info)
13-180	A	4	49			cloud-forest are migrating to higher elevation, but it is worth mentioning that at the same time the upper limit of the cloud-forest in the Andes is depressed as frequent human-induced fires has led to loss of several hundred altitudinal meters of complex vegetation on the transition between closed forest and truly alpine vegetation. In Peru and Bolivia there are only few kilometer square of intact primary vegetation left in this zone, as most tree-lines are sharp fire-maintained boundaries. In many areas, only a narrow band of cloud-forest is lect (Bradley et al. 2002; + several older papers). (Jon Fjeldsa, University of Copenhagen)	This is the TAR summary
13-181	A	4	50			Such dissapearance of glaciers posses a big threat to very fragile ecosystems such as those located in the higher Andes, and known as "paramos". (GERMAN POVEDA, Universidad Nacional de Colombia, at Medellin)	Thank you

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
13-182	A	5	0			here and in chapter in general the monsoon Chaco dry sclerophyll forests are insufficiently mentioned, despite having been identified as key conservation and biodiversity areas. E.g. Grau, H.R., Gasparri, N.I. and Aide, T.M., 2005. Agriculture expansion and deforestation in seasonally dry forests of north-west Argentina. Environmental Conservation, 32, 1-9. Kessler, M., Bach, K., Helme, N., Beck, S.G. and Gonzales, J., 1998. Floristic diversity of Andean dry forests in Bolivia - an overview. In: S.-W. Breckle, B. Schweizer and U. Arndt (Editors), Results of worldwide ecological studies. Proceedings of the 1st Symposium of the A.F.Schimper-Foundation est. by H. and E. Walter. Günter Heimbach, Stuttgart, Hohenheim, Germany, pp. 219-234. Parker, T.A., Gentry, A.H., Foster, R.B., Emmons, L.H. and Remsen, J.V., 1993. The Lowland Dry Forests of Santa Cruz, Bolivia: a global conservation priority. RAP Working Papers, 4. Conservation International, FAN, Santa Cruz, Bolivia, 104 pp. S.D. Davis, V.H. Heywood, O. Herrera-MacBryde, J. Villa-Lobos and A.C. Hamilton (Editors), Centres of Plant Diversity - A guide and strategy for their conservation. WWF, IUCN, Cambridge, UK. (Stephan Halloy, Instituto de Ecología, Universidad Mayor de San Andrés)	
13-183	A	5	2	5	5	rephrase sentence starting “it is believed…” (Jos Barlow, University of East Anglia)	Rephrased
13-184	A	5	2			agriculture and hydroelectricity, and potential glacial lake out flows that puts in risk important populations, human settlements and livelihoods downstream (Julio Garcia, National Environmental Council)	Is it in the TAR?
13-185	A	5	3			The Amazon as well as the Andes Mountains. (GERMAN POVEDA, Universidad Nacional de Colombia, at Medellin)	Ok
13-186	A	5	6			clarify: an increase in temperature would clearly increase EVT. The reduction postulated must be based on something else (deforestation?) (Stephan Halloy, Instituto de Ecología, Universidad Mayor de San Andrés)	Deforestation comprissed in human disturbances
13-187	A	5	7	5	8	Probably worth mentioning tree mortality from fires here too. (Jos Barlow, University of East Anglia)	It is not said in the TAR
13-188	A	5	10	5	18	It is my understanding that models cannot predict how global warming will affect El Nino because existing models suggest opposite results. This chapter should be clear about scientific uncertainty in regard to global warming and El Nino. Further, line 13 claims precipitation in Peru increases during El Nino, but this is only true for the west coast and not the eastern slope of the Andes. (Mark Carey, University of California, Berkeley)	Ok
13-189	A	5	10	5	10	Define “ENSO” the first time it is used (Jose Santos, Escuela Superior Politecnica del Litoral)	It is said in the TAR

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
13-190	A	5	12	5	12	All of Mexico? (Walter Baethgen, International Research Institute for Climate and Society, Coulmbia University)	Ok for most of Mexico
13-191	A	5	13			Peru experiences increases in precipitation in the northern coastal areas, while precipitations usually decrease in the southern highland areas, as well as in Bolivia. (Lenkiza Angulo Villarreal , Soluciones Prácticas-ITDG)	Ok
13-192	A	5	13			specify coastal Peru, el Niño is related to drought in the highlands of Peru (Stephan Halloy, Instituto de Ecología, Universidad Mayor de San Andrés)	Ok
13-193	A	5	13	5	13	Change “Peru” by “Ecuador and Peru” (Jose Santos, Escuela Superior Politecnica del Litoral)	It is not said in the TAR
13-194	A	5	14	5	15	Change “suffers” by “suffer” (Jose Santos, Escuela Superior Politecnica del Litoral)	Ok
13-195	A	5	17	5	18	This does not tell much. “Possibly”? Larger impacts? Why? (Walter Baethgen, International Research Institute for Climate and Society, Coulmbia University)	Eliminated
13-196	A	5	20			add In Latin America those diseases are consequence of the precarious conditions of public and collective health in the poor areas, without systems for water supply, sewage and waste. (Luis Pinguelli Rosa, Federal University of Rio de Janeiro)	It is said Poor sanitary conditions
13-197	A	5	20			Eliminate “ either” (Marta Vinocur, Universidad Nacional de Río Cuarto, Agrometeorología)	Eliminated
13-198	A	5	21			add In Latin America those diseases are consequence of the precarious conditions of public and collective health in the poor areas, without systems for water supply, sewage and waste. (Luis Pinguelli Rosa, Federal University of Rio de Janeiro)	But this does not come from the TAR
13-199	A	5	21			Malaria and dengue are very important? Clarify, please. (GERMAN POVEDA, Universidad Nacional de Colombia, at Medellin)	Cg
13-200	A	5	22			add In Latin America those diseases are consequence of the precarious conditions of public and collective health in the poor areas, without systems for water supply, sewage and waste. (Luis Pinguelli Rosa, Federal University of Rio de Janeiro)	Ok
13-201	A	5	23			Recent studies in Piura, northern region of Peru affected by el Niño, estimates that the incresse of 1º raises child morbidity by 4 the number of childs affected. (Julio Garcia, National Environmental Council)	It is not in the TAR
13-202	A	5	23			add In Latin America those diseases are consequence of the precarious conditions of public and collective health in the poor areas, without systems for water supply, sewage and waste.	

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
						(Luis Pinguelli Rosa, Federal University of Rio de Janeiro)	
13-203	A	5	23	5	23	Replace "El Niño" by "ENSO" (Jose Santos, Escuela Superior Politecnica del Litoral)	It is El Niño that causes the changes not the SO
13-204	A	5	25	5	26	Again this does not tell much. (Walter Baethgen, International Research Institute for Climate and Society, Coulmbia University)	But is said in the TAR
13-205	A	5	25		26	The authors should mention the range of the decrease in food production and the more impacted regions (Mercedes Maria da Cunha Bustamante, Departamento de Ecologia, Universidade de Brasília)	This is not said in the TAR
13-206	A	5	26			But also by disrupting ecosystems and climatic variables associated with disease transmission. (GERMAN POVEDA, Universidad Nacional de Colombia, at Medellin)	It is not said like this in the TAR
13-207	A	5	26	5	26	Replace "El Niño" by "ENSO". I do not understand why is (likely) there (Jose Santos, Escuela Superior Politecnica del Litoral)	The association is with El Niño
13-208	A	5	26		28	simulation models "project" they do not "imply" (Daniel Zarin, University of Florida)	Simulation models simulate and simulation then may imply
13-209	A	5	27	5	27	Impact on health is on nutrition (food consumption) NOT on food production (Walter Baethgen, International Research Institute for Climate and Society, Coulmbia University)	It is said "indirectly" production ⟶ Consumption
13-210	A	5	27			explain: more rain in most areas lead to more yields (e.g. soya P4 l23-24) so more food. Say why you think this is different here. Same applies for next paragraph which now states decreased yields are predicted (even though this is a partial representation of the data shown in tables, which show a large range of estimates from decreases to increases, so why decreases are stressed here should be explained), this should be explained. (Stephan Halloy, Instituto de Ecología, Universidad Mayor de San Andrés)	Although soya mightincrease in TAR emphasis is given to negative impacts. Paragraph below
13-211	A	5	31			change 'and it occupies' to 'occupying' (Jos Barlow, University of East Anglia)	Thank you
13-212	A	5	31	5	31	Provide range of GDP (Pierre-Andre Jacinthe, Indiana University Purdue University, Indianapolis)	As it is said in the TAR
13-213	A	5	32		33	What is the percentage of population that is dependent on subsistence agriculture? (Mercedes Maria da Cunha Bustamante, Departamento de Ecologia, Universidade de Brasília)	
13-214	A	5	38	5	44	What has been the impact of reforestation programs in Latin America? (Víctor Magaña, National Autonomous University of Mexico)	Is it in the TAR?
13-215	A	5	43	5	43	"On the other hand…" Why? Is this change due to land use change (economic	Due to both

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
						reasons, price of grain) or due to climate change, or both? (Walter Baethgen, International Research Institute for Climate and Society, Coulmbia University)	
13-216	A	5	43	5	44	Check the term tropical savannas (Magda Aparecida Lima, Brazilian Agricultural Research Corporation - Embrapa)	Cg
13-217	A	5	46	5	47	Coastal inundation and coastal erosion (Roberto Kokot, FCEyN (Universidad de Buenos Aires))	Ok
13-218	A	5	47	5	47	Salt intrusion in aquifers should be included. (Emilio Sempris, Water Center for the Humid Tropics of Latin American and the Caribbean)	Cg
13-219	A	5	47			change “sea-level” to “sea-level rise” (Marta Vinocur, Universidad Nacional de Río Cuarto, Agrometeorología)	ok
13-220	A	5	49			areas. It will affect also main ports infrastructure and therefore exportation income. (Julio Garcia, National Environmental Council)	Cg
13-221	A	5				The shortcomings of the chapter, in terms of socioeconomic and policy content, are indicated by some glaring factual errors. For example, the claim is made on page 5 that agriculture employs 40 percent of the Latin American workforce; a quick check of World Development Indicators (published by the World Bank) indicates that 21 percent of the male labor force and 9 percent of working women are in farming. (Douglas Southgate, Ohio State University)	Chequear
13-222	A	6	0			Include reference: Magaña, V., J.L. Vázquez, J.L. Pérez, J. B. Pérez. Impact of El Niño on precipitation in Mexico. Geofisica Internacional. 42(3): 313: 330 (Cecilia Conde, Centro de Ciencias de la Atmósfera, UNAM)	
13-223	A	6	0			Here and in many other places (e.g. 13.3.2) deforestation in the Amazon basin is mentioned, which may have serious climatic consequences. But this information could be made more precise, emphasizing that the deforestation is quite concentrated along the southern margin of the basin, and in the sub-Andean zone. And it is also worth mentioning regions where the % deforestation is particularly high, namely Mata Atlantica and Brazilian highland (Cerrados), and western Ecuador, notably in the southwest. And in the Andean highland and intermontane basins, although the most serious forest destruction here took place already in precolombian times. (Jon Fjeldsa, University of Copenhagen)	Cn
13-224	A	6	0			Bottom of p. 6. Reference is given to CI’s hotspot analysis – but this is exceedingly coarse, compared with some other studies (e.g. Fjeldså et al. 2005), and it is unfortunate that it mixes together species richness, endemism and threat, although	

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
						these three parameters are NOT closely correlated; see Orme et al. 2005. Large-scale species richness patterns are well explained from current ecology (NPP and landscape complexity) but this is mostly a consequence of the fact that most data used to analyse large-scale patterns represent widespread species, but in fact species with small distributions (narrow endemism) show different and highly aggregated patterns, often with some ancient relictual taxa right in the middle of the main aggregates of neoendemic species (which supports the idea of high persistence of evolutionary lineages in places with highly predictable local conditions; Jetz et al. 2004, Fjeldså & Rahbek 2005). Thus these areas may play a key role for diversification ("species pumps") and may therefore be crucial for conservation efforts. And note that the same areas have dense human populations and were centres of population growth in the past (Fjeldså et al. 1999). Such relationships seem highly relevant in relation to how to respond to scenarios of global change. (and by treating species richness, endemism and threat as more or less synonymous, Norman Myers and CI have confused the discussion and comes up with something that is not very meaningful and precise). (Jon Fjeldsa, University of Copenhagen)	
13-225	A	6	1	5	8	This part could be moved to the executive summary. (Magda Aparecida Lima, Brazilian Agricultural Research Corporation - Embrapa)	No
13-226	A	6	2	6	2	Deforestation rates Indonesia are higher (FAO report). (Stephan Glatzel, Dept. Of Geography and Regional Research)	This is TAR information
13-227	A	6	2			Stress the threats faced by the tropical Andes as the most important hotspot for biodiversity on Earth. (GERMAN POVEDA, Universidad Nacional de Colombia, at Medellin)	Accepted
13-228	A	6	4	6	4	Uses GHG without first introducing the expression (Antonio Humberto GUERRA, I. Medicina Tropical Alexander von Humboldt, UPCH)	Cg
13-229	A	6	6	6	6	They refer to "dry season" I think they mean "wet season" (Jose Santos, Escuela Superior Politecnica del Litoral)	Cg revise
13-230	A	6	7			replace erosion by demise or deforestation (Stephan Halloy, Instituto de Ecología, Universidad Mayor de San Andrés)	Cg TAR information
13-231	A	6	10	6	10	Replace "climate" by "climate change" (Jose Santos, Escuela Superior Politecnica del Litoral)	Cg
13-232	A	6	14	6	16	This afirmative must be reviewed. I see no no sense to compare the sectors. (Magda Aparecida Lima, Brazilian Agricultural Research Corporation - Embrapa)	TAR information
13-233	A	6	16			The point about adaptation and biodiversity is a crucial one. The consequences for biodiversity in central and southern america are enormous, especially combined	

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
						with LUC, fragmentation and inappropriate fire dynamics, etc… (Jos Barlow, University of East Anglia)	
13-234	A	6	22	38	30	It would be good that each sub-topic finished with a regional summary for all America, or for geographical region in the topics where this is appropriate (Eduardo Planos Gutiérrez, Institute of Meteorology)	Ver figures
13-235	A	6	23			Include some para. Relating strong ENSO events and coral reefs. B. E. Lavaniegos, G. Gaxiola-Castro, L. C. Jimenez-Perez, M. R. Gonzalez-Esparza, T. Baumgartner and J. Garcia-Cordova: 1997-98 El Niño effects on the pelagic ecosystem of the California current off Baja California, Mexico. 483:494 (Cecilia Conde, Centro de Ciencias de la Atmósfera, UNAM)	Av
13-236	A	6	24	6	25	It looks very similar to what was written for Third Assessment Executive summary of same Latin America chapter, event though it is an important sentence, keeping it exactly as before could make some peolple to imagine that most of the text is the same as before, which is not true. (Max Campos Ortiz, Regional Committee on Hydraulic Resources-Central America Integration System)	Not accepted CN
13-237	A	6	24	6	37	This section can be summarized further to save space (Pierre-Andre Jacinthe, Indiana University Purdue University, Indianapolis)	? CN
13-238	A	6	24	6	37	Section 13.2.1. Lack of references on this paragraph. , next paragraphs shows references. Need for consistecny among paragraphs (Jose Marengo, CPTEC-INPE)	Accepted CN
13-239	A	6	24	6	24	Is not only heterogeneous, but extremely rich in all those aspects (Enrique Martínez Meyer, Instituto de Biología, Universidad Nacional Autónoma de México)	Accepted CN
13-240	A	6	25	6	37	This climatic description might need a reference (s) (Max Campos Ortiz, Regional Committee on Hydraulic Resources-Central America Integration System)	Accepted CN
13-241	A	6	25			Due account should be taken of the increasing importance of fresh water, after "traditions" add a sentence on this issue. It might read as follows: "It is also important to remark that in spite of holding 35% of the world fresh water reserves, the uneven distribution already affects the population located in Latin America's large arid and desertic regions (about 1/5 of its area) (Osvaldo Canziani, IPCC WG2 Co-chair)	Accepted CN
13-242	A	6	25			…distribution, cultural traditions and "economic performance". (Monica Beatriz Wehbe, NATIONAL UNIVERSITY OF RIO CUARTO)	? CN
13-243	A	6	28	6	28	"dominated" is not the best word. (Jose Marengo, CPTEC-INPE)	Accepted CN

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
13-244	A	6	29	6	29	There is a comma missing. It should read "…Central America, and the South America..." (Eduardo Usunoff, Instituto de Hidrología de Llanuras)	Accepted CN
13-245	A	6	31	6	33	the South American Low level jet is different from that in North America. In South America the moisture comes also from Amazonia and not from the tropical Atlantic alone (Jose Marengo, CPTEC-INPE)	Partially accepted CN
13-246	A	6	31			As well as over the estern Pacific off the coast of Colombia (Choco low level jet; Poveda and Mesa 2001) Poveda, G., and O. J. Mesa. On the existence of Lloró (the rainiest locality on Earth): Enhanced ocean-atmosphere-land interaction by a low-level jet". Geophysical Research Letters, Vol. 27, No. 11, 1675-1678. June 1, 2000. (GERMAN POVEDA, Universidad Nacional de Colombia, at Medellin)	Accepted CN
13-247	A	6	31	6	33	Ok, but since a reference is made to "warm oceans" it should also be noted the effect of the Cold "Humboldt current", which produces unique climate features in Chile, Peru and Ecuador. (Jose Santos, Escuela Superior Politecnica del Litoral)	Accepted CN
13-248	A	6	31	6	33	LLJ in South America is the main source of moisture transport, but not from the Ocean, but from the Amazon basin (tropical forest). (Silvina Solman, CONICET)	Partially accepted CN
13-249	A	6	33	6	34	It says ¨Most of the rainfall is organized in the convergence zones or by topography¨ The intended mesage is correct. However, it is not clear if is convergence in general, which is obvious for convergence at low levels or it is referred to stationary convergence zones (which I feel was the intention of the authors) There is also a problem of understanding : are quantities of volume rainfall compared? . I propose the following: Areas of heavy precipitation are in many cases organized in quasi stationary convergence zones or in areas of forced ascent by topography (Vicente Barros, Centro de Investigaciones del Mar y la Atmósfera (CIMA/CONICET-UBA))	Accepted CN
13-250	A	6	33			replace organized by concentrated (Stephan Halloy, Instituto de Ecología, Universidad Mayor de San Andrés)	Accepted CN
13-251	A	6	36	6	35	"Expected"? (Walter Baethgen, International Research Institute for Climate and Society, Coulmbia University)	? CN
13-252	A	6	37	6	38	Only the summer circulation is described. Nevertheless, for some regions (central Chile, for instance), the rainy season is during winter months. I suggest to include also the description of the extratropic climate for both, summer and winter months.	Not accepted due to lack of space CN

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
						(Silvina Solman, CONICET)	
13-253	A	6	39	6	42	The last part of this sentence is not very clear (Encinas Carla , IPCC WG2 TSU)	Dc accepted
13-254	A	6	40	6	40	"forest, cloude forest, savannas, Andean Paramos,...) (Gilberto R. Cunha, Brazilian Agricultural Research Corporation (Embrapa))	Dc accepted
13-255	A	6	41			more appropriate or additional references on biogeographic richness would be Dinerstein, E., Olson, D.M., Graham, D.J. and al, e., 1995. Una Evaluación del Estado de Conservación de las Ecoregiones Terrestres de América Latina y el Caribe. WWF, Banco Mundial, Washington, D.C., 135 pp. S.D. Davis, V.H. Heywood, O. Herrera-MacBryde, J. Villa-Lobos and A.C. Hamilton (Editors), Centres of Plant Diversity - A guide and strategy for their conservation. WWF, IUCN, Cambridge, UK. Hueck, K., 1978. Los Bosques de Sudamérica. GTZ. Cabrera, A.L. and Willink, A., 1973. Biogeografía de América Latina. Monografía, 13. OEA, Washington, D.C., 120 pp. (Stephan Halloy, Instituto de Ecología, Universidad Mayor de San Andrés)	Dc accepted
13-256	A	6	41	6	44	It is not clear the surface covered by forest because in line 42 says that forest occupy 22% of the region while in line 43 says that forests occupy 48% of the land area. Numbers shouls be revised (Marta Vinocur, Universidad Nacional de Río Cuarto, Agrometeorología)	Dc accepted
13-257	A	6	41	6	41	After the reference (Gitay et al, 2002) the sentence shoul finished. A new setence should begin. " Rangelands cover about……. (Marta Vinocur, Universidad Nacional de Río Cuarto, Agrometeorología)	Dc
13-258	A	6	42	6	43	Is it 22% or 48% ? (Walter Baethgen, International Research Institute for Climate and Society, Coulmbia University)	Dc
13-259	A	6	46			It includes about 95% og tropical glaciers in the world (Julio Garcia, National Environmental Council)	Not correspond
13-260	A	6	46	6	46	Citations are not conventional. They should read: Myers and Mittermeier, 1999; Myers et al., 2000) (Eduardo Usunoff, Instituto de Hidrología de Llanuras)	Dc accepted
13-261	A	6	46			the citation should be " Mittermeier, et al., 1999" (Marta Vinocur, Universidad Nacional de Río Cuarto, Agrometeorología)	Dc accepted
13-262	A	6	48	7	1	A mention on the tropical cyclones seasons during the same period could also indicate the other cause of large impacts in Latin America. (Max Campos Ortiz, Regional Committee on Hydraulic Resources-Central America Integration System)	Cn Tropical cyclones are mentioned in the table
13-263	A	6	48	6	46	The Trenberth et al reference has no year and is misplaced in the context of the	Cn

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
						sentence. He referes to ENSO activity. (Víctor Magaña, National Autonomous University of Mexico)	Accepted
13-264	A	6	48	6	50	changed sentence as follows: '…..Latin America was subjected to ……..of incresed intensity (……). Two extremely intense episodes of El Niño phenomenon (…) and other increased climate extremes (…) happened during this period. (Marta Vinocur, Universidad Nacional de Río Cuarto, Agrometeorología)	Cn Accepted
13-265	A	6	48		50	The increase in frequency of El Nino events over La Nina events in this time period is subtle and more important as fodder for discussions between climatologists than questions of increased harm to society. So if you're going to keep this kind of statement it needs to be much more thoroughly referenced. (Kevin Vranes, University of Montana)	Cn Not accepted. In fact, the increased El Niño frequency is a remarkable fact that must be underscored and it brought along two mega-El Niños with it.
13-266	A	6	49	6	49	Reference is missplaced (Walter Baethgen, International Research Institute for Climate and Society, Coulmbia University)	Cn Accpeted
13-267	A	6	49			Trenberth is not cited in the reference (Jorge Carrasco, Dirección Meteorológica de Chile)	Ok
13-268	A	6	49	6	49	Year of publication is missing in Trenberth et al. , and BAMS (Eduardo Usunoff, Instituto de Hidrología de Llanuras)	Ok
13-269	A	6	49			Reference incomplete and not included in the Bibliography (Marta Vinocur, Universidad Nacional de Río Cuarto, Agrometeorología)	Ok
13-270	A	6	50	6	50	I suppose the text "other reference ….." is to be replaced with information from WG I (Víctor Magaña, National Autonomous University of Mexico)	Yes
13-271	A	6	50	7	1	The references are Haylock et al. 2005 accepted and Vincent et al. 2005 accepted both in J.Climate (Matilde Rusticucci, Universidad de Buenos Aires)	Cn Accepted.
13-272	A	7	1		2	That contributed greatly to increase impact in vulnerable human ecosystems that triggers natural dissaters…. (Julio Garcia, National Environmental Council)	Arm accepted
13-273	A	7	1	7	2	Consistency with Chapter 2-WGI. About changes in extremes may be the authors show mention some references (.e.g. Alexander et al. 2005). (Jose Marengo, CPTEC-INPE)	Cn Accepted
13-274	A	7	2			Also natural systems are more vulnerable now (e.g. the glaciers). Therefore after "of" it is suggested to add "natural and human systems" (Osvaldo Canziani, IPCC WG2 Co-chair)	
13-275	A	7	2	7	5	Should include among drivers the increasing vulnerability, the lack of infrastructure investments and good system of information to evaluate impacts (health, drinkable	

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
						water, etc) caused by climate change. (Paulo Moutinho, Amazon Institute for Environmental Research (IPAM))	
13-276	A	7	3	7	7	Revrite these 2 sentences to improve readability. (Pierre-Andre Jacinthe, Indiana University Purdue University, Indianapolis)	Cg Aqccepted
13-277	A	7	4			I believe you mean rural-to-urban migration (Daniel Zarin, University of Florida)	Yes
13-278	A	7	5			change to "vulnerabilities relate to their" (Jos Barlow, University of East Anglia)	Yes
13-279	A	7	5	7	7	A bit confusing, re writing it only (Max Campos Ortiz, Regional Committee on Hydraulic Resources-Central America Integration System)	Cg accepted
13-280	A	7	5			"Some of these vulnerabilities are related to their location …….. (Marta Vinocur, Universidad Nacional de Río Cuarto, Agrometeorología)	Ok
13-281	A	7	7			. This is also because of the lack of land use plan and regulations, social end economic infoprmality, the use of prone disaster areas and poverty urbanization, among other factors. According to the Organization of American States (OAS) the acumulated losses in the last 25 years inLatin America and the Caribbean due to natural disaters are over US$ 100 billion(S. Bender, OAS/USDE) and the amount of not reimbursable funds in the same period is barely over US$ 80 billion. (Julio Garcia, National Environmental Council)	
13-282	A	7	7			BID 2000 is not in reference list (Stephan Halloy, Instituto de Ecología, Universidad Mayor de San Andrés)	Ok
13-283	A	7	7	7		it could be added that:evidences exist of coastal erosion in the patagonian coast of Argentina, due to the climatic change (Kokot 2004c) (Roberto Kokot, FCEyN (Universidad de Buenos Aires))	Accepted Will be put in text / or table GN AV
13-284	A	7	7			(BID, 2000) does not appear in the Reference list. (Marta Vinocur, Universidad Nacional de Río Cuarto, Agrometeorología)	
13-285	A	7	8	7	10	add: The urbanization and industrialization processes have done a pressure on the environment. (Luis Pinguelli Rosa, Federal University of Rio de Janeiro)	Cg
13-286	A	7	10	7	16	There are also other extreme climatic phenomena that have increased their intensity and recurrence over the past years, such as, for example, Cold Waves and Snowfalls in the highland areas of Peru where, paradoxically, climatic disorders are also generating frequent extreme events of temperature drops that mainly affect the people's health and livestock production. (Lenkiza Angulo Villarreal , Soluciones Prácticas-ITDG)	Ar accepted

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
13-287	A	7	10			My suggestion is to combine sections 13.2.2 and 13.2.4.1 under a title like: "Weather and climate stresses and impacts: extreme events and changing trends" and to do the same with sections 13.2.3 and 13.2.4.2 and 13.2.4.3 under the title: "Non climatic factors: trends and impacts". And this is mainly due to within non climatic factors it is quite difficult to separate trends from stresses. Actually, most of non climatic trends mentioned in sections 13.2.4.2 and 13.2.4.3 constitute stresses that converge with climatic stresses to increase climate vulnerability for particular systems. And, non climatic stresses mentioned in section 13.2.3 also represent trends in non climatic factors. (Monica Beatriz Wehbe, NATIONAL UNIVERSITY OF RIO CUARTO)	Non correspond
13-288	A	7	12	7	16	This paragraph should clarify if the more frequent occurrence of disasters is because increased vulnerability in the region or because climate change is occuring or both. (Víctor Magaña, National Autonomous University of Mexico)	Cg
13-289	A	7	14			Table 13.1, informing about disasters. Suggest+K13 to add a semi colon after health, to be following by: "and the causes of environmental disasters" (Osvaldo Canziani, IPCC WG2 Co-chair)	Av accepted
13-290	A	7	14	7	14	Plural is in order. It should be "…weather-related stressors…" (Eduardo Usunoff, Instituto de Hidrología de Llanuras)	Av accepted
13-291	A	7	16			Include a paragraph: "A regional project that documents the extreme event impacts can be found in La Red de Estudios Sociales en Prevención de Desastres en América Latina, http://www.desinventar.org/desinventar.html, were reviews from newspaper articles from many Latin American countries can be found in excel worksheets that include: location, date, source, event, impacts, other comments. (Cecilia Conde, Centro de Ciencias de la Atmósfera, UNAM)	Av accepted
13-292	A	7	19			Table 13.1, in the Brazil line, the reference Pezza and Simmonds (2005, GRL) could be added (Tercio Ambrizzi, Institute of Astronomy, Geophysics and Atmospheric Sciences - USP)	Av accepted
13-293	A	7	19			Table 13.1 Perú, 1997-98. High rainfall, floods and landslides (El Niño) produced important damage to agriculture, fisheries, transport, housing, and health in the northern, central and southern coastal areas, as well as in the country's inland areas. As a result of this, 107,527 houses were affected. The total damage amounted to US$ 3,500 million, which represented 5% of the GDP that year (The lessons of El Niño-Perú, CAF 2000). (Lenkiza Angulo Villarreal , Soluciones Prácticas-ITDG)	Av accepted
13-294	A	7	19	7	19	Table 13.1: Needs to include Uruguay cyclone (?) august 2005, hurricanes in USA,	Addressed.

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
						Central America, Caribbean in 2005 (Walter Baethgen, International Research Institute for Climate and Society, Coulmbia University)	Will be put in table. GN AV (already cited in internet)accepted
13-295	A	7	19			table 13.1 - Bolivia 2003 - "Landslides almost covered" rather than "sheltered". (Jos Barlow, University of East Anglia)	Av accepted
13-296	A	7	19	8		Table 13.1……. "Brazil, 2004. Hurricane Catarna"…… to include some chacterization of it…. (Max Campos Ortiz, Regional Committee on Hydraulic Resources-Central America Integration System)	Av accepted
13-297	A	7	19	8		Table 13.1….. To live space fr year 2005 and tropical cyclone season….. Record in number of Hurricanes, etc…… (Max Campos Ortiz, Regional Committee on Hydraulic Resources-Central America Integration System)	Av accepted
13-298	A	7	19	8		Table 13.1 on extreme events….IPCC documents normally do not have very friendly tables that really invite to read, problably te LA team can suggest a more attractive format format…..? (Max Campos Ortiz, Regional Committee on Hydraulic Resources-Central America Integration System)	Av accepted
13-299	A	7	19	8		Table 13.1 on extreme events… The title includes "high precip, floods and hurricanes", I do suggest to change hurricanes for tropical cyclones, because it includes the whole family (tropical depresions, tropical storms and hurricanes), besides many of the floods are not due to direct impact but indirect. (Max Campos Ortiz, Regional Committee on Hydraulic Resources-Central America Integration System)	Av accepted
13-300	A	7	19	8		Table 13.1 does not connect those events with global climate change. See my comment #1 above. The vast body of literature on natural disasters claims (convincingly, I think) that "natural" disasters are not natural; instead, scholars argue that natural disasters are caused by social and human factors that heighten people's vulnerability to environmental events. Thus, the list of extreme events in Table 13.1 does not suggest a deviation from the past due to global warming. An argument could easily be made that the events in this list resulted from increased poverty or shifting settlement patterns rather than global warming. In other words, extreme events do not prove that global warming is occuring because human vulnerability determines the degree to which climate extremes affect people. Further, there is no historical comparison here. A reader might wonder if an equal or even greater number of extreme events occurred during the 1970s or 1950s or 1920s or even the 1820s (a comparatively cool period in history).	Av accepted

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
						(Mark Carey, University of California, Berkeley)	
13-301	A	7	19	8	2	Table 13.1 Would it be possible to have the estimated losses in US$ for the cases? Or complete the most relevant impacts? All references in parenthesis. (Encinas Carla , IPCC WG2 TSU)	Av accepted
13-302	A	7	19			Table 13.1: Include Mexico and the Caribbean region floods and hurricanes 2005 cases (Cecilia Conde, Centro de Ciencias de la Atmósfera, UNAM)	Addressed AV GN
13-303	A	7	19	7	19	"Table 13.1 row 4: Brazil, 2004. Hurrucane Catarina (Cunha, 2004; Pezza & Simmonds, 2005).References: CUNHA, G.R. Os nossos hazards. In. CUNHA, G.R.(Ed.). Lidando com riscos climáticos: clima, sociedade e agricultura. Passo Fundo: Embrapa Trigo, 2004. 400p. p. 19-38./PEZZA, A. B.; SIMMONDS, I. The first South Atlantic hurricane: Unprecedented blocking, low shear and climate change. Geophysical Research Letters, v. 32, L15712." (Gilberto R. Cunha, Brazilian Agricultural Research Corporation (Embrapa))	Cn Av accepted
13-304	A	7	19			TABLE 13.1 Peru there has been an increase of at least 650% of emergencies due to natural disasters, at least 74% of them are climate related, (from 200 emergencies in 1995 to 1,300 in 2003, INDECI,2003). The current deglaciation represents an estimated of 7,000 millions of cubic meters of water (equivalent of ten years of water consumption of Lima, capital city of Peru, with more than 8,5 million inhabitants.) At least 80% of electrical power of the country is hydro generated. In August 2005, some rivers in the coastal desertic area of the country presented a decrease of 47% in the average flow, and in the peruvian central rivers from the Amazonas River basin, the decrease was of 20%. (Julio Garcia, National Environmental Council)	Av accepted
13-305	A	7	19			There are other important sources whic can complemet this table. The CAPRADE which is part of the Andean Community, CATHALAC in Central America and ReliefWeb.int and the project GIEWS from FAO which maintain a DataBase on Disasters (Javier Gonzales, Programa Nacional de Cambios Climáticos)	Av accepted
13-306	A	7	19			table 13.1 could mention the remarkable July 2002 snowstorm which dumped record levels of snow all the way from Santa Cruz and Valdivia in Argentina and Chile, through Bolivia and Peru, killing tens of thousands of camelid livestock and a number of people. In this table, is there a mixup between the entries for Bolivia 2002 and 2001? Damages should be expressed in a single currency, or at least both the local and a uniform currency.	Av accepted

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
						(Stephan Halloy, Instituto de Ecología, Universidad Mayor de San Andrés)	
13-307	A	7	19	8	1	Table 13.1. Edit title to indicate that this covers the period 1999-2004. Local details are excessive for some of the events reported. The 2003 hail storm in Bolivia is one example. The last two events in this Table occurred in 1998; they may have been included in the Third Assessment report. For the Argentina 2001 event, the word "epicenter" is confusing. Was that a combination of weather and seismic activities? Listed references for many of these events are webpages. Goverment/international agencies reports would be prefered as web documents do not really reprfesent a permannent record, and the accuracy of the information is difficult to determine. The reference "Clarin and Pagina for "the Argentina 2003 wind storm", is not listed in the list of references. To make it easier to compare weather-related damages, convert local currencies into dollars. (Pierre-Andre Jacinthe, Indiana University Purdue University, Indianapolis)	Av accepted
13-308	A	7	19	7	19	This table could be reduced to basically state that more disasters in the region are occurring. (Víctor Magaña, National Autonomous University of Mexico)	Done
13-309	A	7	19	7		Table 13.1 what about extremes in temperature?. Venezuela appears at the beginning and end of this table. Need for some references in this table. Southeastern Brazil was affected by drought in 2001 that produced power shortages. References about the intense rainfall in December 1999 in Venezuela (Marengo, J., Bustamante, J., Rojas, M. I., Bottino, M., Gomes,J. L., Machado, 2002: Avaliação dos eventos extremos de chuvas no norte da Venezuela, de 13–17 Dezembro 1999. Parte 1: Estudos observacionais. Revista Brasileira de Meteorologia. 18, 43-60).. Argentina "drepressed"(is that correct?). (Jose Marengo, CPTEC-INPE)	Av accepted
13-310	A	7	19			13.2. Current sensitivity/vulnerability. 13.2.2. Weather and Climate stresses. On page 7, line 19, in table 13.1: "Extreme events and their impacts." It is recommended to include some facts about the recent disasters of October 2005 caused by Stan and Wilma hurricanes in Mexico, Central America and the Caribean. The approximate official figures of damages have been published in national press and other communication media of those countries. For instance, it has been published on the news that the tourist center in Cancun, Mexico, lost 15 million dollars a day while Wilma hurricane passed through this area. Moreover, it is suggested to add in the same table the information obtained from landslides and floods that occurred in 1999, in the region Sierra Norte de Puebla in Mexico. Currently, this highly vulnerable region is also in a disaster situation due to extreme events. It is suggested to look up the following studies.	AV GN Adressed . A table will be built to resume this information.

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
						Alcántara-Ayala, I. 2004: "Hazard assessment of rainfall-induced landsliding in México". In: Geomorphology 61 (2004) 19-40. Available online at www.sciencedirect.com Alcántara-Ayala, I. 2004: "Flowing Mountains in Mexico. Incorporating local knowledge and initiatives to confront disaster and promote prevention". In: Mountain Research and Development. Vol 24, No. 1, Feb 2004:10-13. Alcántara-Ayala, I, M. López, G. Melgarejo, R. C. Borja y R. Acevo. 2004: "Natural hazards and risk communication, Strategies among indigenous communities". Shedding light in accessibility in Mexico's mountains. In: Mountain Research and Development. Vol 24, No. 4, Nov 2004:298-302. Garnica, R.J. e I. Alcántara-Ayala. 2004. "Riesgos por inundación asociados a eventos de precipitación extraordinaria en el curso bajo del río Tecolutla, veracruz". In: Investigaciones Geográficas, Boletín del Instituto de Geografía, UNAM, No. 55, pp 23-45. (Oralia Oropeza-Orozco, of Geography, National Autonomous University of Mexico (UNAM))	
13-311	A	7	19			At table 13.1 substitute: "Brazil, 2004. Hurrican Catarina" By"Brazil, 2004. Hybrid - Phenomenon Catarina" (Luis Pinguelli Rosa, Federal University of Rio de Janeiro)	No
13-312	A	7	19			Include impacts of the 2005 Hurricanes Wilma (Mexico and Caribbean) and Stan (Central America): life losses, economic and ecological impacts. (GERMAN POVEDA, Universidad Nacional de Colombia, at Medellin)	Av GN Adressed A table will be built to resume this information.
13-313	A	7	19			Colombia: September-November 2005 rainy season. 70 deaths, 86 injured, 6 dissappeared, and 140,000 flood victims. (GERMAN POVEDA, Universidad Nacional de Colombia, at Medellin)	Av GN Adressed . A table will be built to resume this information.
13-314	A	7	19	8	1	Table 13.1: Ecuador 1997-98: over 3.000 millios of US$ losses for heavy precipitation due to ENSO, hundreds of human lives lost. (CAF - 2000) May 2003: Floods: 0ver 40.000 Has of rice crops lost. More than 10.000 families affected. (EL UNIverso 2003) (Jose Santos, Escuela Superior Politecnica del Litoral)	Not addressed / too old AV
13-315	A	7	19	7	19	See attached table with some events that may be included in Table 13.1 (Emilio Sempris, Water Center for the Humid Tropics of Latin American and the Caribbean)	Av GN Adressed . A table will be built to resume this information.

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
13-316	A	7	19			Table 13.1. A lot of the refrences cited in the table do not appera in References at the end of the Chapter. Examples: CEPAL, El Tribuno de Jujuy, Clarin and Pagina 12, La Nacion, Garcia et al, 2002; etc. Also some facts are presented without the correspondent source of the information (Marta Vinocur, Universidad Nacional de Río Cuarto, Agrometeorología)	Av GN Adressed . A table will be built to resume this information.
13-317	A	7	23			add: The urbanization and industrialization processes have done a pressure on the environment. (Luis Pinguelli Rosa, Federal University of Rio de Janeiro)	No
13-318	A	8	0	8	0	For the 2nd draft, it would be interesting to add in the table 13.1 (low precipitation) the episode of temperature anomaly in Atlantic Ocean that provoked an intense drought period (July to October 2005) in Amazon Basin and perhaps also add information on hurricanes in Central America, occurred at the same period. (Paulo Moutinho, Amazon Institute for Environmental Research (IPAM))	Cn accepted
13-319	A	8	1			Table 13.1 Peru, 2004. A Cold Wave and Snowfall in the Peruvian highland areas, the region where the poorest people live, affected over 375,000 people living at over 3,500 metres above the sea level, 100,000 Ha of crops and pastures, and led to the death of 700,000 animals. (Lenkiza Angulo Villarreal , Soluciones Prácticas-ITDG)	Av GN Adressed A table will be built to resume this information.
13-320	A	8	1			Table 13.1 Perú 2003-2004. Drought. This phenomenon had a greater intensity in the northern and central areas of the country, and affected 160,000 Ha. of cultivated land and 280,000 rural people who depend on agriculture. It also affected hydroelectric production and water availability for domestic uses. (Lenkiza Angulo Villarreal , Soluciones Prácticas-ITDG)	Av GN Adressed. A table will be built to resume this information.
13-321	A	8	1	8	1	Bolivia section: re-word completely -it is not clear. (Also “rainfed” and “maize”, instead of “rain-fed” and “maiz”) (Walter Baethgen, International Research Institute for Climate and Society, Coulmbia University)	Dc Av accepted
13-322	A	8	1			Table... Fires - Cochrane, 2003 (Nature 421, 913-919) is a better citation than the Cochrane in press citation. Cochrane 2003 gives the best figures on the coverage of fire in many of latin american countries during the 1997-98 droughts. Nepstad et al (2004) estimate that 40,000km2 of the Brazilian Amazon burned in that year alone. (Global Change Biology 10, 704–717.) (Jos Barlow, University of East Anglia)	Dc Av accepted
13-323	A	8	1			table - The extreme droughts that provoked mass fish mortality in the Western Amazon (Sept-Oct 2005) should be mentioned. (Jos Barlow, University of East Anglia)	Cn Av accepted

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
13-324	A	8	1			Second segment of Table 13.1. In the second row, the SOD draft should include the persistence of the Chaco's drought during 2005, with additional references on its impacts on natural systems and people. Reference should also be made to the worst drought registered in 50 years in the Amazon region (reference, in both cases Agencia RENA, Buenos Aires) (Osvaldo Canziani, IPCC WG2 Co-chair)	Cn Av accepted
13-325	A	8	1			Table 13.1: Rio de la Plata: Include references: 1. Dragani, W.C. and S.I. Romero. 2004. "Impact of a possible local wind change on the wave climate in the upper Río de la Plata." Int'l J of Climatology 24(9): 1149-1157. 2. Escobar, Gustavo, Walter Vargas and Susana Bischoff. 2004. "Wind Tides in the Rio de la Plata Estuary: Meteorological Conditions". Int'l J of Climatology 24(9): 1159-1169 (Cecilia Conde, Centro de Ciencias de la Atmósfera, UNAM)	Gn AV Addressed. Will be included in table on coasts
13-326	A	8	1	8	2	The authors should evaluate the inclusion of the extreme drought event occurred in the Amazon region last October 2005, affecting the hidrological cicle. It should be evaluated at what extension that event is related to land use changes and to global climate change. (Magda Aparecida Lima, Brazilian Agricultural Research Corporation - Embrapa)	Cn Accepted
13-327	A	8	1			Colombia: In 1997-98 El Niño as much as 10% of Colombia's coffee production was lost due to the drought. Other crops, such as potatoes, corn, beans, soybean, sugar cane, banana, and tobacco, suffered severe impacts during the warm event. As a consequence of these impacts, during 1997, Colombia imported more than 3.5 million tons of grains and other food supplies. Other productive sectors, such as milk and livestock production, were severely affected, including 5 million chicken deaths due to the El Niño-related heat waves. During the 1997-98 El Niño, more than 100,000 forest fires occurred in Colombia. Poveda et al. 2001: (Poveda, G., A. Jaramillo, M. M. Gil, N. Quiceno, and R. Mantilla. Seasonality in ENSO related precipitation, river discharges, soil moisture, and vegetation index (NDVI) in Colombia. Water Resources Research, Vol. 37, No. 8, 2169-2178, 2001.) (GERMAN POVEDA, Universidad Nacional de Colombia, at Medellin)	El Niño 97/98 was in the TAR
13-328	A	8	1	8	1	Comma is missing in the last row of Table 13.1. It should be: FAO, 2001 (Eduardo Usunoff, Instituto de Hidrología de Llanuras)	Ok
13-329	A	8	1			Table 13.1. Idem as in page 7 (Marta Vinocur, Universidad Nacional de Río Cuarto, Agrometeorología)	?
13-330	A	8	1			impact of 97/98 ENSO on wildfire in the Brazilian Amazon is missing from the table (Daniel Zarin, University of Florida)	No
13-331	A	8	2	8	2	Can something be said about the recent drought in northern Amazonia?	Cn accepted

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
						(Víctor Magaña, National Autonomous University of Mexico)	The drought will be mentioned elsewhere in the text. It was likely related to Troical Atlantic SST anomalies, therefore it is covered by the sentence.
13-332	A	8	3	8	3	Replace "seasonal" by "intraseasonal". (Silvina Solman, CONICET)	Cn Intraseasonal added..
13-333	A	8	5	8	5	It should be added SACZ variability as an important factor related to interanual and intraseasonal variability. (Matilde Rusticucci, Universidad de Buenos Aires)	Cn Accepted.
13-334	A	8	7	8	7	Define acronyms the first time they are used (PNA, PSA, AAM) (Walter Baethgen, International Research Institute for Climate and Society, Coulmbia University)	Cn Accepted
13-335	A	8	7			define PNA, PSA y AAM (Jorge Carrasco, Dirección Meteorológica de Chile)	Cn Accepted
13-336	A	8	7			At intra-seasonal timescales the role of land surface-atmosphere interactions and feedback play an important role over tropical South America. Thus precipitation recycling and other feedbacks are to be affected consistently by ENSO, as well as climate change. (GERMAN POVEDA, Universidad Nacional de Colombia, at Medellin)	Cn Accepted
13-337	A	8	7	8	7	Define 3 terms, add PDA (Jose Santos, Escuela Superior Politecnica del Litoral)	Cn No PDA is decadal time scale and the sentence deals with seasonal to interanual time scales.
13-338	A	8	7	8	7	I do not understand what PNA, PSA, and AAM stand for (Eduardo Usunoff, Instituto de Hidrología de Llanuras)	Cn Accepted.
13-339	A	8	9	8	21	In the northern coastal and highland areas of Peru, El Niño generates impacts on agricultural activities even before it triggers intense rainfalls. In the northern coast, the rise in atmospheric temperature affects the flowering and fructification periods of important commercial crops, such as cotton and mango. In the northern Sierra, the rise in relative humidity produces serious fungal diseases in maize, potato, wheat, bean, and sweet potato crops. The intense rainfall produced thereafter oversaturates the soils and affect the root development of crops. (Torres, 2003). As a result of this damage, the people's economy and food security are greatly affected. (Lenkiza Angulo Villarreal , Soluciones Prácticas-ITDG)	Gm Done
13-340	A	8	9	18		Include references: C. A. Salinas-Zavala and D. B. LLuch-Cota: Relationship between ENSO and winter-wheat yields in Sonora, Mexico. Del Ponte, E.M.,	Gm done

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
						J.M.C. Fernandes, and C.R. Pierobom. 2005. "Factors affecting density of Gibberella zeae inoculum." Fitopatologia Brasileira 30(1):55-60. (In Portuguese). Del Ponte, E.M., J.M.C. Fernandes, and W.A. Pavan. 2005. "Risk infection simulation model for Fusarium head blight of wheat." Fitopatologia Brasileira (in press). (Cecilia Conde, Centro de Ciencias de la Atmósfera, UNAM)	
13-341	A	8	9		21	This paragraph is out of place and can either be dumped as redundant or moved to a section on agriculture. (Kevin Vranes, University of Montana)	Gm done
13-342	A	8	10	8	10	The reference for the IPCC is 2000 or 2001 (Encinas Carla , IPCC WG2 TSU)	Gm done
13-343	A	8	10	8	10	The reference year shouldn´t be 2001?. (Matilde Rusticucci, Universidad de Buenos Aires)	Gm done
13-344	A	8	10	8	10	Nevertheless, spatial ENSO teleconnections have greatly evolved from 1950–1975 to 1976–2001. Moreover, there is a strong modulation and displacement of the teleconnection patterns from one event to another, impeding the definition of robust statistical relationship (so impact regions) between ENSO and precipitation in the Parana´ -Plata basin (Boulanger et al, Climate Dynamics (2005) 24: 393–413) (Matilde Rusticucci, Universidad de Buenos Aires)	Cn
13-345	A	8	10	8	10	Comma missing. It should be cited as follows: IPCC, 2000 (Eduardo Usunoff, Instituto de Hidrología de Llanuras)	Gm done
13-346	A	8	12			(... Podesta et al, 2002, Seiler et al, 2002, Camillioni et al, 2003, Magaña et al, 2003, Cavazos, 1999). References: Seiler, R., M. Hayes and L. Bressan (2002). "Using the Standarized Precipitation Index for Flood Risk Monitoring." International Journal of Climatology. 22: 1365-1376. Camilloni, I.A. and V.R. Barros. 2003. "Extreme discharge events in the Parana River and their climate forcing." J of Hydrology 278: 94-106. Magaña,V., J. Pérez, M. Mendez. 2003. Diagnosis and prognosis of extreme precipitation events in the Mexico City Basin. Geofísica Internacional. 4(2): 247-259.Cavazos T (1999) Large-scale circulation anomalies conducive to extreme events and simulation of daily rainfall in northeastern Mexico and southeastern Texas. J Clim 12: 1506–1523. (Cecilia Conde, Centro de Ciencias de la Atmósfera, UNAM)	Gm to CN accepted
13-347	A	8	12	8	12	Add papers in Argentina related to other factors and extreme precipitation events Penalba and Vargas 2001(Meteorologica vol 26, 39-56, Propiedades de Déficits y excesos de Precipitación en zonas agropecuarias. Properties of Deficits and	Gm accepted

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
						excesses of Rainfall in agricultural farming zones in Argentina) (Matilde Rusticucci, Universidad de Buenos Aires)	
13-348	A	8	12			Add the following references. (Baethgen and Magrin, 2000; Podesta et al., 20002; Rivarola et al., 2003; Vinocur et al., 2004; Hansen et al., 2004). (Marta Vinocur, Universidad Nacional de Río Cuarto, Agrometeorología)	Gm We change the sentence
13-349	A	8	15			at., 2004)"... Add: temperature extremes over Argentina (Rusticucci et al, 2003) "and ... The paper refers to Atlantic SST influence over Temperatures (JOURNAL OF GEOPHYSICAL RESEARCH, VOL. 108, NO. C11, 3356, doi:10.1029/2003JC001793, 2003) (Matilde Rusticucci, Universidad de Buenos Aires)	Gm done
13-350	A	8	15	8	21	The cited references in the text are incomplete and/or missing in the References section at the end of the Chapter. (Marta Vinocur, Universidad Nacional de Río Cuarto, Agrometeorología)	Gm done
13-351	A	8	18	8	18	Incomplete reference - Moschini et al (Pierre-Andre Jacinthe, Indiana University Purdue University, Indianapolis)	Gm ok
13-352	A	8	23			The reference on low-lying coasts' vulnerability should also involve the Guyana, as pointed out by Nicholls R in SAR, 1995. (Osvaldo Canziani, IPCC WG2 Co-chair)	Gn AV Addressed. However Reference is too old. Will search a newest one
13-353	A	8	23	9	4	On page 8, lines 23-25 and on page 9, lines 1-4, it is also possible to include some other cities or regions of Mexico and Central America that are vulnerable to the recent extreme hydrometeorologic events. (Oralia Oropeza-Orozco, of Geography, National Autonomous University of Mexico (UNAM))	GN ????
13-354	A	8	23	8	23	Add "central Ecuador" (Jose Santos, Escuela Superior Politecnica del Litoral)	
13-355	A	8	24			Add after Venezuela "the central coastal valley of El Salvador". (Martha Yvette Munguía de Aguilar, Ministry of Environment and Natural Resources)	Gn Addressed. Will be checked
13-356	A	8	25			For many reasons it is suggested to change "are among" by "would be among" and also, after meteorological events, add "enhanced by sea level-rise". (Osvaldo Canziani, IPCC WG2 Co-chair)	Gn Addressed. Will be edited
13-357	A	8	25	8	25	Some examples or why this low lying coast and large cities are currently? Or would be? Because of climate change the most vulnerable to extreme hydro-meteorological event. Any reference with chapter 6? (Encinas Carla , IPCC WG2 TSU)	Gn AV Adressed…. Needs to be checked with Ch 6 (J Codginotto)

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
13-358	A	9	0			Del Ponte, E.M., J.M.C. Fernandes, and W.A. Pavan. 2005. "Risk infection simulation model for Fusarium head blight of wheat." Fitopatologia Brasileira (Cecilia Conde, Centro de Ciencias de la Atmósfera, UNAM)	Gm accepted
13-359	A	9	0			Several river and lake amphibians of the genus Telmatobius are dying off in what is thought to be a combination of effects triggered mostly by climate change, but of which a major symptom is infection by Chytrid fungi. Ron, S.R. and Merino, A., 2000. Amphibian declines in Ecuador: overview and first report of chytridiomicosis from South America. Froglog, 42, 2-3. Díaz-Páez, H. and Ortiz, J.C., 2003. Evaluación del estado de conservación de los anfibios en Chile. Revista Chilena de Historia Natural, 76, 509-525. DeVries, T.A., Hoernig, G., Sowell, P., Halloy, S.R.P. and Seimon, A., 2005. Identification of Chytridiomycosis in Telmatobius marmoratus at 4,450m in the Cordillera Vilcanota of Southern Peru. In: E.O. Lavilla and I. de la Riva (Editors), Studies on the Andean Frogs of the Genera Telmatobius and Batrachophrynus. Asociación Herpetológica Española, Monografías de Herpetología, Valencia (Stephan Halloy, Instituto de Ecología, Universidad Mayor de San Andrés)	Dc ver
13-360	A	9	0			has Chagas been considered? It is one of the major diseases in central and northern South America (Stephan Halloy, Instituto de Ecología, Universidad Mayor de San Andrés)	* We are looking for new information after TAR
13-361	A	9	0			Missing or incorrect references: Kovacs etal., 200; Meagna et al., 2004; Roth, 1997; Poveda et al., 2000; OECD, 2004. (Marta Vinocur, Universidad Nacional de Río Cuarto, Agrometeorología)	Addressed
13-362	A	9	3	9	4	Explain and prove the link between increased hurricanes and global warming. (Mark Carey, University of California, Berkeley)	no
13-363	A	9	3			Strong interactions develop between ecosystems and social systems in the tropical Andes, due to population distribution. In the tropical Andean region the mountainous areas are generally the centers of population and economic activities (Bogotá, Quito, La Paz, Medellín, Cali, Arequipa, Cuzco, etc.). The region posses urgent basic and applied research needs prompted by large scale deforestation, erosion and land degradation, vulnerability and risk of human populations and settlements, water pollution, and the aforementioned accelerated loss of biodiversity (Poveda and Lozano, 2004). (GERMAN POVEDA, Universidad Nacional de Colombia, at Medellin)	Dc
13-364	A	9	3	9	4	the FAO figure is way too gray and weak. The Central American Population is of about 35M, of which all could be considered to be exposed to tropical depressions or hurricane risk, being the latter a mesoscale event. I recommend to delete it or redraft it to express that the fullness of the picture.	Dc ver

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
						(Emilio Sempris, Water Center for the Humid Tropics of Latin American and the Caribbean)	
13-365	A	9	6			The text could be refined in many places throughout this document to save space. For example, this paragraph could start "Tropical forests of Latin America, …". Cochrane et al. 1999 (Science) should proabably be cited here too. (Jos Barlow, University of East Anglia)	Dc
13-366	A	9	6	9	23	It would be of interest as well as complementary to other sections in this regional chapter to include some references on the temperate region ecosystems and its biomes (e.g. temperate forest in Argentina and Chile, and the Patagonia's plateau). (Osvaldo Canziani, IPCC WG2 Co-chair)	Dc ver
13-367	A	9	6	9	23	Is there any observed impact in temperature ecosystem latitudes? (Encinas Carla , IPCC WG2 TSU)	Dc ver
13-368	A	9	6	8	9	Should include recent references, mentioning some numbers coming from interaction among deforestation, forest fire and logging in Amazon basin. Please see Asner et al. 2005. Science 310: 480-82 (1.2 to 1.9 million ha logged per year in Brazilian Amazonia, releasing 0.1 GtC) ; Nepstad et al. 2004. Global Change Biology 10: 704-17 (under El Niño influence, 30% of Amazon forest was under high risk of fire). (Paulo Moutinho, Amazon Institute for Environmental Research (IPAM))	Dc
13-369	A	9	8		9	Prominent work by Cochrane et al should be cited, e.g. Cochrane et al. 1999 Nature 284:1832-1835; Cochrane, 2003. Nature 421:914-919 (Daniel Zarin, University of Florida)	Dc
13-370	A	9	13	9	13	why are these areas especially vulnerable? (Enrique Martínez Meyer, Instituto de Biología, Universidad Nacional Autónoma de México)	AV GN Adressed The mangroves of Mexico, Central America and Caribbean continental regions are likely more vulnerable vulnerable because have been sturck by hurricanes throughout recroded history and climatic variability recorded in deep-sea foraminiferal assamblages (Kovacs et al., 2001; Meagan *et al*., 2004). Also, have been well established that the vulnerability of mangrove landscape to climate change have been increased by chronic impacts on mangrove communities over the past 20 years as a result of human activities such as rapid urbanization and shrimp cultivation (p.e.

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
							subsistence agriculture and extensive grazing of livestock (p.e. 65 per cent of Mexico's mangroves have already been lost) and tourism, timber extraction, mineral exploration, land speculation in conservation areas, and petroleum extraction in Pará, Brasil) (CIDAS, 2003; Suman 1994; Ubitaran Moreira *et al*., 1999).
13-371	A	9	15	9	23	For shortening the text, there are some very generalized informations, … and there are also some special cases, such as the decline of toads in Costa Rica (p. 9, lines 15-23: Do we really know whether disappearance of some species after a few unusual years means a definite loss of species? Many species undoubtedly deal with extreme weather, and build up populations again after some years, so I am uncertain about how much attention should be given to such case stories (the short version would be to tell that "Instances have been described of populations of toads and frogs disappearing from cloud-forest sites after years when the precipitation failed (Pounds et al. 1999, Ron et al. 2003, Borrowes et al. 2004)." It is remarkable that in the best charted organismal group, birds, there are only two historical cases of species extinctions in South America (and 2 in Central America) – and high extinction risks are rather local, in the tropical Andes region and Brazil's Mata Atlantica and Cerrado highlands (BirdLife 2000) (Jon Fjeldsa, University of Copenhagen)	Dc
13-372	A	9	17	9	17	This paragraph must me better clarified and citations must be checked. (Magda Aparecida Lima, Brazilian Agricultural Research Corporation - Embrapa)	Dc
13-373	A	9	19	9	22	There is some inconsistency with the years of disappearance of Jambato Toad (Encinas Carla , IPCC WG2 TSU)	Dc
13-374	A	9	22	9	22	Dry weather or dry climate? (Víctor Magaña, National Autonomous University of Mexico)	Dc
13-375	A	9	25	10	9	In Peru, during the 97-98 El Niño, the rise in temperature, the exceptional increase in rainfall (which generates water pools and vector nesting), and the deterioration of sanitary conditions caused a significant increase in the incidence rates of malaria and cholera. Malaria cases had a five-fold increase while cholera cases had a 45-fold increase in comparison with the number of cases recorded in 1997. According to studies carried out in Peru, the 2°C rise in the average environmental temperature produced by El Niño in 1998 brought about a four-fold increase in the population of malaria vectors in endemic areas (Marticorena, 1999)	Addressed

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
						(Lenkiza Angulo Villarreal , Soluciones Prácticas-ITDG)	
13-376	A	9	25	9	31	This interesting paragraph should be redrafted for improvement and completion. In fact diseases / infections and causes (bacterias, viruses, etc) should be listed in accordance with their genus / class, and some of the specific regional diseases, like Chagas and Ciguatera, should be included. Also the yellow fever and mycotic infections should be added. In this regard, the hantavirus (genus of virus of the family Bunyanviridae) is not a disease, but the triggering factor of pneumonia and hemorrhagic fever, therefore the reference in line 24 (or whatever would result from re-drafting) must be hantavirus' diseases. Note: Any reference on Chagas disease or Trypanosomiasis Americana, transmitted by the Triatominae bug or "vinchuca", should be associated to the poverty scourge in LA, as shown in poorer rural and indigenous communities in tropical and subtropical regions. (Osvaldo Canziani, IPCC WG2 Co-chair)	* We are dicussing this recommendations with Chapter 8 CLAs
13-377	A	9	25		27	The thoughts on these specific lines encapsulate problems I had throughout the chapter. I often found this style of presentation in my review and was troubled by a seeming reliance on presenting expected changes in infectious disease patterns as "all bad, in all cases, all of the time." On these lines in particular: This is a broad and potentially contradictory statement and if it is allowed to let stand needs citations. It should be obvious that infectious disease patterns will be complex and varied, with increases in some areas and decreases in others. This sentence is alarmist in only mentioning "favor[ing] the emergence of endemic diseases" without mentioning the certainty that some changes in temperature and precip patterns will favor the suppression of some diseases in some areas. In addition, the diseases listed in the sentence respond to different climate stresses in different ways (such as hantavirus and malaria) so to lump them all together in one sentence without further explanation is not valid. (Kevin Vranes, University of Montana)	Addressed
13-378	A	9	27			…… hantivirus……. A reference might give strenght to this sentence (Max Campos Ortiz, Regional Committee on Hydraulic Resources-Central America Integration System)	Addressed
13-379	A	9	27			HANTA virus (Julio Garcia, National Environmental Council)	Not applicable
13-380	A	9	27	9	27	Misspelling. It should be: hantavirus (Eduardo Usunoff, Instituto de Hidrología de Llanuras)	Addressed
13-381	A	9	31	9	31	In the reference the country of the mentioned ministry should be indicated (Eduardo Planos Gutiérrez, Institute of Meteorology)	Addressed

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
13-382	A	9	31	9	31	Ministry of Sciences and Technology of what country…? (Silvina Solman, CONICET)	Addressed
13-383	A	9	32	9	34	" During extreme events….(Patz…)" This a very strong sentence which could be subjeted to group discussions… (Max Campos Ortiz, Regional Committee on Hydraulic Resources-Central America Integration System)	* We are discussing with Chapter 8 CLAs
13-384	A	9	32		33	explain this paragraph, it is unclear (Stephan Halloy, Instituto de Ecología, Universidad Mayor de San Andrés)	Addressed
13-385	A	9	32	9	34	Is this the same in all the countries/social sectors or is there a predominance in some countries/social sectors?. The sentence is too general. (Marta Vinocur, Universidad Nacional de Río Cuarto, Agrometeorología)	Addressed
13-386	A	9	32		34	This sentence is out of place with the point of the paragraph. (Kevin Vranes, University of Montana)	Addressed
13-387	A	9	36	9	36	In this line is mentio Dominican Republic, Why in LAC report and not in the Caribbean report? (Eduardo Planos Gutiérrez, Institute of Meteorology)	Text removed
13-388	A	9	37	9	39	" Under……were reported for Colombia, because under prolonged droughts storage of water is increased , increasing……. (Marta Vinocur, Universidad Nacional de Río Cuarto, Agrometeorología)	Addressed
13-389	A	9	38			"... In Colombia" and Jamaica. Heslop-Thomas, C., W. Bailey, D. Amarakoon. A. Chen, S. Rawlins, D. Chadee, R. Crosbourne, A. Owino, K. Polson, C. Rhoden, R. Stennett, M. Taylor. 2005. "Vulnerability to dengue fever in Jamaica." In N. Leary, C. Conde, A. Nyong and J. Pulhin, eds., Dimensions of vulnerability in a changing climate, case studies from the developing world. submitted. (Cecilia Conde, Centro de Ciencias de la Atmósfera, UNAM)	Not applicable
13-390	A	9	39	9	39	It is not clear the meaning of "Under prolonged droughts storage of water increases…". I propose "Prolonged droughts increase the number of places where water is stored on the surface…" (Eduardo Usunoff, Instituto de Hidrología de Llanuras)	Addressed
13-391	A	9	40			Altough temperature increase appears to be the most important controlling factor (Rúa, G. L., M. L. Quiñones, I. D Vélez, J. S. Zuluaga, W. Rojas, G. Poveda, and D. Ruiz. Laboratory estimation of the effects of increasing temperatures on the duration of gonotrophic cycle of Anopheles albimanus (Diptera: Culicidae), Mem. Inst. Oswaldo Cruz, Rio de Janeiro, Vol. 100(5): 515-520, August 2005. (GERMAN POVEDA, Universidad Nacional de Colombia, at Medellin)	Addressed
13-392	A	9	42	9	42	Panama also reports hantavirus outbreaks in the 1999-2000 period (Emilio Sempris, Water Center for the Humid Tropics of Latin American and the	Addressed

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
						Caribbean)	
13-393	A	9	46			kala-azar ??? (Monica Beatriz Wehbe, NATIONAL UNIVERSITY OF RIO CUARTO)	Addressed
13-394	A	9	46			what is 'kala-azar'? (Daniel Zarin, University of Florida)	Addressed
13-395	A	9	47	9	47	Comma missing. It should be cited as follows: Gagnon, 2002 (Eduardo Usunoff, Instituto de Hidrología de Llanuras)	Addressed
13-396	A	9	48	10	1	"After hurricanes…… (Keenan et al,…..)" This a very strong sentence which could be subjeted to group discussions… (Max Campos Ortiz, Regional Committee on Hydraulic Resources-Central America Integration System)	Text removed
13-397	A	9	48		50	This sentence is also out of place with the point of the paragraph. (Kevin Vranes, University of Montana)	Text removed
13-398	A	10	0			Omissions and major gaps: It would have been useful with a map identifying regions of high inherent instability and where large changes are expected, and also identifying that certain (small) areas are particularly stable (e.g. p. 10, and p. 23). The report describes very general pattern (of the form "drier climate in nations xxxx and yyyy"), and does not mention that very local patterns may be highly essential, especially in montaneous regions. Thus, water supply in semi-arid SW Ecuador and some inter-Andean basins may depend on small cloud-forests on certain ridge-tops and mountain scarps (see for instance Becker 1999), and because these are determined by local topography (e.g. inversions on the transition between lowlands and highlands, causing mist in specific places) they are likely to persist, irrespective of climate changes (something that is indirectly supported by the high local endemism, reflecting persistence of populations of animals of plants over long periods of time; see Fjeldså et al. 1999 and Jetz et al. 2004 in the reference list). These special habitats are often densely populated or immediately adjacent to population centres in the nearest valleys (Fjeldså et al. 1999) and are under strong pressure – because of loss of "traditional knowledge" in many communities, and lack of knowledge among planners (= technocrats). (Jon Fjeldsa, University of Copenhagen)	Jcg ver
13-399	A	10	0			river transportation should be mentioned. Major rivers are key highways for social and economic connectivity through the Paraná-Paraguay, Amazon and Orinoco. These are vulnerable to droughts, floods and development initiatives such as dams, bridges, etc.. (e.g. Hamilton, S.K., 1999. Potential effects of a major navigation project (Paraguay-Parana Hidrovia) on inundation in the Pantanal floodplains. Regulated Rivers, 15. CEBRAC, 1994. Hidrovia Paraguai-Paraná - Quem Paga a	Jcg no

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
						Conta? - Análise da viabilidade Econômico-Financiera do Projeto da Hidrovia Paraguai-Paraná. Fundação Centro Brasileiro de Referência e Apoio Cultural, Instituto Centro de Vida, WWF, Brasilia, 92 pp. Halloy, S.R.P., Seimon, A., Sandbu, M. and Franco, G. (Editors), 2005. Estudio Puerto Busch - Opciones para la ubicación de un puerto soberano de Bolivia en el Sistema Paraguay-Paraná. WWF, Earth Institute at Columbia University, New Zealand Institute for Crop and Food Research, Santa Cruz de la Sierra, Bolivia, 161 pp.) (Stephan Halloy, Instituto de Ecología, Universidad Mayor de San Andrés)	
13-400	A	10	2			…and people with "weak" ? Health conditions (Monica Beatriz Wehbe, NATIONAL UNIVERSITY OF RIO CUARTO)	Addressed
13-401	A	10	4	10	4	"strain"?, should not be stress?. (Jose Marengo, CPTEC-INPE)	Addressed
13-402	A	10	9			In Huancayo, central Andean region of Peru has been observed a very high correlation on critical respiratory diseases (IRA´s) and the increase of freezing fronts mainly among children below 5 years age. (Julio Garcia, National Environmental Council)	Addressed
13-403	A	10	11	10	29	It is suggested that this paragraph be redrafted to include reference to the underground water mining and fog-droplets catching (natural and artificial) which are typical ways to get freshwater for human and ecosystem use. (ref: The catching of Camanchaca´s fog droplets) (Osvaldo Canziani, IPCC WG2 Co-chair)	JCG Accepted. Will be included in adaptation
13-404	A	10	11	10	17	According to PAHO-WHO (2000), the LAC region has ● 77 millions people without access to drinking water ● 219 million people are served by operationally intermittent water supply systems ● 241 million People are connected to conventional sanitary sewerage systems ● 208 millions people are served by sewerage systems without effluent treatment coverage ● 103 million people without some degree of Sanitation. According to CEPAL, the popullation is about 530 million people ●65,260 natural disaster related deaths in the last decade: Floods 54%; outbreaks 18.4%; storms and hurricanes 17.7%; earthquakes 5.2%; and landslides 3.2% (Emilio Sempris, Water Center for the Humid Tropics of Latin American and the Caribbean)	Jcg Not accepted. According to CEPAL, the popullation for LA is not about 530 million people. That figure includes countries of the Caribe. Probably 777 millions also includes some Caribean countries
13-405	A	10	12			Add after these resources "as well as the lack of water reservoirs or dams". (Martha Yvette Munguía de Aguilar, Ministry of Environment and Natural Resources)	Jcg Too general expression. No reference provided. Not accepted. Will be required the references.
13-406	A	10	12			As well as an increase in water quality problems.	Jcg

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
						(GERMAN POVEDA, Universidad Nacional de Colombia, at Medellin)	accepted
13-407	A	10	14	10	29	Missing references: IDB, 2000; IDB, 2004; CONAMA, Chile, 2003; Maza eta al, 2001; Carvajal et al., 1999; Kane, 2002. (Marta Vinocur, Universidad Nacional de Río Cuarto, Agrometeorología)	Jcg Accepted. References added
13-408	A	10	18			create severe RESTRICTIONS the water supply and... (Julio Garcia, National Environmental Council)	Jcg ok
13-409	A	10	20	10	22	Changed sentence to: "In addition, droughts related to El Niño, impacts ……., partcularly in the Cauca river basin, resulting in 30% reduction in the eman flow, ……. (Marta Vinocur, Universidad Nacional de Río Cuarto, Agrometeorología)	Jcg ok
13-410	A	10	22			wiritten « Carvajal et al, 1999 » but this reference is not included in the bibliography list. Line 23, it is necessary to concrete de reference "IDEAM, 2004" because in the bibliographic list a Bulletin is mentioned; usually, monthly bulletins of IDEAM only talk about the current situation. I recomend to include here the reference IDEAM, 1997 or IDEAM & Dirección Nacional de Prevención de Desastres, 2002. (See the list at the end of this document) (Jose Daniel Pabon Caicedo, Universidad Nacional de Colombia)	Jcg Ok
13-411	A	10	23			Whereas extreme floods are enhanced during La Nina (Waylen, P. R., and G. Poveda. El Niño-Southern Oscillation and aspects of western South America hydro-climatology, Hydrological Processes, 16, 1247-1260, 2002.). (GERMAN POVEDA, Universidad Nacional de Colombia, at Medellin)	Jcg Ok
13-412	A	10	24			70% of what?, population, area? (Stephan Halloy, Instituto de Ecología, Universidad Mayor de San Andrés)	Jcg Accepted. Of countries (UNDP,2004
13-413	A	10	24		25	On page 10, lines 24 and 25, it states: "The vulnerability to flooding events is high in almost 70% of Latin America (see Table 1), It would be convenient to sustain that percentage with some references. The text is referring to Table 1, but such percentage is not mentioned. (Oralia Oropeza-Orozco, of Geography, National Autonomous University of Mexico (UNAM))	Jcg Accepted. Of countries (UNDP,2004)
13-414	A	10	24			Table 1 breaks down the impacts of extreme events country-by-country but nowhere in there do I see evidence supporting the use of the "70% of Latin America" number used here. So this statement needs to be referenced in place. (Kevin Vranes, University of Montana)	Jcg Accepted. Of countries (UNDP,2004)
13-415	A	10	24			..70%...Table 1) Are these consistent? (Monica Beatriz Wehbe, NATIONAL UNIVERSITY OF RIO CUARTO)	Jcg Accepted. Of countries (UNDP,2004)
13-416	A	10	25	10	29	There are also risks of flood and outburst for some hydropower plants in Peru (Machu Picchu outburst in 2001)	Jcg Accepted. It is already mentioned. Reference

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
						(Encinas Carla , IPCC WG2 TSU)	is added (Carey)
13-417	A	10	25	10	29	In countries of Central America, as Panama and Costa Rica, the hydropower is important and they are not mentioned (Eduardo Planos Gutiérrez, Institute of Meteorology)	Jcg Not accepted . **Reference must be provided**
13-418	A	10	26			persistence = persistant (Jos Barlow, University of East Anglia)	Jcg Ok
13-419	A	10	26	10	26	Not only ENSO extreme events (La Niña, El Niño) affects the interannual variability of rainfall in Latin America. I suggest to remove "due to El Niño and La Niña". (Silvina Solman, CONICET)	Jcg ok
13-420	A	10	27			Line 27: Is written "Colombia, Venezuela (IDEAM, 2004), …." . Better to cite "Colombia (CAF, 2000a), Venezuela (CAF, 2000b), ...". The references are included in the list at the end of this document. (Jose Daniel Pabon Caicedo, Universidad Nacional de Colombia)	Jcg Ok
13-421	A	10	27	10	27	There is a need for references for each country, there is a lack of balance if only the IDEAM refrence is shown for Colombia while no reference is shown for other countries. (Jose Marengo, CPTEC-INPE)	Jcg Ok
13-422	A	10	27			Add after Argentina "Intense rainfall during the hurricane season in Central America often affects hydropower management and in many cases produces floodings downstream the dams (1998, 2005)" (Martha Yvette Munguía de Aguilar, Ministry of Environment and Natural Resources)	Jcg Not accepted **Reference must be provided**
13-423	A	10	27			The economic impact of ENSO on hydropower generation in Colombia has been quantified by Poveda et al. (2003): Poveda, G., O. J. Mesa, and P. R. Waylen, Non-linear forecasting of river flows in Colombia based upon ENSO and its associated economic value for hydropower generation. In: Climate and Water: Transboundary Challenges in the Americas, H. Diaz and B. Morehouse (eds.), Kluwer Academic Publishers, Dordrecht, 351-371, 2003. (GERMAN POVEDA, Universidad Nacional de Colombia, at Medellin)	Jcg Accepted. Referente is included
13-424	A	10	27	10	27	Include Panama in the list. (Emilio Sempris, Water Center for the Humid Tropics of Latin American and the Caribbean)	Jcg Not accepted **if reference is not provided**
13-425	A	10	32			Ideas for introduction: Besides climatic conditions and impacts, natural and human systems are increasingly vulnerable due to other factors such as demographic pressures, economic and social changes the same as environmental trends that increase sensitivity and reduce adaptive capacity of these systems to climatic risks.	Gn Cg Addressed Will be edited if references are available

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
						(Monica Beatriz Wehbe, NATIONAL UNIVERSITY OF RIO CUARTO)	
13-426	A	10	36	10	44	Reference(s) is needed. (Pierre-Andre Jacinthe, Indiana University Purdue University, Indianapolis)	Text removed
13-427	A	10	36	11	19	We should add, in this sub-chapter, the institutional vulnerability issue: A factor that aggravates the insecurity conditions among the populations is the institutional vulnerability in the region. Despite the achievements in the development of normative instruments and assessment practices that emphasise the directions which should be taken in terms of coping with the disaster cycle (prevention - attention - rehabilitation), the reality shows an institutional disarticulation that leads to an increase of the hazardousness derived from catastrophe events related to climate variability and change. Santa Fe, Argentina, is a good example. (Ana Maria Murgida, P.I.R.N.A. - GEOGRAPHIC INSTITUTE / SCHOOL OF ARTS, U.B.A.)	
13-428	A	10	36	48		13.2.3. Non climatic stresses. 13.2.3.1. Demographic pressures effects, Social and economical stresses. On page 10, lines 36-48, it is suggested to review the writing because it appears to contradict the title: "Non Climatic Stresses," since, in some way, it does exist a climatic influence, though it is not the main cause: "In both cases, sector reforms combine with changing patterns of climate variability to increase the sensitivity of smallholder farmers to extreme events and to reduce their capacity to address their livelihood security. (Oralia Oropeza-Orozco, of Geography, National Autonomous University of Mexico (UNAM))	Text removed
13-429	A	10	38			Add after larger economies "as well as the small central american economies" (Martha Yvette Munguía de Aguilar, Ministry of Environment and Natural Resources)	Text removed
13-430	A	10	39			Add after restructuring "or abandoning" (Martha Yvette Munguía de Aguilar, Ministry of Environment and Natural Resources)	Text removed
13-431	A	10	42			The statement: "While there have been regional economic gains resulting from these trends, …" needs to be supported and demonstrated. Otherwise, it is untrue for most countries in Latin America. (GERMAN POVEDA, Universidad Nacional de Colombia, at Medellin)	Text removed
13-432	A	10	43	10	43	What is "familiy farmers"? (Walter Baethgen, International Research Institute for Climate and Society, Coulmbia University)	Text removed
13-433	A	10	43	10	44	The word "expulsion" implies that the small and medium farmers were removed	Text removed

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
						from agricultural activity by physical force. Unless this is the case, replace "in the expulsion of 35% of them from agricultural activities" with "forcing 35% of them to leave agricultural activities" (Lenny Bernstein, IPIECA)	
13-434	A	10	47			Include a paragraph: In Tlaxcala Mexico these economical trends have caused important migration of rainfed agricultural producers, decay in grain prices, and important food importation. Cite: 1) Conde, C. and H. Eakin. 2003. Adaptation to Climatic Variability and Change in Tlaxcala, Mexico. 2003. Chapter in: Climate Change, Adaptive Capacity and Development, J. Smith, R. Klein, S- Huq. (editors). Imperial College Press , London. 241-259. 2) Ziervogel, G., A. Nyong, B. Osman, C. Conde, T.E. Downing, and Cortés, S. 2005. "Climate Variability and Change: Implications for Household Food Security." In: N. Leary, C. Conde, A. Nyong and J. Pulhin, eds., Dimensions of vulnerability in a changing climate, case studies from the developing world. submitted. (Cecilia Conde, Centro de Ciencias de la Atmósfera, UNAM)	Text removed
13-435	A	10				In light of the need to account for changes in agricultural land use, the chapter's commentary on the development of Latin American agriculture is disappointingly shallow. Phrases such as the "expulsion" of farmers (near the bottom of page 10) suggest that the authors are settling for ideological cant, instead of engaging in true analysis. Presumably, they are drawing on Wehbe et al. (2005), who are cited at the end of the paragraph although no full bibliographic reference is provided at the end of the chapter. Regardless, every social scientist who has studied development is aware that agriculture's relative importance tends to diminish, with farm employment often declining absolutely, as an economy develops. The paragraph at the bottom of page 10 reflects no understanding of this structural change and its implications for rural areas and land resources. (Douglas Southgate, Ohio State University)	Text removed
13-436	A	11	0			(13.2.3.2) and … It is quite characteristic that South Americans think of technological (ingeneering) solutions and do not often think of – or know about – ecosystem services. Why not suggest "functional assessments" and consider how waterways and wetlands should be managed in order to maintain important functions such as flood control, supply of water, etc. (ref. …). (Jon Fjeldsa, University of Copenhagen)	Jcg
13-437	A	11	1	12	15	The points made in this discussion are correct, but some connection to climate change would be appropriate. (Lenny Bernstein, IPIECA)	Jcg, Dc
13-438	A	11	1	25	12	In this paragraph it would be convenient to introduce the topic of the big cities (Sao	

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
						Paulo, Mexico City, etc) like one important vulnerability and risk in the region (Eduardo Planos Gutiérrez, Institute of Meteorology)	
13-439	A	11	4	11	6	São Paulo, Brazil, is one of the biggest cities in the world. Great part of Brazilian population leaves in urban areas. (Magda Aparecida Lima, Brazilian Agricultural Research Corporation - Embrapa)	
13-440	A	11	5		6	In terms of percentage of urbanization, what is the range (the text mentioned most and less urbanized countries). (Mercedes Maria da Cunha Bustamante, Departamento de Ecologia, Universidade de Brasília)	Gn
13-441	A	11	6		19	On page 11, it is recommended to combine in one sole paragraph what is stated in lines 6-12 with lines 14-19. (Oralia Oropeza-Orozco, of Geography, National Autonomous University of Mexico (UNAM))	
13-442	A	11	7			Should AIDS-HIV be added? This question stems from the indirect climate change impact exacerbating internal migrations and overcrowding shanty towns (favelas, villas miseries, etc). Note that the fight against HIV is one of the MDG. Coordination with Chapter 8 should provide a solution. (Osvaldo Canziani, IPCC WG2 Co-chair)	* We are dicussing this issue with Chapter 8 CLAs
13-443	A	11	7			Add after (...degenerative diseases) "related to health and those related to urban landslides and floodings" (Martha Yvette Munguía de Aguilar, Ministry of Environment and Natural Resources)	Addressed
13-444	A	11	7	11	8	"Modern risks result ……..while poor and rural areas…… (Marta Vinocur, Universidad Nacional de Río Cuarto, Agrometeorología)	Addressed
13-445	A	11	14	11	14	There is no mention of maj+K23or economic achievements in the LA region. (Encinas Carla , IPCC WG2 TSU)	Arm
13-446	A	11	14	11	19	The countries of the region are in different stages of a Decentralization process which may enhace adaptive capacity of local governance levels to respond to posible impacts of climate change and variability. the most important are in Nicaragua, el Salvador and Bolivia (Javier Gonzales, Programa Nacional de Cambios Climáticos)	Arm
13-447	A	11	14	11	19	In the context of poverty reduction, many countries have started to assess the level of achivement of the MDG, that might be an importante source of information. Bolivia published innitial results www.mds.gov.bo (Javier Gonzales, Programa Nacional de Cambios Climáticos)	Arm
13-448	A	11	16		19	Which are the countries with poverty rates over 40%? (Mercedes Maria da Cunha Bustamante, Departamento de Ecologia, Universidade	Addressed

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
						de Brasília)	
13-449	A	11	17	11	19	Shows some redundancy with the para. 8 -12, same page can be complementary instead. (Encinas Carla , IPCC WG2 TSU)	Arm
13-450	A	11	19			Is important to notice that rates of poverty in andean rural areas are increased and directly related with altitude, for example, in Peru, poverty rates are over 80% above 3,000 masl. There are still zones of extreme poverty, with socio human indicators below or comparable to sub saharian african zones. (see UNDP, socio human Index, 2005) (Julio Garcia, National Environmental Council)	Gn Cg Addressed will be considered
13-451	A	11	21			Section 13.2.3.2 Fire is a critical linkage within this section (and elsewhere) and needs to be highlighted here. The interaction of wildfire and fire as a land-clearing/agricultural technique with climate change is well-established yet under-emphasized in the entire report. See for example Nepstad et al. 2001. Forest Ecology and Management 154:395-408. (Daniel Zarin, University of Florida)	AV Dc
13-452	A	11	23	11	38	One of the critical problems on underground water supply is not only salinization and nitrification but also the presence of insidious contamination by heavy metals (Ar, F). The so-called Bel-Ville syndrome in Argentina shows that about 2 million people are at risk of death+K19. For references see the series La cultura del Agua by Canziani O.F., article El Agua y la Salud Humana, AIDIS Argentina Nº 70, Bs. As. Sep/Oct 2003 and The Atlas of Water , by Clarke R. and J. King, Earthscan, UK, 2004. Coordinate with sub-section on pollution and logically with chapters 3 and 8.. (Osvaldo Canziani, IPCC WG2 Co-chair)	Jcg Accepted. It will be included in the section "Pollution
13-453	A	11	23	11	24	Mining activities is another environmental stress related with exploitation of natural resources. Nevertheless, this activity is included later on from para 49 to page 12 para. 10. (Encinas Carla , IPCC WG2 TSU)	JCG Accepted, but as Carla says it is already included
13-454	A	11	23	11	38	Paragraph requires a great deal of editing (Pierre-Andre Jacinthe, Indiana University Purdue University, Indianapolis)	Av Adressed
13-455	A	11	23			Add after urbanisation "without a land planning legal framework in most of the countries" (Martha Yvette Munguía de Aguilar, Ministry of Environment and Natural Resources)	Av GN not addressed 9 countries from total 19 LA countries have some level of legal land planning (Venezuela and Bolivia are pioneers in this sense). Guatemala, Uruguay, Ecuador, Honduras, San

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
							Salvador, Costa Rica and Colombia have some level of territorial planning (Massiris Cabeza, A. 2004 Ordenamiento territorial <http://www.lablaa.org/blaavirtual/letra-v/viajes/indice.htm> Downloaded on 9 February 2006
13-456	A	11	23	11	38	Include land-based sources of coastal and marine polution, depleating coral reefs (Emilio Sempris, Water Center for the Humid Tropics of Latin American and the Caribbean)	Av Ok
13-457	A	11	24	11	24	This is not very clear to me (Enrique Martínez Meyer, Instituto de Biología, Universidad Nacional Autónoma de México)	Av ver
13-458	A	11	25	11	32	Use of the words "wrong" on line 25 and "bad" on line 32 relates to my comment #5. These judgmental, biased words suggest a biased position and should therefore be avoided. What specifically is "wrong" with water management and what specifically is "bad" about irrigation management? Answering these questions might focus the point the authors want to make. (Mark Carey, University of California, Berkeley)	Jcg Accepted
13-459	A	11	27			delete: …because of the increase in the use of natural resources. ... (Monica Beatriz Wehbe, NATIONAL UNIVERSITY OF RIO CUARTO)	
13-460	A	11	29			delete: …in LA. … (Monica Beatriz Wehbe, NATIONAL UNIVERSITY OF RIO CUARTO)	
13-461	A	11	40	12	10	The soybean cropping boom has exacerbated deforestation in Argentina, Bolivia, Brazil and Paraguay. This critical land use change will enhance aridity/desertification in many of the already water-stressed regions in South America. The blindness of the important economic interests involved not only affects the landscape but also modifies the water cycle with a net impact on the climate trend. (Osvaldo Canziani, IPCC WG2 Co-chair)	Dc Gm Addressed
13-462	A	11	40	12	10	River water pollution with effluents from gold/silver mining and cocaine production should be added. Indigenous communities are severely affected. Their pregnant women loose their foetuses because of the mercury and cyanhydric content and natural ecosystems and water hydrocarbons from cocaine's production. Coordinate with Chapter 3 (Osvaldo Canziani, IPCC WG2 Co-chair)	Jcg Arm
13-463	A	11	41	11	41	Is reference OK? FAOSTAT is an online database (difficult to use as a refrence?)	Dc

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
						(Walter Baethgen, International Research Institute for Climate and Society, Coulmbia University)	
13-464	A	11	43	11	44	To put this in perspective, report what percentage of emergent lands that Latin America represents on a global scale. Also use the same area unit (Mha) to facilitate comparison. (Pierre-Andre Jacinthe, Indiana University Purdue University, Indianapolis)	Dc
13-465	A	11	44	39	32	13.2.3.2. Environmental stresses. On page 11, lines 44-47 can be combined with the case study in lines 23-32 page 39. (Oralia Oropeza-Orozco, of Geography, National Autonomous University of Mexico (UNAM))	No
13-466	A	11	45	11	45	This afirmative must be checked (…"including the entire semi arid region….) (Magda Aparecida Lima, Brazilian Agricultural Research Corporation - Embrapa)	Dc
13-467	A	11	46	11	47	Although it is fair to say that deforestation is one of the dominant threats, is it the dominant threat? Although it clearly has the most extreme effect on biodiversity, forest degradation (through fires, hunting, logging, edge effects and fragmentation) is much more widespread than clear felling (e.g. Asner et al. 2005 (Science), Peres and Lake 2003 (Conserv. Biol. 17, 521–535) and these widespread but more crypticforms of disturbance have the potential to severely affect biodiversity (see Barlow and Peres 2004 (Phil trans roy soc B 359, 367–380) for fires, Putz et al. (Conserv. Biol. 15, 7–20) for logging, Laurance et al. 2002 (con bio 16, 605-618) for fragmentation, etc) . Furthermmore, the cerrado ecosystem is critically endangered, both through conversion of land use to Soya and other forms of agriculture, and also because of the inappropriate present-day fire dynamic (e.g. over 50% of EMAS national park in Brazil burned at once in August/Sept 2005) (Jos Barlow, University of East Anglia)	Dc
13-468	A	11	46	11	47	I have the preception that hire an exact or aproximate value of deforestation in Amazonas region is achivable (Javier Gonzales, Programa Nacional de Cambios Climáticos)	Dc
13-469	A	11	46	11	47	Need add more recent references. (Paulo Moutinho, Amazon Institute for Environmental Research (IPAM))	Dc
13-470	A	11	47			Please cite: Myers, N., R. A. Mittermeier, C. G. Mittermeier, G. A. B da Fonseca, & J. Kent, 2000. Biodiversity hotspots for conservation priorities, Nature, 403, 853-858.. (GERMAN POVEDA, Universidad Nacional de Colombia, at Medellin)	Dc
13-471	A	11	49	12	1	It is important to draw attention to the fact that arsenic contamination is closely related to the mine activities in the Andes and, subsequently, to the lack of	Jcg

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
						institutional regulation and control in the region. (Ana Maria Murgida, P.I.R.N.A. - GEOGRAPHIC INSTITUTE / SCHOOL OF ARTS, U.B.A.)	Not accepted . **Reference must be provided**
13-472	A	12	1		10	On page 12, lines 1-10, there appears to be a contradiction to the title "Non Climatic Stresses", since some examples that cause stress due to the influence of ENSO are cited. (Oralia Oropeza-Orozco, of Geography, National Autonomous University of Mexico (UNAM))	Jcg Not accepted.
13-473	A	12	3	12		In the Plilcomayo basin, deforestation is more important for siltation than ENSO. (Stephan Glatzel, Dept. Of Geography and Regional Research)	Jcg Not accepted. **reference is not provided**
13-474	A	12	5	12	6	make a note about the contamination of fishery stock by mercury in Amazon and other region in LA by exploitation of gold (see Pfeiffer et al. 1993.Environm. Reviews, 1: 26 - 37; Bastos. 2004. Environmental Research. 96: 235-238). (Paulo Moutinho, Amazon Institute for Environmental Research (IPAM))	Jcg Not in this section. The comment will be considered .
13-475	A	12	12	12	15	This segment must be completed with reference to the health impact deriving from forest fires particles and the VOC's generation of surface ozone. Coordination with Chapter 8 is suggested. (Osvaldo Canziani, IPCC WG2 Co-chair)	Addressed
13-476	A	12	12	12	15	Reference(s) is needed. (Pierre-Andre Jacinthe, Indiana University Purdue University, Indianapolis)	Addressed
13-477	A	12	12	12	15	What about air pollution due to biomass burning in western Amazonia?. (Jose Marengo, CPTEC-INPE)	Addressed
13-478	A	12	12	12	15	See citation above on health problem provoked by smoke in Amazon. (Paulo Moutinho, Amazon Institute for Environmental Research (IPAM))	Addressed
13-479	A	12	12		15	I think that there is much more opportunity to discuss air pollution than this chapter currently does, especially given that population in Latin America is highly urbanized in densely populated cities which have severe air pollution problems. Other chapters (see 8 and 14) present evidence that climate change may make air pollution worse - while there have not been studies focused specifically on Latin America, it is perfectly justifiable to discuss current air pollution problems and then say "other chapters suggest that climate change will likely exacerbate air pollution problems, and should this occur in Latin America, the health consequences are potentially large." Or perhaps this discussion should go under Sec. 13.4.5 Human health (J. Jason West, Princeton University)	Addressed

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
13-480	A	12	14	12	15	" It is…. Inversions" add a reference (Max Campos Ortiz, Regional Committee on Hydraulic Resources-Central America Integration System)	Addressed
13-481	A	12	16			I have the perceptio that the chapter has to include some references to some conflicts and cooperation arround water resources emerging in the region, the Pilcomayo river in Bolivia is a good example, but there are othere like the Lempa river in Cetral America (Javier Gonzales, Programa Nacional de Cambios Climáticos)	Jcg Not to be included in this section. The comment will be considered
13-482	A	12	16			Please include one paragraph related to effects of air pollution due masive "chaqueo" in Brasil, Bolivia and Colombia. The "chaqueo" is the typical process used by indgenous for to prepare the soil for the agriculture. The "chaqueo" incorpore very important amounts of CO2 in the atmosphere. (Oscar Paz, National Climate Change Programme)	Addressed
13-483	A	12	20	12	20	The title of subsection 13.2.4.1 should be only "Climate trends" as no discussion is included about climate variability. (Silvina Solman, CONICET)	Ok done
13-484	A	12	22		24	Which are the climatic trends recently observed? (Mercedes Maria da Cunha Bustamante, Departamento de Ecologia, Universidade de Brasília)	Gm done
13-485	A	12	22	12	22	After the phrase "in the region" refer the reader to section 13.2.2 where variations in regional climate has already been discussed. (Pierre-Andre Jacinthe, Indiana University Purdue University, Indianapolis)	Ok done
13-486	A	12	22	12	22	What is meant by clear climatic trends ? Statistical significance? (Víctor Magaña, National Autonomous University of Mexico)	Gm done
13-487	A	12	24	12	26	The increases were registered in specific places, so that the afirmative should not be generalist for whole countries. (Magda Aparecida Lima, Brazilian Agricultural Research Corporation - Embrapa)	Accepted all
13-488	A	12	25	12	25	"increases in precipitation (rainfall) were reported for Argentina, Uruguay, Southern Brazil and Bolivia with impacts" (Gilberto R. Cunha, Brazilian Agricultural Research Corporation (Embrapa))	Gm ok
13-489	A	12	27			After "...crop yields and flooding" it could include the text "Also it was reported differentiated by rgions changes in precipitation across the colombian territory (Pabón, 2003b) (Jose Daniel Pabon Caicedo, Universidad Nacional de Colombia)	Accepted all
13-490	A	12	28			Add after (… 2000) "as well as intense rainfall related risks in urban and suburban areas due to deforestation and the lack of land planning" (Martha Yvette Munguía de Aguilar, Ministry of Environment and Natural	Gm ok

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
						Resources)	
13-491	A	12	28	12	29	Precipitation Trends in Ecuador do not show a decline, look at : Trends in total and extreme South American rainfall 1960-2000 and links with sea surface temperature Submitted to Journal of Climate. 6th December, 2004 (Jose Santos, Escuela Superior Politecnica del Litoral)	Accepte all
13-492	A	12	29			These extreme events are documented in http://www.desinventar.org/desinventar.html (see comment above) (Cecilia Conde, Centro de Ciencias de la Atmósfera, UNAM)	Gm accepted
13-493	A	12	29			Chile and Peru. (Julio Garcia, National Environmental Council)	Gm done
13-494	A	12	29			as above, specify which regions of a country. Andean countries are subject to distinct climate regimes on coast, highlands and eastern slopes, thus a decline or increase of precipitation in one area may go parallel with the opposite trend in the other area. (Stephan Halloy, Instituto de Ecología, Universidad Mayor de San Andrés)	Gm accepted
13-495	A	12	29			In Colombia, weak rainfall trends have been observed for the period 1955–1995, with no preferred sign at a regional level. For central Colombia, rainy seasons have been occurring earlier in recent years than 25 years ago (Mesa et al., 1997). Trends in Colombian river streamflow are mixed, but the main river catchments such as the Cauca and Magdalena Rivers exhibit decreasing trends. Deforestation could account for such decreasing trends in river discharges (Poveda and Mesa, 1997: Feedbacks between hydrological processesi tropical South America and large scale oceanic–atmospheric phenomena. Jour.Climate;10:2690–702.; Dore, 2005, Climate change and changes in global precipitation patterns: What do we know? Environment International 31,1167–1181). (GERMAN POVEDA, Universidad Nacional de Colombia, at Medellin)	Jcg
13-496	A	13	0	13		If the reference for some of the trends put in parenthesis and references LA27 and LA26 are not clear. (Encinas Carla , IPCC WG2 TSU)	Gm ok
13-497	A	13	0			Table13.2a: I don't know what this list of examples of climatic trends is worth; there are some examples of significant change, others of minimal change, and it is not particularly likely that different national territories can be characterized by one particular trend – more probably these changes follow ecoregions. (Jon Fjeldsa, University of Copenhagen)	Gm ok
13-498	A	13	0			Some results missing among the results presented in Table 13.2a: For Maximum Temperature: Argentina Central 1959-1998 -0.02 to –0-08 ºC/year (DJF) Rusticucci	Gm done

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
						and Barrucand, 2004) J.Climate, vol 17, No. 20, 4099-4107, 2004 Argentina Patagonia 1959-1998 +0.02 to +0.04 ºC/year (DJF) 0 to +0.08 ºC/year (JJA) Rusticucci and Barrucand, 2004) For Minimum Temperature Argentina (all stations) +0.02 to +0.08 ºC/year (DJF) Rusticucci and Barrucand, 2004) Argentina (all stations) +0.02 to +0.08 ºC/year (JJA) Rusticucci and Barrucand, 2004) and for Precipitation Argentina (28 stations, central and northeastern) 1900-2000 +1StdDev to 2 StdDev (Penalba and Vargas, 2004) Int. J. Climatology, 24, 12, 1565-1580, 2004 (Matilde Rusticucci, Universidad de Buenos Aires)	
13-499	A	13	0	13		Table 13.2a. Annual discharge: there is a paper on the Parná River. Extreme discharge events in the Paraná River and their climate forcing. 2003: J. of Hydrology, 278, 94-106. I. Camilloni and V. Barros. (Silvina Solman, CONICET)	JCG Accepted
13-500	A	13	0	13		Table 13.2a Precipitation: There are other papers: 1:Recent precipitation trends in Southern South America to the East of the Andes: an indication of a mode of climatic variability. 2000. Vicente Barros, M.E. Castañeda y Moira Doyle. in chapter 2 the book "Southern Hemisphere Paleo and Neoclimates. Concepts, Methods, Problems". Eds. P. Smolka and W. Volkheimer Springer 381 pp. . 2 Prrecipitación en el oeste de la Argentina. 2001 . Meteorológica, 26, 5-23. E. Castañeda y V. Barros and 3 An Observed Trend in Central South American Precipitation, 2004. J. Climate, 17, 4357-4367. B. Liebmann, Vera, C. Carvalho, L., Camilloni, I., Barros, V., Hoerling, M y Allured, D. A. (Silvina Solman, CONICET)	Addressed
13-501	A	13	0	13		Table 13.2a Only significant trends should be mentioned (some trends are too weak)!. It is not clear what the units are for the different regions, in some cases °C /day and in other cases °C. All temperature trends should be in the same unit (°C/yr or °C/50 years). (Silvina Solman, CONICET)	done
13-502	A	13	0	13		Table 13.2a I recommend to include the following references: For temperature trends: Nuñez, M. N., H. H. Ciappesoni, A. Rolla, Ming Cai, and E. Kalnay (2004): Comparison of monthly mean station and NNR surface temperature anomalies with respect to their annual cycles for selected stations in Argentina. Conference DVD "1st International CLIVAR Science Conference". June 21-25, 2004, Baltimore, Maryland, USA. (Silvina Solman, CONICET)	

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
13-503	A	13	0	13		Table 13.2.a For temperature trends include also: Rusticucci, M. and M. Barrucand (2004): Observed Trends and Changes in Temperature Extremes over Argentina. Journal of Climate. Volumen 17, pgs 4099-4107. (Silvina Solman, CONICET)	done
13-504	A	13	0	13		Authors should check recent studies of observed trends in LA with the corresponding WGI Chaper. (Silvina Solman, CONICET)	Accepted
13-505	A	13	1	13		Table 13.2a. Temperature.¿ Are the quoted papers about temperature considering the effectis of growing urban effect? It should mention the paper : Rosenbluth, B., H. Fuenzalida and P. Aceituno 1997 : recent temperature variations in southern South America. Journal of Climatology, 17, 67-85. (Vicente Barros, Centro de Investigaciones del Mar y la Atmósfera (CIMA/CONICET-UBA))	No old referente
13-506	A	13	1	13		Table 13.2a. Annual discharge: there is a paper on the Parná River. Extreme discharge events in the Paraná River and their climate forcing. 2003: J. of Hydrology, 278, 94-106. I. Camilloni and V. Barros. (Vicente Barros, Centro de Investigaciones del Mar y la Atmósfera (CIMA/CONICET-UBA))	Repeted
13-507	A	13	1	13		Table 13.2a Precipitation: There are other papers: 1:Recent precipitation trends in Southern South America to the East of the Andes: an indication of a mode of climatic variability. 2000. Vicente Barros, M.E. Castañeda y Moira Doyle. in chapter 2 the book "Southern Hemisphere Paleo and Neoclimates. Concepts, Methods, Problems". Eds. P. Smolka and W. Volkheimer Springer 381 pp. . 2 Prrecipitación en el oeste de la Argentina. 2001 . Meteorológica, 26, 5-23. E. Castañeda y V. Barros and 3 An Observed Trend in Central South American Precipitation, 2004. J. Climate, 17, 4357-4367. B. Liebmann, Vera, C. Carvalho, L., Camilloni, I., Barros, V., Hoerling, M y Allured, D. A. (Vicente Barros, Centro de Investigaciones del Mar y la Atmósfera (CIMA/CONICET-UBA))	Repeted
13-508	A	13	1	13		Table 132a: Precipitation. It can be added this reference that shows positive trends during summer in a South American region: B. Liebmann, Vera, C. Carvalho, L., Camilloni, I., Barros, V., Hoerling, M and Allured, D. .2004. An Observed Trend in Central South American Precipitation, J. Climate, 17, 4357-4367. (Inés Camilloni, Centro de Investigaciones del Mar y la Atmósfera (CIMA/CONICET-UBA))	Ok done
13-509	A	13	1	13		Table 132a: Annual discharges: It can be added a study of stremflow trends of the	JCG

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
						Parana, Paraguay and Uruguay rivers show postive trends since 1970: +50% in the Paraguay River at Puerto Bermejo, +40% in the Uruguay River at Paso de los Libres and +40% in the Parana River at Corrientes.(Reference: Camilloni, I. 2005.Tendencias hidrologicas.. In: El Cambio Climático en el Río de la Plata. Barros V., A. Menéndez, G.J. Nagy (eds), Chapter 2, 21-31, Ed. CIMA/CONICET-UBA, Buenos Aires,Argentina.) (Inés Camilloni, Centro de Investigaciones del Mar y la Atmósfera (CIMA/CONICET-UBA))	Accepted
13-510	A	13	1			Table 13.2.a……..Precipitation….. Reference…LA-27, etc, I supposed it referes to AIACC (UNEP-TWAS)LA… Because these are global programme it might be important to be consistent on how they will be referenced in all cases (African, Asian projects..) (Max Campos Ortiz, Regional Committee on Hydraulic Resources-Central America Integration System)	Ok
13-511	A	13	1	14		Tables. 12.a and 12.b There is no consistency in the use of for some names and references. (Encinas Carla , IPCC WG2 TSU)	Ok
13-512	A	13	1			Table 13.2a Mean temperature Piura, northern region, period 1972-2002,+ 1.2 (Dec-jan-feb) SENAMHI , 2005 (Julio Garcia, National Environmental Council)	ok
13-513	A	13	1	13	1	Table 13.2.a. Specific regions should be mentioned (city, state, regions (south, southeast, etc, country.). It is missing the texts on Impacts. (Magda Aparecida Lima, Brazilian Agricultural Research Corporation - Embrapa)	done
13-514	A	13	1	13	1	Table 13.2.a. I have submitted to Carlos Nobre (as his request) un update of this Table to include tendencies and trends in rainfall, temperature and rivers in various regionf of Brazil. I attach this table to the review. I believe that it is necessary to update and complete this table including results from various other studies perfomed in South America. Please pass the Table to the CLAs. (Jose Marengo, CPTEC-INPE)	done
13-515	A	13	1			Cite trends in precip and other climatic variables in Perez et al., 1998: Pérez., C.A., G. Poveda, O. Mesa, L. F. Carvajal, and A. Ochoa, Evidences of climate change in Colombia: Trends and changes in phase and amplitude of annual and semi-annual cycles (In Spanish), Bulletin Institute Francaise d'Etudes Andines, 27 (3), 537-546, 1998. http://www.unesco.org.uy/phi/libros/enso/indice.html. (GERMAN POVEDA, Universidad Nacional de Colombia, at Medellin)	Old reference

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
13-516	A	13	1			Table 13.2.a. Current Climatic Trends. In the Second Box, Minimum Temperature, add the following: Central Argentina (Córdoba, 4 sites). Period 1931-1990. Change/Reference: +0.4 to 1.2 [Fall: March, April and May] and +0.1 to +0.8 for the other seasons (Vinocur and Seiler, 2005) (Marta Vinocur, Universidad Nacional de Río Cuarto, Agrometeorología)	Done
13-517	A	13	1			Table 13.2.a. Current climatic Trends. In the Fourth Box: Precipitation, add the following: Central Argentina (Córdoba, 4 sites). Period 1931-1990. Change/Reference: + 6.5% (annual) and +15% (Summer:Dec-Jan-Feb) (Vinocur and Seiler, 2005). (Marta Vinocur, Universidad Nacional de Río Cuarto, Agrometeorología)	Done
13-518	A	13	1			Table 13.2.a. Current Climatic Trends. In the first Box, Maximum Temperature, add the following: Central Argentina (Córdoba, 3 sites). Period 1931-1990. Change/Reference: -1.1 to -2.0 [Summer:Dec-Jan-Feb] (Vinocur and Seiler, 2005) (Marta Vinocur, Universidad Nacional de Río Cuarto, Agrometeorología)	Done
13-519	A	13	35			There are also bad examples like the SINSAAT in Bolivia aimed to forecast food emergencies, which could not be maintained by the bolivian government (Javier Gonzales, Programa Nacional de Cambios Climáticos)	?
13-520	A	14	2	14		See level Rise. Barros et al 2003 is not in the References.Perhaps is: Impact of Global Change on the Coastal Areas of the Rio de la Plata. .2003. AIACC Notes, 2, .9-12. Barros, V., Camilloni, I. and A. Menéndez . It should be added Inundación y Cambio Climatico- Costa argentina del Rio de la Plata, Chapter 5 of the book: El Cambio Climático en el Río de la Plata. Eds. Barros V., A. Menéndez, G.J. Nagy, Chapter 5, CIMA-CONICET-UBA, Buenos Aires, Mayo, 2005. (Vicente Barros, Centro de Investigaciones del Mar y la Atmósfera (CIMA/CONICET-UBA))	Gn
13-521	A	14	2			Table 13 2 b): Glaciers trends Since tropical glaciers are retreating, a more fitted heading would be : Glacier-retreat trends. Regarding the first column in the first row, since the glaciers are on the Andes Cordillera, the reference between brackets refers to the impact of their retreat on the water supply on the coast. Therefore, since the impacts column already includes this effect, the information in brackets has to be cancelled. (Osvaldo Canziani, IPCC WG2 Co-chair)	done
13-522	A	14	2	15		Table 13.2b is surprising for not including Peru's Cordillera Blanca, the most glaciated mountain range in the tropical world. There are probably more scientific studies—and definitely a longer, more complete historical record of monitoring	JCG accepted

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
						glacier retreat—for the Cordillera Blanca glaciers than for any other glaciers in Latin America. This oversight in the report raises issues about the evidence and science used so I believe it is important to include the Cordillera BLanca. See the Tropical Glaciology Group publications (website listed in comment #2 above). A good starting point for glacier coverage in the Cordillera Blanca is C. Georges (2004): The 20th century glacier fluctuations in the Cordillera Blanca (Perú). Arctic, Antarctic, and Alpine Research. 36(1), 100-107. In the Impacts section of this table, there are references to glaciers and "fresh water," "water reserves" and "water supply." Are these 3 terms different or the same? A consistent term should be used. The section on Ecuador claims that a "decline in the length of the glacier" yields an impact of "reduction on water supply." See my comment #2 above because I am not sure this "impact" is correct. The size of a glacier does affect the water supply, but during initial melting of a glacier, meltwater in rivers (water supply) can actually increase. Finally, the Republica del Peru, 2001 reference is not in the References List. It is also surprising that scientific studies are not cited here for tropical glaciology and hydrology. I do not necessarily consider the WWF (2002) to be peer-reviewed state of the art science. (Mark Carey, University of California, Berkeley)	
13-523	A	14	2	14		Table 13.2b In the reference to Peru (coastal region) where water stress would be a major problem the 22% of glacier reduction in the Northern Andes. Leave the reference to the coastal region for the impacts column. This reduction has been monitored since 1960-1970s. The reference on impacts for Bolivian glaciers is missing, the same for northern and southern Patagonian example. (Encinas Carla , IPCC WG2 TSU)	JCG accepted done
13-524	A	14	2			Table 13.2 b Period 1962-1998 Change reference, 22% reduction in glacier total area, (Morales Arnao, INAGGA-CONAM, 1998) about 7 thousand million cubic meters estimated water loss (Natural Resources Institute, INRENA, 2004) In Cusco glacier areas, has been measured that the height of the freezing temperature has raised in 100 meters (R. Bradley, University of Massachussets) (Julio Garcia, National Environmental Council)	JCG accepted done
13-525	A	14	2			Table 13.2b:Glaciers trends. In Bolivia Chacaltaya glacier include in the part of impacts the following: "Total loss of the tourism and the skiing sport" (Oscar Paz, National Climate Change Programme)	done

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
13-526	A	15	0	15		The footnote is missing. (Encinas Carla , IPCC WG2 TSU)	done
13-527	A	15	0			13.2.4. Past and currents trends. 13.2.4.1. Climate trends and variability. Next reference could be included in table 13.2.b: Glaciers trends, on page 15. Delgado G., P. Julio, R. Álvarez, E. Cabral, L. Cárdenas, F. Correa, M. Luna. Study of Ayoloco Glacier at Iztaccíhualt volcano (Mexico): hazards related to volcanic activity-ice cover interactions. In: Z. Geomorrph. N.E. Suppl.-Vol. 140: 181-193. Authors mention: measurement of the areal extent of Ayoloco glacier at Iztaccíhuatl volcano (5286 masl) in central Mexico for 1982 and 1998, allows retreating patterns to be recognized. The likely causes of this retreat are global and regional warming. (Oralia Oropeza-Orozco, of Geography, National Autonomous University of Mexico (UNAM))	Jcg
13-528	A	15	0			Table 13.2b:Glaciers trends. In Bolivia Zongo glacier include in the part of impacts the following: "Importants troubles in agriculture, soustainaibility of "bofedales" and impacts in terms of socio economics for the rural populations" (Oscar Paz, National Climate Change Programme)	done
13-529	A	15	2	15	2	Year of publication is missing in Eric Rignot et al. (last row of Table 13.2b) (Eduardo Usunoff, Instituto de Hidrología de Llanuras)	
13-530	A	15				Table 13.2 b) Since in previous IPCC reports (SAR and TAR) it has been mentioned that Patagonian glaciers would persist in the 22nd century, it would be convenient to indicate the rate of change in the same manner as the previous one, so as to facilitate comparisons. It should be noted that the symbols used in this row are not explained in the text. (Osvaldo Canziani, IPCC WG2 Co-chair)	JCG Accepted
13-531	A	15				Table 13.2b It is possible that information in the following reference can be added as an example from Argentina http://cires.colorado.edu/~braup/pubs/skvarca2003.pdf (Monica Beatriz Wehbe, NATIONAL UNIVERSITY OF RIO CUARTO)	Gm JCG Accepted
13-532	A	16	0			13,2,4.2.: I wonder what figures of forest losses are worth without a clear definition of how this is quantified: are forest areas clear-felled or selectively logged or disturbed to a certain extent, and is it transformed into agricultural land or allowed to regenerate as some kind of second growth scrubbery (in which case there is a certain loss of primary forest biodiversity but often a rise in alpha diversity and a continued high level of carbon sequestration). Regarding biodiversity loss: why not	Dc

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
						refer to the results of the Smithsonian forest fragmentation project in Manaus instead of IUCN reports. The results are highly confusing as a partial clearing often leads to increased alpha diversity. Extinctions in the Amazon area are not very likely to happen, because of the wide distributions of most species, but the risks are VERY high in southeastern Brazil and western Ecuador, and inter-Andean basins, where little forest is left and endemism high. Thus, statements about extinction risks need to be precise. (Jon Fjeldsa, University of Copenhagen)	
13-533	A	16	1		6	The following references help to support lines 1- 6 on page 16.Beniston M. 2003: "Climatic change in mountain regions: A review of posible impacts. In: Climatic Change, 59: 5-31. Diaz H. F., J. K. Eischeid, Ch. Duncan and R. Bradley. 2003: "Variability of freezing levels, melting season indicators, and snow cover for selected high-elevation and continental regions in the last 50 years. In: Climatic Change, 59: 32-52. Kaser G., I. Juen, Ch. Georges, J. Gómez, W. Tamayo 2003: "The impact of glaciers on the runoff and the reconstruction of mass balance history from hydrological data in the tropical Cordillera Blanca, Perú" In: Journal of Hydrology 282 (2003) 130-144. Vuille M., R. Bradley, M. Werner and F. Keimig. 2003: "20th Century Climate Change in the Tropical Andes: Observations and Model Results. In: Climatic Change, 59: 75-99 (Oralia Oropeza-Orozco, of Geography, National Autonomous University of Mexico (UNAM))	JCG Accepted
13-534	A	16	1		6	This kind of information should be highlighted or otherwise made more prominent in this chapter. In general in this chapter I have found too much unsupported speculation and not enough highlighting of what has actually happened to the physical environment. This is a major "impact" of the WGII mandate to study the "Impacts, Adaptation and Vulnerability." (Kevin Vranes, University of Montana)	Jcg JCG Accepted
13-535	A	16	2	16	2	Georges (2004, p. 100) that is cited in my comment #10 says that there were slight glacier advances in some cases in the Cordillera Blanca, Peru between 1999 and 2002. The advances were caused by El Nino/La Nina conditions after 1997-1998. This does not change a general trend of glacier retreat throughout the Americas, but the comment on this line should be investigated to ensure its accuracy. (Mark Carey, University of California, Berkeley)	Jcg JCG Accepted

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
13-536	A	16	2			Colombian glaciers have lost between 60% and 80% of their original areas since 1850 (IDEAM, Los Glaciares Colombianos: Expresión del Cambio Climático Global) http://www.ideam.gov.co/publica/glaciares/glaciares.pdf (GERMAN POVEDA, Universidad Nacional de Colombia, at Medellin)	Jcg JCG Accepted
13-537	A	16	6			It is important to add also the adverse effect on natural and human systems, and cross-refer to the study case. (Osvaldo Canziani, IPCC WG2 Co-chair)	Jcg JCG Accepted
13-538	A	16	9		11	This paragraph needs to be more developed. Agriculture intensification is an important trend in Latin America (Mercedes Maria da Cunha Bustamante, Departamento de Ecologia, Universidade de Brasília)	Gm accepted
13-539	A	16	11			Add after GEO 2003 "Due to urbanisation processes that took place in huge urban centers, there has been a widespread land use change process, which generated environmental degradation such as soil impermeabilization & degradation, natural drainages changes, forest cover loss, natural ecosystems disturbances, river and wetlands pollution, among other negative environmental trends". (Martha Yvette Munguía de Aguilar, Ministry of Environment and Natural Resources)	
13-540	A	16	13	16	27	In 2000, there were over 7 million hectares of deforested areas. Between 1990 and 2000, the annual deforestation average was 149,000 hectares (PROCLIM, 2005). (Lenkiza Angulo Villarreal , Soluciones Prácticas-ITDG)	Dc
13-541	A	16	13	16	27	as above - I think degradation deserves a mention here too. (Jos Barlow, University of East Anglia)	Dc
13-542	A	16	13	16	27	In general there is a lot of information regarding deforestation, but it is important fto know how much of this deforestation is related to the whole forest, for example, line 20….FAO(2005) estimates that forest cover in Camerica will be reduced by 1.2 Mha until 2010,.....what this quantiy means for the whole Central America forest???..... for non forest specialists it could provide a general idea of the problem.... This comment could be applied to other cases in the chapter. (Max Campos Ortiz, Regional Committee on Hydraulic Resources-Central America Integration System)	Dc
13-543	A	16	13		26	Deforestation is meant as clear-cut but selective logging can play an important role in this process (Mercedes Maria da Cunha Bustamante, Departamento de Ecologia, Universidade de Brasília)	Dc
13-544	A	16	13	16	27	Edit section to improve readability and save space	

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
						(Pierre-Andre Jacinthe, Indiana University Purdue University, Indianapolis)	
13-545	A	16	13	16	27	How are these projections in deforestation related to the case study at the end of Chp. 13? (Víctor Magaña, National Autonomous University of Mexico)	
13-546	A	16	13		27	Are these changes linked to climate change or solely to economic behaviors? As written, this paragraph does not mention GW and so leaves the reader with the impression that all of these changes are wrought via direct human behavior rather than via indirect behavior (i.e., humans alter the climate and then climate alters the landscape). I think this is an important distinction as the overall point of this report is to be about climate change and in this case how climate change might influence land use. It is not intended to be an environmental report about how humans are changing the landscape. (Kevin Vranes, University of Montana)	Dc
13-547	A	16	13		27	The best synthesis on deforestation drivers was not cited: Geist and Lambin 2002. Bioscience 52:143-150. Also, a recent CIFOR publication by Kaimowitz et al. 2005 should be included as it links Amazonian deforestation to global markets. (Daniel Zarin, University of Florida)	Dc
13-548	A	16	16			"Dumps" should be changed by "dams" (Osvaldo Canziani, IPCC WG2 Co-chair)	done
13-549	A	16	16			…like construction of "dams"? (Monica Beatriz Wehbe, NATIONAL UNIVERSITY OF RIO CUARTO)	done
13-550	A	16	17	16	19	There are three very important references that should be included and commented (roads effects on deforestation: Nepstad et al. 2001. Forest Ecology and Management 154: 395-407; Soares-Filho et al. 2004. Global Change Biology, 10: 745-64); (for effect of commercial market on deforestation: Nepstad et al. The economic "teleconnections" of the Amazon soy and beef industries: opportunities for conservation. Conservation Biology, in press - accepted manuscript that can be requested from Nepstad@whrc.org). (Paulo Moutinho, Amazon Institute for Environmental Research (IPAM))	done
13-551	A	16	17			add after construction of roads "and new urban human settlementes" (Martha Yvette Munguía de Aguilar, Ministry of Environment and Natural Resources)	done
13-552	A	16	24	39	32	13.2.4.2. Environmental trends. On page 16, lines 24-27 can be combined with the case study in lines 23- 32 on page 39. (Oralia Oropeza-Orozco, of Geography, National Autonomous University of Mexico (UNAM))	done

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
13-553	A	16	26	16	26	The meaning of "…but not the only one any longer…" is rather obscure. (Eduardo Usunoff, Instituto de Hidrología de Llanuras)	Dc done
13-554	A	16	29	16	37	This is certainly very few information about biodiversity trends. There are some studies that address actual trends in biodiversity in the region. Some citations are: Young, B. E., K. R. Lips, J. K. Reaser, R. Ibanez, A. W. Salas, J. R. Cedeno, L. A. Coloma, S. Ron, E. La Marca, J. R. Meyer, A. Munoz, F. Bolanos, G. Chaves, and D. Romo. 2001. Population declines and priorities for amphibian conservation in Latin America. Conservation Biology 15:1213-1223. LaVal, R. K. 2004. Impact Of Global Warming And Locally Changing Climate On Tropical Cloud Forest Bats. Journal of Mammalogy 85:237-244. (Enrique Martínez Meyer, Instituto de Biología, Universidad Nacional Autónoma de México)	Dc
13-555	A	16	30			…"the hotspots analysis of Myers…" (Jos Barlow, University of East Anglia)	done
13-556	A	16	30	16	30	Unconventional citation. It shoul read: Myers et al. (2000) (Eduardo Usunoff, Instituto de Hidrología de Llanuras)	done
13-557	A	16	30	16	30	Instaed of "Latino American area", it should read "Latin american area" (Eduardo Usunoff, Instituto de Hidrología de Llanuras)	done
13-558	A	16	33			IUCN (Jos Barlow, University of East Anglia)	done
13-559	A	16	33	16	33	Comma missing. It should be cited as follows: UICN, 2000 (Eduardo Usunoff, Instituto de Hidrología de Llanuras)	done
13-560	A	16	35	16	36	Since the paradigmatic fog/cloudy forests are those in Central America, particularly in Costa Rica, the succession of places should be changed putting " other cloudy forests" before the South American steppes (which are generally treeless plains). Then the lines should better read: Ecoregions located in the northern and middle Andes valleys and plateaux, in Central America, and other cloudy forests, in South American steppes, etc. (Osvaldo Canziani, IPCC WG2 Co-chair)	Dc done
13-561	A	16	39		50	On page 16, lines 39-50, Coral reefs, it is suggested to consult the next article to complement the environmental situation of coral reefs in that portion of the Gulf of Mexico that belongs to Mexican territory. Jordán-Dahlgren, E. 2004: "Los arrecifes coralinos del Golfo de México: caracterización y diagnóstico". In: Caso, M., I. Pisanty, E. Escurra (comp.): Diagnóstico ambiental del Golfo de México. Secretaría del Medio Ambiente y Recursos Naturales, Instituto Nacional de Ecología, Instituto de Ecología, A.C., Harte Research Institute for Gulf of México Studies. Vol. 1, pp 555-571.	Av GN will search this reference

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
						(Oralia Oropeza-Orozco, of Geography, National Autonomous University of Mexico (UNAM))	
13-562	A	16	49	16	49	Instead of decease began in Panama, it may say "desease was firt reported in Panama" (it began somewhere else), and possibly through the Canal It got to the region. (Emilio Sempris, Water Center for the Humid Tropics of Latin American and the Caribbean)	Av GN Adressed will be edited
13-563	A	16				Related to the shallow treatment of agricultural development is the cursory discussion on page 16 of the causes of deforestation. Quite a few books and articles (few of which are cited here) have been written on this subject. To the best of my knowledge, none of this literature places great stress on "financing of big scale projects like construction of dumps for energy generation" (whatever this means). In addition, no mention is made in the chapter of an important brake on agriculture's geographic expansion (at the expense of forests and other habitats), which is agricultural intensification. As shown in a statistical study I carried out several years ago, expansion of cropland and pasture tend to be rapid in Latin American nations with slow growth of agricultural yields, just as agricultural extensification is slow where yields are going up rapidly (Douglas Southgate, 1994, "Tropical Deforestation and Agricultural Development in Latin America," in The Causes of Tropical Deforestation: The Economic and Statistical Analysis of Factors Giving Rise to the Loss of Tropical Forests, edited by Katrina Brown and David Pearce, University College London Press). (Douglas Southgate, Ohio State University)	
13-564	A	17				In Table 13.3: Under "Changes in Land Use" for the lines Argentina and South America, what do the numbers +30.2 Mha and +6.3 Mha refer to? Forest lands? Ag lands? And are these numbers changing because of climate changes or human economic activities? (Kevin Vranes, University of Montana)	Dc
13-565	A	18	0			Maybe worth mentioning the effects of neoliberalism and privatization, that it is mainly the middle class that benefits while South American rural populations, which are often outside the economic mainstream, are often much worse off and are forced (for instance by increased prices on cooking gas) to overexploit their local natural resources even more than before. (Jon Fjeldsa, University of Copenhagen)	A short paragraph on the effects of neoliberalism has been added. Given the limited space, only general effects are mentioned.
13-566	A	18	1	18	47	The points made in this discussion are correct, but some connection to climate change would be appropriate. (Lenny Bernstein, IPIECA)	An estimation of the potential impact of climate change in the region's GDP has been included.

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
13-567	A	18	1	18	47	This whole section has to be redrafted and reduced in size to obviate mistakes and contradictions. Also to save space. (Osvaldo Canziani, IPCC WG2 Co-chair)	The section on economic scenarios has been redrafted.
13-568	A	18	1	18	9	The source of the statements in this first paragraph of this section is not mentioned. To a reader having no background knowledge on this Region's development trend, Latin America would have been a set of territories with no national education, public health services, urbanized settlements, etc. This is not true, Volta Redonda foundries, Mexican industries, Argentina's agroindustries, including high quality meat processing, existed a long time before. Looking at the socio-economic and cultural trends, this paragraph looks as if written by some entity aiming to explain the current disastrous situation, in the same fields, as the extinction of the 20 years' spark of a 5% GDP annual average growths. This is not true. As said at the beginning (page 6 lines 24 and 25) Latin America still is a quite heterogeneous region, even in spite of the rapid deterioration of the more developed of the developing countries. (Osvaldo Canziani, IPCC WG2 Co-chair)	Escaith, Hubert, **Tendencias y extrapolación del crecimiento en América Latina y el Caribe.** (2003). NU. CEPAL. División de Estadística y Proyecciones Económicas. Although there were some important industries in the region previous to the adoption of the Import Substitution Industrialization Model (ISI), most of the industry was developed during this period. The region is quite heterogeeuos
13-569	A	18	1	18	47	Section 13.2.4.3 covers many economic factors but is not well organized or clearly linked to global warming. While it's important to provide the Latin American context for this chapter, I'm not sure that all this detail is necessary or relevant to climate change. I believe the chapter should discuss how global warming would impact specific socio-economic trends. I suggest identifying a few socio-economic trends and providing clear, relevant data to show the effects of neoliberalism. Finally, the section does not cite scholarly literature. The World Bank, many social scientists would argue, may be biased in its account of socio-economic trends. Two excellent and recent analyses of neoliberalism that should be consulted and cited are: Evelyne Huber and Solt Frederick, "Successes and Failures of Neoliberalism," Latin American Research Review 29.3 (2004) 150-164; and Michael Walton, "Neoliberalism in Latin America: Good, Bad, or Incomplete?" Latin American Research Review 29.3 (2004) 165-183. (Mark Carey, University of California, Berkeley)	Suggested material has been considered and some conclusions have been added. An estimation of the potential impact of climate change in the region's GDP has been included.
13-570	A	18	1	18	47	Not sure that this section is so relevant for the chapter, since some of this issues are mentioned in section 13.2.1 and later on in the chapter. (Encinas Carla , IPCC WG2 TSU)	
13-571	A	18	1		40	Again, these might be important contextual background numbers, but what do they have to do with climate change? (Kevin Vranes, University of Montana)	Economic growth has an important influence on vulnerability and adaptation capacity, this is why is important to include economic trends.

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
13-572	A	18	2	18	15	A couple of references are needed to support the statements. (Pierre-Andre Jacinthe, Indiana University Purdue University, Indianapolis)	References have been extended
13-573	A	18	4			These paragraf do not reflect the way wealth has been distributed in the Region societies nor the low level of consumption of tha majority of populations. Educational and health services have not a wide coverage and quality has been low. Levels of poverty and extreme poverty have been high and are not decreasing. (Martha Yvette Munguía de Aguilar, Ministry of Environment and Natural Resources)	Evolution of inequality and poverty in the region is included.
13-574	A	18	4			add: "… and creation or extension of national…", instead of just "…and creation of national…". (Luis Pinguelli Rosa, Federal University of Rio de Janeiro)	Added
13-575	A	18	10			add a paragraph: One goal of the import substitution model was the incorporation of more advanced technologies in the economic production. This process of modernization has been done by state intervention in the economy for promoting the technological development. In 1980, the public policies were in favor of the open market. The need of investments in infra-structure and the public debt, both internal and external, have given place to higher dependence on the private role in this sector. The so called consensus of Washington of 1989 defined a guideline to Latin American countries including the following points: elimination of barriers to foreign capital; privatization of public companies, and of public monopolies in the energy sector; competition and globalization. (Luis Pinguelli Rosa, Federal University of Rio de Janeiro)	We need references for this paragraph
13-576	A	18	27	18	27	Provide reference for the CEPAL study (Pierre-Andre Jacinthe, Indiana University Purdue University, Indianapolis)	Reference is provided
13-577	A	18	27	18	32	There should be references for backing up the figures mentioned (Eduardo Usunoff, Instituto de Hidrología de Llanuras)	References are added
13-578	A	18	37			… between the 40% and 47% "of national income"?... (Monica Beatriz Wehbe, NATIONAL UNIVERSITY OF RIO CUARTO)	
13-579	A	18	40			…can "restrain"? (Monica Beatriz Wehbe, NATIONAL UNIVERSITY OF RIO CUARTO)	Restrain
13-580	A	18	42	18	47	Remove the term "unknown" (it does not make sense) (Magda Aparecida Lima, Brazilian Agricultural Research Corporation - Embrapa)	There is no "unkown"
13-581	A	18	42	18	47	Are these "warnings" made by some international agency or suggestions by the authors? (Víctor Magaña, National Autonomous University of Mexico)	See references
13-582	A	18	42			Add after inequity "within an economic context that is strengthening free trade agreements, deregulations, public administration and investment reduction"	Too long. It has been said before

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
						(Martha Yvette Munguía de Aguilar, Ministry of Environment and Natural Resources)	
13-583	A	18	43	18	43	..."large parts of the region's population very vulnerable to economic and natural stressors" should be modified to: "large parts of the region's population very vulnerable to economic and natural stressors, AS WELL AS TO THE LACK OF ADEQUATE POLICIES IN TERMS OF ENGINEERING STRUCTURAL WORKS AND SOFT MEASURES, SUCH AS PREVENTION PARTICIPATION SYSTEMS". (Ana Maria Murgida, P.I.R.N.A. - GEOGRAPHIC INSTITUTE / SCHOOL OF ARTS, U.B.A.)	References?
13-584	A	18	43			…the region's population "increasingly"? vulnerable…. (Monica Beatriz Wehbe, NATIONAL UNIVERSITY OF RIO CUARTO)	Changed
13-585	A	18	44	18	47	If no structural….. The sentence in confusing. (Monica Beatriz Wehbe, NATIONAL UNIVERSITY OF RIO CUARTO)	Sentence has been re-writed
13-586	A	18	47	18	47	"lucky"? (Emilio Sempris, Water Center for the Humid Tropics of Latin American and the Caribbean)	Changed
13-587	A	18	48			Climate change therefore must be considered as a sustainable development issue, and including vulnerability reduction and adaqptation as main goals of that develoment process, that could be affected by CC as an additional bud¡rden to the already complicate matters of development in the region, regarding equity and governance also. (Julio Garcia, National Environmental Council)	
13-588	A	18				Aside from factual errors such as these, discussions of macroeconomic conditions, trends in agricultural development, etc. seem to have been written by individuals with little or no professional training in these areas or familiarity with the relevant literature. For example, page 18's analysis of trends in socioeconomic factors is basically on track, although literature such as an article published in 2004 by Arminio Fraga ("Latin America since the 1990s: Rising from the Sickbed?" Journal of Economic Perspectives, 18, pp. 89-106) needs to be cited. [Incidentally, references on the same page to "social inequity" should probably be changed to "social inequality."] (Douglas Southgate, Ohio State University)	Cg References have benn extended
13-589	A	19	1	20	2	The section on Adaptation begins with reasonably well structured and written paragraphs assessing the progress made in LA to forecast extreme weather events with greater accuracy. Subsequent paragraphs did not, unfortunately, convey a clear message, and were merely a compilation of legislation and local initiatives.	Addressed

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
						Authors need show how listed projects and legislation can be construed as adaptation measures, or at the very least, discuss how would these local initiatives and regulations can serve as adpatation models in response to projected change in regional climate. (Pierre-Andre Jacinthe, Indiana University Purdue University, Indianapolis)	
13-590	A	19	1	19	1	Under "13.2.5 Current Adaptation" or "12.2.5.1 Other Adaptation", please include a subheading "Adaptation Policy" The proposed paragraph is as follows: Central America, Mexico and Cuba are elaborating and applying an adaptation policy framework to implement strategies, policies and measures in priority human systems: agriculture, water resources, human settlement and coastal zones, demonstrating how policy for adaptation can be integrated into national sustainable development. (Emilio Sempris, Water Center for the Humid Tropics of Latin American and the Caribbean)	
13-591	A	19	3	19	3	This section may need an introductory parragraph explaining why a chapter on climate change describes the work in shorter-term climate variability. I think it is a very valid approach, but needs to be stated. (Walter Baethgen, International Research Institute for Climate and Society, Coulmbia University)	
13-592	A	19	3	19	3	Delete "Weather" from the title. Nothing is mentioned at the weather time scale (Walter Baethgen, International Research Institute for Climate and Society, Coulmbia University)	done
13-593	A	19	3	20	8	It would be important to include in this topic the analysis of the state of the art in the region of the climatological diagnosis or evaluation like a fundamental element to strengthen the forecast and analysis of the vulnerability and the risk (Eduardo Planos Gutiérrez, Institute of Meteorology)	
13-594	A	19	3	19	3	Proposed title: Sistematic Observation and Forecast or Weather and Climate Systematic Observation and Forecast (Emilio Sempris, Water Center for the Humid Tropics of Latin American and the Caribbean)	
13-595	A	19	4	19	15	Section 13.2.5. Need to indicate other experiences in climate prediction in the region (CPTEC, SIMEPAR in Parana, etc) CPTEC issues climate forecsts since 1994 for Brazil, and mots of the South American countries acces these products. There is also a need for reference to the Climate Outlook Fora (COF) that occur regularly in Southeast South America and th Central America. (Jose Marengo, CPTEC-INPE)	Cn Accepted.
13-596	A	19	5	19	5	TOGA stands for Tropical Ocean Global Atmosphere?	CN

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
						(Encinas Carla , IPCC WG2 TSU)	Accepted.
13-597	A	19	6			We should be reluctant to use the idea of a climate forecast at this stage of development of the physics of climate change. Let us use climate projections or outlooks (Osvaldo Canziani, IPCC WG2 Co-chair)	Cn No. Here climate forecast is used in the strict sense of seasonal climate forecast as an adaptation tool. This is not projections of future climate change.
13-598	A	19	8	19	8	References by Lagos and Funceme are incomplete... (Tercio Ambrizzi, Institute of Astronomy, Geophysics and Atmospheric Sciences - USP)	Cn Accepted.
13-599	A	19	9	19	10	The statement: "Climate forecasts became even more reliable …" is misleading. While there has been some improvement in forecasting ability, understanding of the ENSO cycle is still far from adequate. See for example: Kerr, R.A. (2003): Little Girl Lost. Science, 301:286, which documents the inability of forecasters to predict the development of the La Nina phase of the then current ENSO cycle. A more correct statement would be that while climate forecasts have improved, our ability to forecast the development of El Nino and its La Nina counterpart is still inadequate. (Lenny Bernstein, IPIECA)	Cn. Accpeted.
13-600	A	19	10			THERE IS NO DIFFERENCE (severe and mega) within EL NIÑO 1982-83 and 1997/98 (only 15 years), both of them were mega events, before the El Niño of 1982/83, a similar one occurs in 1925/26 (almost 60 years), and before that one in 1891(almost 35 years (in Peru, mega El Niño are ranked by the increase of 8º or more degrees in the mean sea surface temerature). The main difference is in the amount and period of the extreme rainfall. (Julio Garcia, National Environmental Council)	Cn Accepted.
13-601	A	19	10			brake the paragraph before "The mega El Niño…" and delete "sharp focus" (Monica Beatriz Wehbe, NATIONAL UNIVERSITY OF RIO CUARTO)	Cn Accpeted.
13-602	A	19	13	19	16	Could cite the models for fire risk currently in use in Brazil that provide information to advise local government on El Niño effects. See http://www.cptec.inpe.br/products/queimadas/risco.html# and cite model of fire risk for Amazonia (Nepstad et al. 2004. Global Change Biology 10: 704-17). (Paulo Moutinho, Amazon Institute for Environmental Research (IPAM))	Cn Accpeted.
13-603	A	19	17	19	26	The previous comment on line 35 page 3 regarding the disastrous conditions of the Region's observing networks and the evident lack of effective warning before the recent disastrous situations (Argentina, Bolivia, Brazil, etc) indicates that the highest percentage of such outstanding and pompously named Early Warning and Risk Prevention Systems is only a project on papers.	Cn Partially accepted. It is true that full fledged and multi-sector Early Warning and Risk Prevention Systems are not a reality in all of Latin America. However, it must be

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
						In this regard, for various reasons, Chapter 13's authors, must understand that their enthusiasm is not yet matched by positive action from decision makers. Therefore, presenting such a passionate description of some services, not backed by well established, real-time operated, readily processed and quickly retrieved meteorological and hydrological information is, at least in Latin American, equal to further impairing the necessary and urgent development of these services, their supporting institutions and services and killing before being born potential adaptation actions. Very careful, well weighed and sufficiently regionally representative drafting, with appropriate references on the special situation is required. (Osvaldo Canziani, IPCC WG2 Co-chair)	recognized that, mostly due to improved seasonal climate forecasting, functional prototypes of such systems have been developed in many countries and for specific applications.
13-604	A	19	17	19	26	There is so much left to do on Early Warning and or Risk Prevention Systems in the region this paragraph don't reflect this situation. (Encinas Carla , IPCC WG2 TSU)	Cn Accepted
13-605	A	19	17	19	18	In which country is developed the Early Warning and Risk Prevention Systems. It should be better referred, due to its importance. (Magda Aparecida Lima, Brazilian Agricultural Research Corporation - Embrapa)	Cn Accepted.
13-606	A	19	17	19	26	Please, say something on how the implementation of these systems reflect the capacity for adaptation in the region, mostly in terms of the use of new technologies. (Víctor Magaña, National Autonomous University of Mexico)	JCG Accepted
13-607	A	19	17	19	26	I think that it is pertinent here to compare the effects of hurricaine Katrina in the US (where there was no alert system) and Stan and Wilma in mexico, the Caribbean and Central America in terms of casualties and material losses (Enrique Martínez Meyer, Instituto de Biología, Universidad Nacional Autónoma de México)	
13-608	A	19	22	19	26	unclear statement (Monica Beatriz Wehbe, NATIONAL UNIVERSITY OF RIO CUARTO)	
13-609	A	19	24	19	25	It is necessary to update the name of the Argentine institution mentioned here. Instead of COAH, the name INA should appear. Due to the floods that took place during 1982/1983, a Centro Operativo de Alerta Hidrológico - COAH (Hydrologic Alert Operational Centre) was founded, managed by the Instituto Nacional de Ciencia y Técnica Hídricas (Hydric Science and Technology National Institute), currently called INA (Water National Institute). (www.ina.gov.ar) (Ana Maria Murgida, P.I.R.N.A. - GEOGRAPHIC INSTITUTE / SCHOOL OF ARTS, U.B.A.)	JCG COAH is the original and yet official name. Reference to INA will be included
13-610	A	19	25	19	26	Magaña (2004) is not in the reference list. After the words "of Latin America." the	Cn

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
						following sentence shoud be included: In Brazil, the creation of the Center for Weather Forecast and Climate Studies (CPTEC) 10 years ago helped this country to generate high quality weather and seasonal climate forecast in the region. (Tercio Ambrizzi, Institute of Astronomy, Geophysics and Atmospheric Sciences - USP)	Accepted.
13-611	A	19	28	19	34	The Andean Committee for Disaster Prevention and Response (Comité Andino de Prevención y Atención de Desastres-CAPRADE) has been established recently as the Andean Community of Nations' organisation in charge of contributing to risk reduction and to mitigate disaster-related impacts through the coordination and promotion of policies, strategies, plans, and activities in the areas of prevention, mitigation, preparedness, care, rehabilitation, and reconstruction. (Lenkiza Angulo Villarreal , Soluciones Prácticas-ITDG)	Cn Accepted.
13-612	A	19	28			…and prevent "impacts from" natural hazards…. (Monica Beatriz Wehbe, NATIONAL UNIVERSITY OF RIO CUARTO)	Cn. Acepted.
13-613	A	19	29	19	34	change to: "and even to influence….. Examples of the former are the Regional Disaster…. And for the last the Social Studies….." (Monica Beatriz Wehbe, NATIONAL UNIVERSITY OF RIO CUARTO)	
13-614	A	19	32	19	33	Where? Who takes part of this Network? It should e better referred. (Magda Aparecida Lima, Brazilian Agricultural Research Corporation - Embrapa)	Cn. Accepted.
13-615	A	19	33	19	34	The reference (Anderson cited in Briseño, 2002) is strange. Also, it is not clear the sentence "women risk prevention activities". Which activities? It needs to be clarified. (Tercio Ambrizzi, Institute of Astronomy, Geophysics and Atmospheric Sciences - USP)	Addressed
13-616	A	19	35			In the Andean Community of Nations, CAN, is a regional effort to integrate prevention and emergencies managemnt within an Andean Commission (CAPRADE, Andean Committe on preparedness and Disater relief). Also Organization of American States with their Ofiice for Sustainable Develoment amnd Environment , have lanched many efforts including risk management projects and capacity building forthat purpose. In central America exists LA RED and FLACSO, regarding risk management issues. Recenly has been conformed (December 2004) the Ibero American Network of Climate Change Offices-RIOCC, supported by the Climate Change offices of Spain and Portugal. Within this RIOCC is expected to be devekloped a Iberoamerican Adaptation Work Program, the first steps have been taking in to anual meetings in 2004 and october 2005. (Julio Garcia, National Environmental Council)	
13-617	A	19	36	20	8	The topics discussed in these paragraphs are not current adaptations, but hopes for	

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
						the future. A separate heading indicating this should be used. (Lenny Bernstein, IPIECA)	
13-618	A	19	36	49		ENSO forecast was used in Tlaxcala to change crops (form maize to oats) during the El Niño event (Conde & Eakin, see above). This successful experience was based on strong stakeholder involvement (Conde & Lonsdale, 2005). Cite: Conde, C. and K. Lonsdale. 2005. Engaging Stakeholders in the Adaptation Process. Technical Paper No.2. Adaptation Policy Frameworks for Climate Change: Developing Strategies, Policies and Measure. B. Lim et al (editor). UNDP- GEF National Communications Support Programme. Cambridge University Press. 47-66 (Cecilia Conde, Centro de Ciencias de la Atmósfera, UNAM)	done
13-619	A	19	38			"crop varieties" instead of hybrid? (Monica Beatriz Wehbe, NATIONAL UNIVERSITY OF RIO CUARTO)	done
13-620	A	19	44			…farmers' practices based on risk aversion? (Monica Beatriz Wehbe, NATIONAL UNIVERSITY OF RIO CUARTO)	Yes
13-621	A	19	47	20	2	The importance of a close interconnection of climate forecasts, health governmental institutions and early warning systems can be merely read between the lines here. Actually, the empirical data prove that the different sectors involved act separately from each other. The measures taken are still oriented to impact management, on the very catastrophe event. For instance, during April-May 2003, Santa Fe (city in Argentina) suffered the impact of a major flood and the measures were taken on the spot, spontaneously, only when facing the mentioned disaster. It was constituted, at that very moment, the Centro de Operaciones de Emergencia - COE (Emergency Operations Centre). Also, a Centro de Operaciones de Salud - COS (Health Operations Centre) was created as a prevention system (that is supposed to be used in the case of future similar events), at the very same time that it was facing the disaster and trying to offer medical assistance, epidemics prevention measures and services and health programs networks' rehabilitation. To sum up, the problem was that there was, indeed, a prevention system before the catastrophe, but due to political issues, there was a terrible lack of coordination between the measures taken by the different governmental and non-governmental organisms. The spontaneous coordination of these actions had to be assumed by the Epidemics Team of the State Health Department. (Ana Maria Murgida, P.I.R.N.A. - GEOGRAPHIC INSTITUTE / SCHOOL OF ARTS, U.B.A.)	Addressed
13-622	A	19	47	20	2	brake the paragraph before "Applications…" and may be start with: There is some evidence on the increasing use of climate forecasts in the health sector. For instance, the Colombian….. Thus Institutional support for early warning systems	Addressed

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
						may help to …. (Monica Beatriz Wehbe, NATIONAL UNIVERSITY OF RIO CUARTO)	
13-623	A	20	0			P. 20, 13.2.5.1: emphasize cloudforests … Ref. to Becker 1999. (Jon Fjeldsa, University of Copenhagen)	
13-624	A	20	0			13.2.5.2.: an interesting example could be reference to the Inca epoch in the Andes, as it has been suggested that the success of the Incas was based on their ability to solve the enormous problems with land degradation in the preceding period – with introduction (and heavy-handed implementation) of new "sustainable" methods. Palynological evidence of land recovery is presented by Chepstow-Lusty et al. 1998 from the Cuzco area. (This example could also be used p. 40) (Jon Fjeldsa, University of Copenhagen)	
13-625	A	20	0	20	0	Could add the recent studies on the impact of Amazon deforestation on rivers (see Coe, M.T., 2002: Long-term simulations of discharge and floods in the Amazon basin, J. Geophys. Res., 107 and http://whrc.org/programs/landwater.htm). (Paulo Moutinho, Amazon Institute for Environmental Research (IPAM))	Jcg
13-626	A	20	1	20	8	Section 13.2.5. There should be a better interaction and cross reference to the Chapter on Health from thw WGII. (Jose Marengo, CPTEC-INPE)	Addressed
13-627	A	20	4	20	8	Is this paragraph related to Wether and Climate Forecast? (Monica Beatriz Wehbe, NATIONAL UNIVERSITY OF RIO CUARTO)	Arm
13-628	A	20	5	20	7	It is very summarized. More details on its application and users should be provided, in order to be a useful information. (Magda Aparecida Lima, Brazilian Agricultural Research Corporation - Embrapa)	Arm
13-629	A	20	7	20	7	Include after (EPA,2005), the following sentence: "A pilot Regional Visualization and Monitoring System (SERVIR, in Spanish) has been installed in CATHALAC, Panama in 2005. Supporting documentation is attached, for more info please visit http://servir.nasa.cathalac.org (Emilio Sempris, Water Center for the Humid Tropics of Latin American and the Caribbean)	Arm
13-630	A	20	12	20	21	This subsection is an example of what is meant by my comment of page19, line 17 to 26. What is mentioned regarding developments in Costa Rica should be mentioned as a new option, as it is done. (Osvaldo Canziani, IPCC WG2 Co-chair)	Dc
13-631	A	20	12		21	Are there other examples of the explotation of environmental services along Latin America? The examples are restricted to Central America although the text mentioned such schemes in various countries. How widespread are these practices? (Mercedes Maria da Cunha Bustamante, Departamento de Ecologia, Universidade	Dc

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
						de Brasília)	
13-632	A	20	12			I realize that this report cannot go into detail with identifying such places, but it should point out (with examples) that such environments exist – and require special attention (e.g. in 13.2.5.1). Efforts to change land-use in, for instance, the Tumbesian lowlands, are in vain, if protection of forest on adjacent mountain ridges is neglected. Plenty of data is available (at least biological indicators, e.g. Fjeldså et al. 2005 and Hijmans & Spooner 2001) to tell where these environments are. The report mentions that ENSO events cause flooding in some areas and draughts in other areas, but does not mention that there are local environments within the Andes where there is no conspicuous effect, and special attention should be given to avoid degradation of such environments. It may be worth mentioning "surazos" or "friajes" – the cold southern winds that occur fairly regularly in winter in the southern cone of South America, and causes occasional frosts, and other bad winter weather ,up to the southern fringes of the tropics. This weather phenomenon is of short duration (= not reflected in general climate models) but can nevertheless cause strong perturbations and have severe impacts on various crops, and because it is considered a major determinant of large-scale vegetation changes in South America during the Pleistocene (Servant et al. 1993). (Jon Fjeldsa, University of Copenhagen)	Dc
13-633	A	20	12	20	21	Significant overlap between this section and section 13.5.1.2. Thus, there is a space saving opportunity. As noted above, authors need to state the connection between the management practices described and adaptation to climate change. As written, the connection is not clear. (Pierre-Andre Jacinthe, Indiana University Purdue University, Indianapolis)	Dc
13-634	A	20	12	20	21	In opinion of this reviewer this topic is very poor, being a region where important natural ecosystems exist (Eduardo Planos Gutiérrez, Institute of Meteorology)	Dc
13-635	A	20	12			Is information in this section related to climate adaptations? (More on Corridors is writen at the beginning of page 34) (Monica Beatriz Wehbe, NATIONAL UNIVERSITY OF RIO CUARTO)	Dc
13-636	A	20	12			Section 13.2.5.1 The fact that the Costa Rica environmental services payment program is, at least in part, financed by a gas tax, is extremely relevant, but not discussed here (it should be). (Daniel Zarin, University of Florida)	Dc
13-637	A	20	13	20	16	Could cite the "ProAmbiente" system in Brazil. It is an environmental credit program of Brazilian government paying for environmental services provided by small holders that preserve their forest	Dc

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
						(http://www.mma.gov.br/index.cfm?id_estrutura=33). Also, could be interesting to cite some mechanisms to compensated for tropical deforestation reduction and, consequently, for C emission reduction (see Santilli et al. 2005, Climatic Change, 71: 267-276). (Paulo Moutinho, Amazon Institute for Environmental Research (IPAM))	
13-638	A	20	14			Change "by" to "for the" (Jos Barlow, University of East Anglia)	Dc
13-639	A	20	15	20	37	There are also socio-economic factors that limit the adaptation capacity of small farmers, such as access to technology and credit. For example, during the 97-98 El Niño 97-98 in Piura, farmers cultivating mango for export were able to reduce their losses by using modern techniques for floral induction which lessened the impact caused by the temperature rise on the flowering process of the plants. However, only those producers who had financial resources and access to credit were able to use this technology. The absence of adequate policies in agriculture; the contraction of credit; and the lack of technical, financial, and institutional capacities to make use of existing technologies or other alternatives that may contribute to better manage climatic-associated risks in agriculture generate a greater vulnerabiltiy among certain communities and societies in terms of the impacts produced by climatic variability (Franco, 2003). (Lenkiza Angulo Villarreal , Soluciones Prácticas-ITDG)	Addressed
13-640	A	20	22			Colombia is developing an Integrated National Pilot Adaptation Plan for high mountain ecosystems, Caribbean islands, and human health (INAP) to formulate mitigation measures for climate change. INAP will constitute the first adaptation project to tackle the problems brouhgt about by climate change worldwide, with support from the Global Environmental Fund (GEF). http://www.ideam.gov.co/biblio/paginaabierta/piloto_nacional.pdf (GERMAN POVEDA, Universidad Nacional de Colombia, at Medellin)	Addressed
13-641	A	20	25	21	13	Again care is needed in this sub-section draft. To pick only two very clear questions. 1. As mentioned before and supported by real facts, Argentina and Brazil may have new forestry laws; however they are not implemented, as shown by the wild deforestation reported from these countries 2. Regarding incentives for managing their native forests reference is made to Uruguay, a countrry which has no native forests. It is a prairie with some recently afforested areas (Osvaldo Canziani, IPCC WG2 Co-chair)	Av
13-642	A	20	25		45	Irrigation is mentioned as a possible adaptation strategy but the negative impacts of	

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
						this practice should be also taken in to account (Mercedes Maria da Cunha Bustamante, Departamento de Ecologia, Universidade de Brasília)	
13-643	A	20	25	21	13	Section needs to be restructured. Starting with the 2nd sentence(p. 20, line 28), brieftly describe the 3 case studies in Mexico, Nicaragua and Brazil. Then, discuss how farmers had adapted to each of these situations. The objective here is to show that farmers have, in the past, faced difficult situations, and that the lessons learned and the adatation skills developed can be transfered to the management of challenges likely to arise from climate change (Pierre-Andre Jacinthe, Indiana University Purdue University, Indianapolis)	ok
13-644	A	20	27			You may put: insurance mechanisms instead of "technology" (Monica Beatriz Wehbe, NATIONAL UNIVERSITY OF RIO CUARTO)	Ok
13-645	A	20	29	20	29	What is "board of Mexico"? (Walter Baethgen, International Research Institute for Climate and Society, Coulmbia University)	ok
13-646	A	20	29			"board"? (Monica Beatriz Wehbe, NATIONAL UNIVERSITY OF RIO CUARTO)	ok
13-647	A	20	35	20	37	The text should be better clarified or reviewed. The reference used available in a site. However, there are better references on that Evenson's work. (Magda Aparecida Lima, Brazilian Agricultural Research Corporation - Embrapa)	Gm Text changed
13-648	A	20	35	20	37	The sentence can be misleading (Monica Beatriz Wehbe, NATIONAL UNIVERSITY OF RIO CUARTO)	Text changed
13-649	A	20	39	21	13	This part is better to go as options and constraints, which is the missing text in this heading. (Encinas Carla , IPCC WG2 TSU)	donek
13-650	A	20	39	45		Some recently experiences are now testing small scale farmers adaptations for current and future climate implementing dripping irrigation systems, greenhouses and the use of compost. (Conde et al, 2005). Cite: Conde, C., R. Ferrer, S. Orozco. 2005. Climate Change and Climate Variability Impacts on Rainfed Agricultural Activities and Possible Adaptation Measures. A Mexican Case Study. ATMOSFERA (submitted). (Cecilia Conde, Centro de Ciencias de la Atmósfera, UNAM)	Ok
13-651	A	20	39			small-scale farmers also need some kind of insurance mechanisms (Javier Gonzales, Programa Nacional de Cambios Climáticos)	Gm
13-652	A	20	39			Add after lack of credit "and public investment in social and economic infrastructure in rural areas" (Martha Yvette Munguía de Aguilar, Ministry of Environment and Natural	Gm

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
						Resources)	
13-653	A	20	45			You can add the following sentence if it is condidered appropriate: In Argentina, increasing concern on climatic impacts on family farmers and on institutional measures to cope with them, conducted to a revision of the Agriculture Emergency Law at the National level, the development of a "Pilot Plan for subsidizing climatic risk insurance" at Provincial level, and the development of a cooperative form of hail storm insurance at local level. (Monica Beatriz Wehbe, NATIONAL UNIVERSITY OF RIO CUARTO)	Gm Which is the referente?
13-654	A	20	47	20	50	What is the connection between deforestation and global climate change? (Mark Carey, University of California, Berkeley)	Dc
13-655	A	20	47	20	50	Unfortunately, these regulatory measures are often not sufficiently implemented. (Stephan Glatzel, Dept. Of Geography and Regional Research)	Av
13-656	A	20	47	20	50	It should be mentioned the problems with fiscalization of such a big forested area, need for higher penalties in case of criminal fires, among other aspects less explored. (Magda Aparecida Lima, Brazilian Agricultural Research Corporation - Embrapa)	Av
13-657	A	20	47	21	4	Isn't this paragraph more on mitigation? (Monica Beatriz Wehbe, NATIONAL UNIVERSITY OF RIO CUARTO)	Av
13-658	A	20	50			Tomaselli not in refs. The References need checking throughout. (Jos Barlow, University of East Anglia)	Av
13-659	A	20	50	21	4	Costa Rica has attempted to fund its adaptation efforts by selling carbon credits based on ecosystem protection. A fuller description of this program and its success or failure would be valuable. (Lenny Bernstein, IPIECA)	Av
13-660	A	21	0			13.2.5.3: it should be mentioned that natural water resources are in many cases lost because of lack of knowledge, by locals, and by planners (often people with engineering background but not the slightest knowledge of ecosystem functions). Loss of cloud-forest or draining of wetlands. Water is now in short supply in areas which were once the largest wetlands in the northern Andes (Bogotá and Ubaté savannas) and this certainly affects the climate in surrounding areas. (Jon Fjeldsa, University of Copenhagen)	JCG Too general comment. Specific references must be provided to support the comment
13-661	A	21	6	21	7	Regarding "incentives for management" it does not help very much with technical assistant for managing native forests when the legislation is such that land titles can only be obtained if the area is cleared (=destroyed) to be used for agriculture (Ecuador). (Jon Fjeldsa, University of Copenhagen)	Av
13-662	A	21	6	21	13	there is no clear relationship with climate	

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
						(Monica Beatriz Wehbe, NATIONAL UNIVERSITY OF RIO CUARTO)	
13-663	A	21	10	21	14	It would be worth mentioning that the adaptation of the forestry industry is being hindered by poor governance and high levels of corruption at the advancing Amazonian frontier. E.G. operation curupira in Mato Grosso. Also, Pedlowski et al. 2005 report alarming rates of deforestation within national parks in Rondonia. (Jos Barlow, University of East Anglia)	Av
13-664	A	21	12			Bolivia has the most important area of certified forest in the region, then should be included in this paragraph. Bolivia has the most big project of the world (Climate Action Noel Kempff) about forest conservation and avoidance of the CO2 emissions with indigenous participation. (Oscar Paz, National Climate Change Programme)	Av
13-665	A	21	15	20	48	In the topic of the water resources it should be analyzed the hydroelectricity that previously has been recognized as an important resource in the region, or to analyze the hydroelectricity in a specific way (Eduardo Planos Gutiérrez, Institute of Meteorology)	
13-666	A	21	17	22	15	There are any quotation or reference about water quality, and this is a very importatn issue for urban regions (Javier Gonzales, Programa Nacional de Cambios Climáticos)	JCG Too general comment. Specific references must be provided with the comment.
13-667	A	21	19			After support systems "as a result of liberalization economic policies implemented in almost the whole Region" (Martha Yvette Munguía de Aguilar, Ministry of Environment and Natural Resources)	
13-668	A	21	28			For example about 90% of peruvian population is concentarted in abut 38% of their terriroty and have less than 2% of country´s water availability. There is not a integrated water management for different purposes. (Julio Garcia, National Environmental Council)	JCG The subject is included as proponed. The reference to integrated water management is too general to be included in this section
13-669	A	21	28			brake the paragraph before : Another example….. (Monica Beatriz Wehbe, NATIONAL UNIVERSITY OF RIO CUARTO)	Jcg
13-670	A	21	32	21	43	These projects show there is capacity to adapt to adverse climatic conditions. In what context were those technological options in the water sector implemented? Some documents from the World Bank present cost/benefit analyses of various adaptation options in the water sector. Once again, this show there is potential for adaptation. (Víctor Magaña, National Autonomous University of Mexico)	Jcg
13-671	A	21	40	21	40	... Further 21,000 WAS planned... (Tercio Ambrizzi, Institute of Astronomy, Geophysics and Atmospheric Sciences - USP)	Jcg ok

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
13-672	A	21	45	21	45	90% of drinking water? Or 90% of human needs for drinking water? (Walter Baethgen, International Research Institute for Climate and Society, Coulmbia University)	Jcg Accepted. 90% of human needs for drinking water
13-673	A	21	45	21	48	It is suggested to carefully check the statements in these four lines. (Osvaldo Canziani, IPCC WG2 Co-chair)	Jcg Accepted
13-674	A	21	45	21	48	I don't see how this is related to climate change so I would suggest removing this paragraph. (Mark Carey, University of California, Berkeley)	Jcg **Accepted. I consider all the paragraph must be removed**
13-675	A	21	45		48	Again, considering the variability of situations in Latin America it would be interesting to present a range of the percentage of drinking water and sanitation services. (Mercedes Maria da Cunha Bustamante, Departamento de Ecologia, Universidade de Brasília)	Jcg Accepted
13-676	A	21	45			I don't understand the meaning of the formulation "only 4 countries have more than 90% drinking water" (Jon Fjeldsa, University of Copenhagen)	Jcg Accepted
13-677	A	21	45			Incomplete statement - Please rewrite. (GERMAN POVEDA, Universidad Nacional de Colombia, at Medellin)	Jcg Accepted
13-678	A	21	45			" In Latin America only four countries have more tha 90% of their population with access to drinking water (….) and sanitation services (….) (…). (Marta Vinocur, Universidad Nacional de Río Cuarto, Agrometeorología)	Jcg Accepted
13-679	A	21	45	21	48	not clear… (Monica Beatriz Wehbe, NATIONAL UNIVERSITY OF RIO CUARTO)	Jcg Accepted
13-680	A	21	47	21	48	In the case of Argentina I estimate that this is not certain, in any case should make appointment the source. (Roberto Kokot, FCEyN (Universidad de Buenos Aires))	Jcg Accepted
13-681	A	21	50	22	15	13.2.5. Current adaptation. 13.2.5.4. Coasts.In regards to this section, It is recommended to consult the following works to complement the report about Mexico in line 50 page 21, and lines 2-15 on page 22. Caso, M., I. Pisanty, E. Escurra (comp.) 2004: Diagnóstico ambiental del Golfo de México. Secretaría del Medio Ambiente y Recursos Naturales, Instituto Nacional de Ecología, Instituto de Ecología, A.C., Harte Research Institute for Gulf of México Studies. Vol 1 y 2.	AV GN Addressed. We'll try to conult / put some of the referneces.

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
						Rivera, E., G.J. Villalobos, I. Azuz, F. Rosado (eds). 2004: El manejo costero en México. Universidad Autónoma de Campeche, Centro de Ecología, Pesquerías y Oceanografía del Golfo de México (EPOMEX), CETYS-Universidad, SEMARNAT. Campeche, Camp. (Oralia Oropeza-Orozco, of Geography, National Autonomous University of Mexico (UNAM))	
13-682	A	21	50			The whole section on Coasts is very weak. (Monica Beatriz Wehbe, NATIONAL UNIVERSITY OF RIO CUARTO)	Gn
13-683	A	21				Finally, much of the chapter's discussion of water issues suffers because no mention is made of pricing. As in other parts of the world, Latin American agriculture uses much more water than any other sector. Furthermore, irrigation is highly subsidized, which leads to waste and misallocation on a grand scale. Likewise, much is to be gained, including improved availability of clean drinking water for poor people, through improved cost-recovery (i.e., diminished subsidization) in municipal drinking water systems. This approach, which is recommended by the World Bank and Inter-American Development Bank, is an important reason why access to potable water improved in Ecuador and other countries during the 1990s (bottom of page 21). (Douglas Southgate, Ohio State University)	Jcg Not accepted **<u>if reference is not provided</u>**
13-684	A	22	2	22	5	The statement is wrong. It is known that there are LA countries having no planned adaptation on coastal defence. It must be remembered, as commented during ZOD's review, that the Caribbean countries are not included in the IPCC Latin American Region. Therefore the reference on the CPACC (Caribbean Planning for the Adaptation of Global Climate Change) is not pertinent. CPACC only assists the 12 Caribbean CARICOM countries (GEO, 2003 page 199) (Osvaldo Canziani, IPCC WG2 Co-chair)	AV GN Adressed: wrong statement will be edited Not aplicable: About caribbean: Caribbean States include 11 continental LA countries. CARIBBEAN COMMUNITY CLIMATE CHANGE CENTRE (CCCCC) is located in University of Belize. The Centre implements projects designed to prepare for and to reduce the harmful effects of climate change and sea level rise and seek ways in which the Additionally, the CCCC is intended to position the Region to maximize benefits from new and additional resources arising from the United Nations Framework Convention on Climate Change (UNFCC).

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
							CARICOM countries include Small Island and Low-lying Developing States : Antigua & Barbuda; Bahamas; Barbados; Belize; Dominica; Grenada; **Guyana (is a continental country and belongs to south america**); Jamaica; St. Kitts; St. Lucia; St. Vincent & the Grenadines; Trinidad & Tobago.
13-685	A	22	5			It can be mentioned also the efforts by "AIACC (UNE-TWAS)-LA Projects as well as the UNDP Adaptation projects. (Max Campos Ortiz, Regional Committee on Hydraulic Resources-Central America Integration System)	Av Gn Adressed: will be included in text and tables
13-686	A	22	13	22	15	…. Meaning what….. Protection of coastal aquifers? Reducing infrastructure on the beaches…..??? (Max Campos Ortiz, Regional Committee on Hydraulic Resources-Central America Integration System)	Av gn Adressed: Meaning protection of shorelines from erosion, control to urban growth, etc. Will be explained
13-687	A	22	13			Replace "several" by "some". The arguments already given in regard of pompous, inflated statements , which may bring wrong reactions from decision makers, are unnecessary. Getting such swollen information brings decision makers to reduce even more the priority they assign to climate changes issues. Official and private organizations in LA ´s developing countries badly need to understand the real magnitude of their shortcomings. (Osvaldo Canziani, IPCC WG2 Co-chair)	Av gn Adressed: will be edited
13-688	A	22	13	22	15	Is better to use some instead of several, since for a significant number of LA countries Coastal management still being an issue restricted by policy constraints and human settlements in risky areas. (Encinas Carla , IPCC WG2 TSU)	Av gn Adressed: will be edited
13-689	A	22	17	22	17	3 lines describing the importance of malaria and dengue for Latin America…. Follow by Bolivia and Colombia examples, some other examples from Jamica and Trinidad (AIACC (UNEP-TWAS)-LA06 (Max Campos Ortiz, Regional Committee on Hydraulic Resources-Central America Integration System)	Addressed
13-690	A	22	17	22	37	The fact that news has shown that some cases of dengue, in a LA country, were not officially registered, is a clear indication that some optimistic views on "to be implemented" plans need more than double check. In this regard, it should be observed that, for different reasons, official statistics are "drawn". Checking with specialized NGO's, like ISDE (International Society of Doctors for the	Addressed

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
						Environment) and AAMMA (Asociacion Argentina de Medicos por el Medio Ambiente) , responsible for the coordination of ISDE's activities in Latin America will help. (Osvaldo Canziani, IPCC WG2 Co-chair)	
13-691	A	22	17	22	23	In opinion of this reviewer this topic is very poor, other illnesses like hepatitis, diarrheas could be analyzed due to sanitary situation of the cities, the field, the poverty and the lack or excesses of water (Eduardo Planos Gutiérrez, Institute of Meteorology)	* Discuss with Chapter 8 CLAs
13-692	A	22	17			The whole section on Human Health seems on things that shoul de done, not current daptation. (Monica Beatriz Wehbe, NATIONAL UNIVERSITY OF RIO CUARTO)	Addressed
13-693	A	22	19	22	37	These are adaptive measure to what? It is not clear. It reads like a description of several actions that are being conducted with regard to human health. The link to climate change is not clear. (Walter Baethgen, International Research Institute for Climate and Society, Coulmbia University)	Addressed
13-694	A	22	19		37	Examples of prevention actions are given for Bolivia and Colombia. What about the efforts in other countries? Could one say that there is a generalized concern about this issue in Latin America or these are isolated initiatives? (Mercedes Maria da Cunha Bustamante, Departamento de Ecologia, Universidade de Brasília)	* Discuss with Chapter 8 CLAs
13-695	A	22	25	22	37	There are also some very general statements, for instance p. 22, lines 25-37. Instead of telling that adaptation measures include "community participation, climatological surveillance" etc it might to be more useful to identify specific problems and the response to these problems (Jon Fjeldsa, University of Copenhagen)	Addressed
13-696	A	22	39			Add a new paragraph "The Mesoamerican Region is currently implementing a demonstrative project aiming at assessing current and future vulnerability of some priority human systems. The eight countries (Mexico, Cuba and Central America) participating in this project are assessing current and future vulnerability and designing future adaptation strategies and measures with local populations fully involved. (Martha Yvette Munguía de Aguilar, Ministry of Environment and Natural Resources)	Arm ver
13-697	A	22	42	23	30	This section can be/should be expanded as this subject forms the basis for everything else intended to be discussed in this chapter.	Cn Accepted in principle, however, the severe

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
						(Kevin Vranes, University of Montana)	limitations of space in chapter 13 do not allow any increase in length.
13-698	A	22	46	23	22	This subsection is very well presented; however it is suggested to check its drafting with the conclusions of the recent WGI-WGII meeting on Regional Modelling (Exeter, October 2005) (Osvaldo Canziani, IPCC WG2 Co-chair)	Cn The conclusion of that meeting did not say much about new climate change scenarios for Latin America.
13-699	A	22	46	23	22	Indicate the degree of agreement/disagreement among the SDSM models (Pierre-Andre Jacinthe, Indiana University Purdue University, Indianapolis)	Cn Partially accepted.
13-700	A	22	46	23	2	This information can be avoided if it will be in other chapter. (Monica Beatriz Wehbe, NATIONAL UNIVERSITY OF RIO CUARTO)	No
13-701	A	23	0			At the end of the paragraph related "13.3.1.1. Climate change scenarios ", after the line 16 it could be included text regarding regional effort on construction of climate change scenarios. The following text could serve for that. Eslava & Pabón, 2001 used the Climate Community Model (CCM3) to simulate the climate with a duplication of CO2 and applied statistical downscaling to stablish the changes in annual air temperature and precipitation for several regions of Colombia. Pabón et al., 2001, using data for several models issued by Data Distribution Center (DDC) of IPCC, identified the ECHAM-4 as the model that better represent the main characteristics of regional climate; using data produced by ECHAM-4 for the doubling CO2 scenario, statistical downscaling was applied to generate values for different regions in the country. Summarizing the results of these projects Pabón, 2003 concludes that under a duplicated CO2 scenario tha surface air temperature could change between 1-2°C and annual precipititation between -15 and +15 % Mulligan, 2000 downscaled data from DDC, specially data produced by GFDL, HadCM2 and ECHAM global models for scenaria considering the effects of sulphates. In spite, all models show for 2050 year a warming (close to 2.0°C) over the country, ECHAM simulates a increasing of precipitation for all regions while HADCM2 produces decreasing for several regions of Colombia; however, considering that for the studied region (a small region at the southwstern side of Colombia) both models indicate increasing of precipitation, Mulligan, 2000, used a simple approach for statistical downscaling to generate climate scenaria for real places in that region obtaining an increasing in annual precipitation. CAF, 2000b: Las lecciones de El Niño. Memorias del fenómeno El Niño 1997-1998. Retos y propuestas para la región andina. Volumen VI: Venezuela. Corporación Andina de Fomento (CAF), Caracas, Venezuela. 248páginas. Eslava J.A., Pabón J.D., 2001: Proyecto "Proyecciones climáticas e impactos	Cn Accepted. This work will be cited. However, severe space limitations prevent a detailed description of every result.

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
						socioeconómicos del cambio climático en Colombia". Meteorología Colombiana, Nº 3, pp. 1-8. IDEAM, 1997: Posibles efectos naturales y socio-económicos del fenómeno El Niño en el período 1997-1998 en Colombia. Santa Fe de Bogotá D.C., Julio-1997, 39 páginas + anexos. IDEAM & Dirección Nacional de Prevención de Desastres, 2002: Efectos naturales y socioeconómicos del fenómeno el Niño en Colombia. Instituto de Hidrología, Meteorología y Estudios Ambientales – Dirección Nacional de Prevención y Atención de Desastres, Bogota D.C., 52 páginas Molina A., Bernal N.R., Vega E E., Martinez J., Pabón J.D., 2003: Cambios en la temperatura del aire en Colombia bajo un escenario de duplicación de dióxido de carbono. Meteorología Colombiana, No.7. marzo de 2003, pp. 21-35 Mulligan M., 2000: Downscaled Climate Change Scenaria for Colombia and their Hydrological Consequences. Advances in Environmental Monitoring and Modelling, Vol. 1, No. 1., pp.3-35 Pabón J.D., 2003ª: El aumento del nivel del mar en las costas y área insular de Colombia. En: El Mundo marino de Colombia investigación y desarrollo de territorios olvidados Red de Estudios del Mundo Marino – REMAR, Universidad Nacional de Colombia. Pabón J.D., 2003b: El cambio climático global y su manifestación en Colombia. Cuadernos de Geografía, v XII (1-2), pp. 111-119 Pabón J.D., Cárdenas I., Kholostyakov R., Calderón A.F., Bernal N., Ruiz F., 2001: Escenarios climáticos para el siglo XXI sobre el territorio colombiano. Nota Técnica Interna del Instituto de Hidrología, Meteorología y Estudios Ambientales (IDEAM), Bogotá, D.C., Colombia. Pabón J.D., Hurtado G., 2002 : Cambios en los patrones de temperatura media anual del aire y precipitación anual en los páramos de Colombia. En: Páramos y Ecosistemas Alto Andinos de Colombia en Condiciones HotSpot & Global Climatic Tensor. (Castaño-Uribe C. (Editor), 2002, Bogotá D.C., 387 páginas; ISBN: 8067-05-7), pp. 242-251. (Jose Daniel Pabon Caicedo, Universidad Nacional de Colombia)	
13-702	A	23	0			Omissions and major gaps: It would have been useful with a map identifying regions of high inherent instability and where large changes are expected, and also identifying that certain (small) areas are particularly stable (e.g. p. 10, and p. 23). The report describes very general pattern (of the form "drier climate in nations xxxx and yyyy"), and does not mention that very local patterns may be highly	Cn No. A map showing regions of highest likelihood of impacts for all of Latin America is going to be part of the chapter. The map indicates risks of biodiversity losses in the

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
						essential, especially in montaneous regions. Thus, water supply in semi-arid SW Ecuador and some inter-Andean basins may depend on small cloud-forests on certain ridge-tops and mountain scarps (see for instance Becker 1999), and because these are determined by local topography (e.g. inversions on the transition between lowlands and highlands, causing mist in specific places) they are likely to persist, irrespective of climate changes (something that is indirectly supported by the high local endemism, reflecting persistence of populations of animals of plants over long periods of time; see Fjeldså et al. 1999 and Jetz et al. 2004 in the reference list). These special habitats are often densely populated or immediately adjacent to population centres in the nearest valleys (Fjeldså et al. 1999) and are under strong pressure – because of loss of "traditional knowledge" in many communities, and lack of knowledge among planners (= technocrats). (Jon Fjeldsa, University of Copenhagen)	mountain of the Andes and of Central America.
13-703	A	23	1		22	The authors mention that the different models reveal larger differences in temperature and precipitation but do not inform about results of the site- specific scenarios generated by the downscaling of GCMs. Are these site-specific scenarios useful? (Mercedes Maria da Cunha Bustamante, Departamento de Ecologia, Universidade de Brasília)	Cn The paragraph will be changad to respond to that. accepted
13-704	A	23	1	23	22	Please refer to sources of uncertainty in the generation of climate change scenarios. (Víctor Magaña, National Autonomous University of Mexico)	Cn In fact, the main sources of uncertainly are mentioned: different emission scenarios and different models.
13-705	A	23	3	23	3	Is this reference of the AR4? (Encinas Carla , IPCC WG2 TSU)	Cn Ok
13-706	A	23	7	23	9	This sentence can be part of the section on uncertainties. (Monica Beatriz Wehbe, NATIONAL UNIVERSITY OF RIO CUARTO)	Cn no
13-707	A	23	11	23	13	The fact that models show "rather distinct patterns, even with almost opposite projections" seems to contradict and undermine what most of the previous sections of this chapter suggest. These lines say that rainfall projections cannot be made because models are inconsistent. If projections cannot be made, how is it possible that other sections of the chapter assume that rainfall anomolies and precipitation extremes will occur? If models do not demonstrate that warming will change rainfall one way or another, is it accurate to state in other parts of this chapter that rainfall extremes will occur? This is potentially a major issue that should be resolved and cleared up. (Mark Carey, University of California, Berkeley)	Cn Partially accepted. The fact that global models present uncertainties with respect to precipitation changes at the regional level does not imply that climate extremes will not occur. From the projections of WGI scenarios one can even say that the frequency of climate extremes is likely to increase on a warmer planet.

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
13-708	A	23	12	23	22	This is a key part of the chapter. It states that the projections of GCMs (at least with respect to rainfall) are of not practical use. Then it describes downscalling GCMs. Are donscaled models better than GCM for rainfall (they downscale unceratin GCMs)? Is it only of practical use for temperature changes? In other words, why are uncertain scenarios (GCM) downcaled? This is crucial and needs to be further discussed. See general comment at the end. (Walter Baethgen, International Research Institute for Climate and Society, Coulmbia University)	Cn Ref Chap 11 Dowscaling scenarios are not meant to remove uncertainties related to different GCL climate scenarios. However, for a given GCM scenario, downscaling can resolve climatic features of scales of interest for applications and introduce the effect of more realistic topographies.
13-709	A	23	12	23	13	Some projected changes in temperature and precipitation (including the dispersion in the projections) may result in substantial increases in evapotranspiration as to reduce water availability, soil moisture and agricultural yields. There is great need in this report to make reference to THRESHOLD VALUES OF T AND PCP which may result in severe negative impacts in various sectors. This could also provide useful information on probabilities for the timing when these threshold values may be reached. This is policy relevant since may governments around the world would like to know when CLIMATE CHANGE "will begin to negatively affect society and sectors". (Víctor Magaña, National Autonomous University of Mexico)	Cn Partially accepted. A general reference can be made to that effect, but we lack detailed analyses of such thresholds.
13-710	A	23	12	23	14	The two sentences can be part of "gaps" (Monica Beatriz Wehbe, NATIONAL UNIVERSITY OF RIO CUARTO)	Cn accepted
13-711	A	23	17	23	22	Mention experiences on the production of downcaled scenarios of climate change using the HadCM3 global model and the Eta, RegCM3 and HadRM3 regional models in Brazil (Marengo, J (2004) Mudanças Climáticas Globais e Efeitos sobre a Biodiversidade-Caracterização do clima atual e definição das alterações climáticas para o território brasileiro ao longo do Século XXI: CREAS (Cenários REgionalizados de Clima para América do Sul). Encontro dos coordenadores dos subprojetos apoiados pelo PROBIO, Brasilia, DF, 27 a 29 de Outubro 2004.). What about the results of PRECIS workshops in South and Central America?. (Jose Marengo, CPTEC-INPE)	Cn accepted
13-712	A	23	17			delete: then (Monica Beatriz Wehbe, NATIONAL UNIVERSITY OF RIO CUARTO)	Cn accepted
13-713	A	23	18	23	19	(Bidegain AND Camilloni 2004) and (Chen??? What?) (Tercio Ambrizzi, Institute of Astronomy, Geophysics and Atmospheric Sciences - USP)	Cn accepted
13-714	A	23	19	23	19	Why mention Caribbean region? (Eduardo Planos Gutiérrez, Institute of Meteorology)	Cn Accepted.

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
13-715	A	23	22			Peruvian National Wather Service SENAMHI has downscaled (dinamyc and statistically) GCM (HadM3, Max Planck-ECHAM4/OPYC3, Canadien model-CCCma, NCAR-CSM, amongst others) with scenarios A2 and B2, the resollution obtained for a specific river basin (Piura River basin, north Peru) was of 20 x 20 Km, information used for tha vulnerabilty and adaptation assessments in that river basin (Julio Garcia, National Environmental Council)	Cn no
13-716	A	23	23	23	23	The studies cited above refer to southern South America. Nevertheless, they include a detailed analysis for Argentina (under emission scenarios A2 and B2) and were generated for the Second National Communication. (Silvina Solman, CONICET)	Cn accepted
13-717	A	23	23	23	23	Include new references on regional climate change scenarios over Southern South America: Solman S., Nuñez M., Cabré MF: (2005): Escenarios regionales de cambio climático sobre el Sur de Sudamérica. Taller Regional de Cambio Climático, San Pablo, Nov. 7-10, 2005. ; Solman S., MF Cabré y M Nuñez: (2005): Simulación del clima actual sobre el sur de Sudamérica con un Modelo Regional: Análisis de los campos medios y el ciclo anual. CONGREMET IX, Oct. 2005, Buenos Aires (10 págs.); Nuñez, Solman, Cabré (2005): Southern South America climate in the late twenty-first century: Annual and seasonal mean climate with two forcing scenarios.Taller Regional de Cambio Climático, San Pablo, Nov. 7-10, 2005 . (Silvina Solman, CONICET)	Cn accepted
13-718	A	23	24			"Changes in the occurrence of extremes"….. This is a very important section for Latin America that needs more elements…. (Max Campos Ortiz, Regional Committee on Hydraulic Resources-Central America Integration System)	Cn accepted
13-719	A	23	24	23	30	This topic is very poor, the experience of the region in the study of the hydrological extremes is wide and therefore this topic could be exemplified better (Eduardo Planos Gutiérrez, Institute of Meteorology)	Cn no
13-720	A	23	24			Information in this section is not already in the TAR? (Monica Beatriz Wehbe, NATIONAL UNIVERSITY OF RIO CUARTO)	Cn no
13-721	A	23	26	23	30	Most of this chapter's explanation on the impacts of climate change assume the fact that global warming will trigger more weather extremes. This paragraph is the only one that explains this issue. However, because it is such a fundamental aspect underlying most arguments and assumptions in the remainder of the chapter, I believe it should be (a) better explained; (b) more thoroughly cited; (c) explained with more specifics and examples; and (d) moved to the front of the chapter.	Cn accepted

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
						(Mark Carey, University of California, Berkeley)	
13-722	A	23	26	23	30	Better interaction and cross reference to Chapter 2 WGI about changes in extremes. (Jose Marengo, CPTEC-INPE)	Cn Accepted (Gm letter)
13-723	A	23	26	23	30	WGI can help in including some studies on extremes for LA. (Silvina Solman, CONICET)	Cn accepted
13-724	A	23	30			According to the analñysis oif the downscaled models, There is a observed trend of the return of a mega el Niño, similar to the 1982/83 El Niño within the years 2009 - 2015 (Julio Garcia, National Environmental Council)	Cn no
13-725	A	23	30			There is a wide literature available for use here, much of it published since IPCC-2001. Why cite a single source from 1997? (Kevin Vranes, University of Montana)	Cn accepted
13-726	A	23	31			add: Some models have different results about the frequency and the position of the extreme events even in the present scenarios. (Luis Pinguelli Rosa, Federal University of Rio de Janeiro)	Cn accepted
13-727	A	23	33	24	4	This sub-section might be complemented with the reference that approximately 50% of the GHG emissions due to land use changes (mainly because of deforestation) comes from Latin American (GEO, 2000) (Osvaldo Canziani, IPCC WG2 Co-chair)	Dc accepted
13-728	A	23	33			Here and in many other places (e.g. 13.3.2) deforestation in the Amazon basin is mentioned, which may have serious climatic consequences. But this information could be made more precise, emphasizing that the deforestation is quite concentrated along the southern margin of the basin, and in the sub-Andean zone. And it is also worth mentioning regions where the % deforestation is particularly high, namely Mata Atlantica and Brazilian highland (Cerrados), and western Ecuador, notably in the southwest. And in the Andean highland and intermontane bsins, although the most serious forest destruction here took place already in precolombian times. (Jon Fjeldsa, University of Copenhagen)	Dc no
13-729	A	23	35			I think the issue of biofuels should be addressed regarding to land use change. If the forecast of the use of biofuels in the energy sector comes true, this might give rise to some land use change, especially in Brazil (Suzana Kahn Ribeiro, Federal University of Rio de Janeiro)	Dc accepted
13-730	A	23	35	23	44	Bb (Magda Aparecida Lima, Brazilian Agricultural Research Corporation - Embrapa)	Dc no
13-731	A	23	42	23	42	Please add the reference Soares-Filho et al. Amazon conservation scenarios, Nature, in press (accepted manuscript can be requested from	Dc accepted

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
						britaldo@csr.ufmg.br). Using simulation models for Amazon deforestation, the authors are estimating that 16GtC will be released to atmosphere by 2050. Also, the current trend indicates that the agriculture expansion will eliminate two thirds of the forest cover of five major watersheds and ten ecoregions, and 30% of the mammalian species in Amazon will lose >60% of the forest within their Amazon ranges. This is a very important reference to cite. The reference for Moutinho 2004, should be replaced by Santilli et al. 2005, Climatic Change, 71: 267-276). (Paulo Moutinho, Amazon Institute for Environmental Research (IPAM))	
13-732	A	23	44			Brazil's tropical savannah (Cerrado) is under greater threat than the Amazonian rainforest (see Marris, Nature, 437, 13 oct 2005, p. 944) (GERMAN POVEDA, Universidad Nacional de Colombia, at Medellin)	Dc accepted
13-733	A	23	46	23	48	There is a wrong tendency to directly relate the soybean crops in Amazon region with the deforestation. The deforestation in that region, as widely known, is caused by the conversion of forest to pasture lands (essencialy extensive production systems). Soybean crops are in fact occupying grazing areas. As long as these pasturelands are occuped by soybean crops or other crops, the land adds value, which causes an indirect pressure on the forest land. (Magda Aparecida Lima, Brazilian Agricultural Research Corporation - Embrapa)	Dc no
13-734	A	24	2	24	4	It would be useful to see these predicted LUC figures as a % of the remaining area of each habitat (i.e. what % of the remaining amount of the Cerrado, Chaco, etc, will be lost) (Jos Barlow, University of East Anglia)	Dc ver
13-735	A	24	4			Include a mention on the lack of legal framework related to land planning or to the lack of appropriate technical criteria in urban construction in order to take into account the dynamics of natural systems. (Martha Yvette Munguía de Aguilar, Ministry of Environment and Natural Resources)	Dc no
13-736	A	24	4			Despite this expansion will mainly relate to the loss of natural habitats, it is expected to increase sensitivity of temperate-type-crop production as cultivation is pushed into more climatic risky areas. Whether dryer or wetter, these areas are also characterized by soils highly susceptible to degradation and deterioration; therefore production costs will be also high. Moreover, cultivation on slopes that were previously covered by natural pastures, increases the risk of floodings and landslides over urban areas, as it has already been observed in the semi-arid Pampas in Argentina. (Monica Beatriz Wehbe, NATIONAL UNIVERSITY OF RIO CUARTO)	Gm accepted
13-737	A	24	7	25	7	Section 13.3.3 seems to repeat some previous information, seems out of place here,	Cg

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
						and does not connect with global warming issues. I believe the "human context of Latin America" information should be placed in one section near the beginning of the chapter. Seeing it here, without any connection to global warming, makes it seem like background material appearing more than half way through the chapter. (Mark Carey, University of California, Berkeley)	accepted
13-738	A	24	7	24	39	Would be good to have more information about inequity issues in the region and where are, what kind of people or their activities are. The information on this is a little vague. In S 13.3.3 is not enough reference to support the statements, especially for section 13.3.3.2. (Encinas Carla , IPCC WG2 TSU)	Cg Accepted Some basic inequality issues are mentioned but given the space restriction they cannot be extended much further.
13-739	A	24	9	25	7	The entire section 13.3.3. rests on 2 internet-based reports. Other sources are needed. (Pierre-Andre Jacinthe, Indiana University Purdue University, Indianapolis)	Cg Accepted More references have been included
13-740	A	24	9	24	9	What is the uncertainty in the population projections? (Víctor Magaña, National Autonomous University of Mexico)	Cg Accepted The sources do not give information about projection uncertainty
13-741	A	24	9			On Demographics…: This section can be shortened by eliminating sentences in the following lines: 12-14; 17-19; 25-2932-33. (Monica Beatriz Wehbe, NATIONAL UNIVERSITY OF RIO CUARTO)	Cg accepted
13-742	A	24	11		12	Population is expected to double from current levels?? In just ten years? (Kevin Vranes, University of Montana)	Cg Accepted The numbers have been corrected.
13-743	A	24	15	24	15	"compassion"? (Walter Baethgen, International Research Institute for Climate and Society, Coulmbia University)	Cg Accepted Corrected
13-744	A	24	15			I know we're not supposed to comment on typos and such, but just to make sure it gets corrected now and doesn't slip through the cracks and make it to the final version, please make sure you correct "compassion." (Kevin Vranes, University of Montana)	Cg Accepted Corrected
13-745	A	24	19	24	19	Is a site an acceptable reference? (Magda Aparecida Lima, Brazilian Agricultural Research Corporation - Embrapa)	Cg Accepted These are references to published material. The references have been added
13-746	A	24	21	24	21	ECLAC and CEPAL is the same. Use only one acronym in the chapter (Walter Baethgen, International Research Institute for Climate and Society,	Cg accepted

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
						Coulmbia University)	
13-747	A	24	23			It is important to mention that in the Region there is a clair trend with regard to external emigration to USA, Europe or other developed countries, or within the Region. (Martha Yvette Munguía de Aguilar, Ministry of Environment and Natural Resources)	Cg Accepted Some general aspects of migration in the region have been included.
13-748	A	24	25			There has been a negative impact on the welfare of a great deal of the population due to privatisation processes and to the reduction of public administrations in most of the countries in the Region (Martha Yvette Munguía de Aguilar, Ministry of Environment and Natural Resources)	Cg Accepted This is mentioned in the economic trends section.
13-749	A	24	30	24	39	HDI for Haiti, Nicaragua and Honduras is low? Is the Caribbean addressed here? I got no internet to check that, sorry. (Emilio Sempris, Water Center for the Humid Tropics of Latin American and the Caribbean)	Cg accepted
13-750	A	24	33	24	39	you can change this sentences by: It is difficult to ignore that although there are not Latin American countries classified in the low development rank, there are large contrasts among and "within" countries in terms of levels of technological development, sophistication of finance sectors, export capacities and income distribution. Since these differences are expected to increase, it is likely that the number of people at risk will also increase and climate vulnerability more difficult to resolve. (Monica Beatriz Wehbe, NATIONAL UNIVERSITY OF RIO CUARTO)	Cg accepted
13-751	A	24	39			It is very important to mention the way wealth has been distributed in each country and to illustrate how it has been accumulated among a few people. (Martha Yvette Munguía de Aguilar, Ministry of Environment and Natural Resources)	Cg Accepted It is mentioned here and in the previous section of economic trends
13-752	A	24	40			It would be interesting to mention how in most of the countries sustainable development planning and land planning are not fully included in the legal framework nor in policy making processes. (Martha Yvette Munguía de Aguilar, Ministry of Environment and Natural Resources)	Cg Accepted Added
13-753	A	24	41	25	7	Economic development of Latin America is diverging - The differences between prosperous Chile and poor Bolivia are considerable. (Stephan Glatzel, Dept. Of Geography and Regional Research)	Cg Accepted This is mentioned in the economic trends section
13-754	A	24	41	25	7	Section 13.3.3.2 Economic Scenarios. When was this forecast from the Worls Bank	Cg

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
						done? The refeernce is missing. I think that this section is too general (could not be applied to all countries, LA has a lot of dissimilarities) and too optimistic considering the facts in ther region during the last five years. (Marta Vinocur, Universidad Nacional de Río Cuarto, Agrometeorología)	Accepted The section has been redrafted and references have been included
13-755	A	24	41			On Economic scenarios: this section, as it has been written can result misleading, since aggregate (regional or national) economic growth does not necessarily imply reducing vulnerability because of two main reasons: 1) If it is expected (as current trends indicate) an increasingly uneven distribution of income, it is possible that the number of population at risks also increases; and 2) If economic growth (as current trends also indicate) is unsustainable in terms of the use natural resources, it is likely that current negative environmental trends will be exacerbated. (Monica Beatriz Wehbe, NATIONAL UNIVERSITY OF RIO CUARTO)	Cg Accepted The section has been redrafted in order to include the two most important visions about economic growth and the results of current economic policies
13-756	A	24	43	24	43	"World Bank Forecasts for 2005?" The chapter will be published in 2006. Cannot be expressed as current forecast (Walter Baethgen, International Research Institute for Climate and Society, Coulmbia University)	Cg Accepted Section has been redrafted
13-757	A	24	43	24	44	This can be confirmed now….? (Max Campos Ortiz, Regional Committee on Hydraulic Resources-Central America Integration System)	Cg Accepted Section has been redrafted
13-758	A	24	43	24	44	The WB statement should be compared with the reality and, if possible so expressed in SOD (Osvaldo Canziani, IPCC WG2 Co-chair)	Cg Accepted The section has been redrafted in order to include the two most important visions about economic growth and the results of current economic policies
13-759	A	24	43	24	44	The text must be review, since the time used for analysis is practically already past (2001-2005). (Magda Aparecida Lima, Brazilian Agricultural Research Corporation - Embrapa)	Cg Accepted Section has been redrafted
13-760	A	24	43	24	44	A forecast for the perdiod 2001-2005 is mentioned. May be the period is wrong or the word "forecast" is misplaced. Or may be this was a forecats built some years ago. Please, clarify. (Silvina Solman, CONICET)	Cg Accepted Section has been redrafted
13-761	A	24	43		46	I am curious what the World Bank is basing such large increases in projected economic growth from. I am skeptical as to why after seeing a measured growth of 0.3% they would suddenly expect a big ramp up to 2.6%. (Kevin Vranes, University of Montana)	Cg accepted
13-762	A	24	45	24	50	That paragraph must be reviewed, since it seems too fragile.	Cg

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
						(Magda Aparecida Lima, Brazilian Agricultural Research Corporation - Embrapa)	Accepted Section has been redrafted
13-763	A	24	45	24	45	The term "long-term" refering to the perdiod 2001-2015 is confusing, as in the context of climate change means a much longer horizon. (Silvina Solman, CONICET)	Cg Accepted In terms of economic scenarios projections for year 2015 is considered long term
13-764	A	24				An even worse misstatement of fact is made on page 24: "The population of Latin America . . . is expected to double by the year 2015." For something to double in just ten years, annual growth of approximately 7 percent must be sustained. As is made clear in the rest of the paragraph, annual rates of increase are considerably below this level and are on a downward track. [As reported in World Development Indicators, the average annual rate between 1990 and 2003 was 1.6 percent and the projected rate for 2003 through 2015 is just 1.3 percent.] (Douglas Southgate, Ohio State University)	Cg Accepted Section has been corrected
13-765	A	25	1	25	7	In general way, in the chapter it is analyzed with many elements the bad social and economic situation of the region, mentioning the unfavorable impact of certain economic politicy implemented in the 90 decade, for this reason the comment that is made in this paragraph regarding the favorable opinion of most of the economists as for the future of the economy of the region should be analyzed with more detail because it is contradictory (Eduardo Planos Gutiérrez, Institute of Meteorology)	Section has been redrafted
13-766	A	25	2	25	5	The positive view of economics presented here contradicts the negative view of neoliberalism presented earlier in the chapter. (Mark Carey, University of California, Berkeley)	The section has been redrafted in order to include the two most important visions about economic growth and the results of current economic policies
13-767	A	25	3			"This is due…" (Jos Barlow, University of East Anglia)	Cg
13-768	A	25	3	25	5	The economic reformations carried to the Argentina to the disaster (crisis añol 2001) (Roberto Kokot, FCEyN (Universidad de Buenos Aires))	Cg
13-769	A	25	4	25	7	cancel the phrases: "This due to the fact that the economic reforms that are carried…have permitted the stabilization of the macroeconomic foundation." "The later situation…with certitude" "It also permits the growth of the economy and employment"add a paragraph: The results of the economic reforms have been different in many cases, not all positive. In Brazil and Argentina the privatization of energy did not work as it was been planned. In the most of the countries there was a	The section has been redrafted in order to include the two most important visions about economic growth and the results of current economic policies

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
						monetary stabilization but not with significant employment generation, and without solving the social inequalities. In some countries as Venezuela, Bolivia, Argentina, and Brazil the role of the State remains important. (Luis Pinguelli Rosa, Federal University of Rio de Janeiro)	
13-770	A	25	5	25	5	These reforms that permitted the estabilization of the macroeconomic foundations, by its turn, were based on a minimum investment in the social segment. (Magda Aparecida Lima, Brazilian Agricultural Research Corporation - Embrapa)	Cg
13-771	A	25	7			A mention to Free Trade agreements can be important in this section, in particular to their future implications to LA economy (Max Campos Ortiz, Regional Committee on Hydraulic Resources-Central America Integration System)	Cg
13-772	A	25	7			Comment: can be the external debt be a little deep analyzed? Urban and rural populations trends? Poverty, extreme poverty? (Julio Garcia, National Environmental Council)	Cg
13-773	A	25	8			The previous paragraph does not describe a realistic scenario of the Region, it would be important to look for other sources of information including grey or more specialized sources of information, which could include the microeconomics processes or the social & environmental effects that have been produced by the implementation of the last 20 years-economic policies in most of the countries in the Region. (Martha Yvette Munguía de Aguilar, Ministry of Environment and Natural Resources)	Cg
13-774	A	25	9			The issue of "technology" has not been addressed at all in this section. It would be relevant to include how technology transfer has a lot of barriers due to private owners and due to the lack of national policies in the Region that promote science and technology development (e.g.: Central America). (Martha Yvette Munguía de Aguilar, Ministry of Environment and Natural Resources)	
13-775	A	25	10	33	31	Section 4, on impacts is 8.5 pages in length, and the total chapter is around 43 pages. The balance within the chapter is not right. This section needs to build and sections such as 13.3 can be shortened. One way to build up secton for could be looking at Chapter 4 figures 4.9 and 4.10. The first is a map of the location of major impact. Figure 4.10 is a sectoral burning embers diagram, concept that could be applied at a regional scale . We want to include this materia in the PCM and TS, but need the underlying evidence from the chapters. (Encinas Carla , IPCC WG2 TSU)	Ver
13-776	A	25	10			S 13.4 should be: Key future impacts and vulnerabilites	

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
						(Encinas Carla , IPCC WG2 TSU)	
13-777	A	25	10	25	10	Could you discuss future vulnerability in terms of "optimistic", "neutral" or "pesimistic" scenarios? This suggestion in based on the fact that projecting regional socioeconomic conditions is not an eay job, particularly in a region with countries with economies in transition and underdeveloped. (Víctor Magaña, National Autonomous University of Mexico)	
13-778	A	25	10	33	31	This whole sub-chapter is about future expected impacts and VULNERABILITIES. It presents the scenarios for natural ecosystems, agriculture, water resources, coasts and human health. Nevertheless, there is no description of the SOCIAL vulnerability, which certainly is a key matter in this subject. There should be included social vulnerability rates for the different areas affected by climate change, where, according to the socio-economic characteristics of the populations (small business undertakings, marginal populations, middle-class-destined real estate investments in flooding areas, etc.), the impact varies, due to these populations' different possibilities to overcome it. On the other hand, there is also another element that is part of social vulnerability, and should be taken into account: the lack of institutional integration, for example, between the specific organisms involved in catastrophe prevention/ response/ rehabilitation - such as health, environment, land use planning (urban, rural, industrial) mitigation and adaptation measures and disaster forecast and prevention areas. (Ana Maria Murgida, P.I.R.N.A. - GEOGRAPHIC INSTITUTE / SCHOOL OF ARTS, U.B.A.)	Cg accepted
13-779	A	25	10			The balance of this chapter is wrong. There are 43 pages in total, and only about 10 of these are on Section 13.4 Impacts. The recommendation from the Co-Chairs is that about half the length of the chapter should be devoted to Section 4. (Jean Palutikof, Hadley Centre)	There are not enough information
13-780	A	25	10	33	31	Concerning the expected key future impact and vulnerabilities it should be emphasized that future scenarios are taken directly from AGCMs or even from AOGCMs with very low resolution. (Silvina Solman, CONICET)	Cn accepted
13-781	A	25	12	26	10	Since no reference is made in this chapter to other important regional ecosystems, including the Cerrado/ Cerradinho, Chaco, and Patagonian plateau, it would be opportune to add information on them. The periodic analyses of the environmental situation in Latin American countries, published under the aegis of WWF, would provide the required information (Example: La Situación Ambiental Argentina 2000, published by FVSA (Fundación Vida Silvestre Argentina), associated to WWF, will be complemented with a 2005 version, already in print).	Cg ver

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
						(Osvaldo Canziani, IPCC WG2 Co-chair)	
13-782	A	25	14	25	34	All of this is based on GCM scenarios that were described as having large uncertainties, not being of practical use, etc. (see page 23). This needs further discussion (Walter Baethgen, International Research Institute for Climate and Society, Coulmbia University)	Cn no
13-783	A	25	14	25	15	It is not clear form this sentence why tropical plants are especially vulnerable to climate change. If indeed they are more vulnerable than temperate plants, then this should be referenced. (Jos Barlow, University of East Anglia)	Cn accepted
13-784	A	25	14	25	25	Projections of species extinction due to temperature rise are not supported by observations. If 2 C tempertaure rise has the potential to result in 24% extinction tree species in central Brazil, then its seems reasonable to expect that the warming of the 20th century should have resulted in a documentable number of extinctions of these tree species. If such extinctions have occured, they should be reported here. If they have not occurred, then the fact that they have not should also be documented as raising questions about the the models used to project extinction rates. (Lenny Bernstein, IPIECA)	Cn No It is not lineal
13-785	A	25	14	25	15	Reference(s) is needed. (Pierre-Andre Jacinthe, Indiana University Purdue University, Indianapolis)	Cn accepted
13-786	A	25	14		15	This sentence should be referenced. (Kevin Vranes, University of Montana)	Cn accepted
13-787	A	25	14	25	34	The Amazonian region is already treated in the case study, Is it possible to incorporate this information there and only make the reference here? (Monica Beatriz Wehbe, NATIONAL UNIVERSITY OF RIO CUARTO)	Cn no
13-788	A	25	20			Are these figures independent of predicted LUC? If so, then this should be pointed out. (Jos Barlow, University of East Anglia)	Cn accepted
13-789	A	25	20	32	39	13.4. Summary of expected key future impacts and vulnerabilities. 13.4.1. Natural ecosystems.On page 25, some of the lines 20-25, and 27-34 can be included in the case study of Amazonia in lines 23-32 on page 39. This way the case study would be highlighted, and the text in other sections would be reduced. (Oralia Oropeza-Orozco, of Geography, National Autonomous University of Mexico (UNAM))	Cn no
13-790	A	25	22	25	25	Could include reference about the predict effects of drought (provoked by El Niño episodes) on Amazon forest (Nepstad et al. 2002. Journal of Geophysical Research 107 and note in Science 2005. 308: 346-47): collapse of flowers and fruit	Cn accepted

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
						production; reduction in carbon sequestration, increase in tree mortality, etc.). (Paulo Moutinho, Amazon Institute for Environmental Research (IPAM))	
13-791	A	25	27	25	34	Forests that burn once become more vulnerable to a recurrent and more severe fire - These fire related positive feedbacks can shift relatively prisine tropical forest to bamboo dominated scrub savannahs in just 12 years (e.g. Cochrane et al. 1999, Barlow and Peres 2004. Cochrane (2001 Environment 43, 28-38) estimates that 259,000km2 of Amazonian forests are vulnerable to such a recurrent fires, which have disastrous consequences for biodiversity (Barlow and Peres 2004). Such drastic changes deserve a mention in this report. (Jos Barlow, University of East Anglia)	Cn accepted
13-792	A	25	27	25	34	Section 13.4.1. Ther should be a reference to paper by Nobre and Oyama about the new steady state in climate change and natural ecosystems that they have worked on in the Semiarid Norheast Brazil (Jose Marengo, CPTEC-INPE)	Cn no
13-793	A	25	38	25	40	This sentence is not clear. “Therefore, the places where the mountains are isolated……, some plants will become exctint (FAO, 2002). (Marta Vinocur, Universidad Nacional de Río Cuarto, Agrometeorología)	Dc accepted
13-794	A	25	39			will not…. (Monica Beatriz Wehbe, NATIONAL UNIVERSITY OF RIO CUARTO)	Dc accepted
13-795	A	25	41	25	42	“are already happening” (Jos Barlow, University of East Anglia)	Dc accepted
13-796	A	25	44			Should be Pounds, not Pound (Kevin Vranes, University of Montana)	Dc accepted
13-797	A	25	46	26	4	The Thomas paper cited here gives the best available estimates, but high levels of uncertainty exist when combining climate envelopes (uncertain) and species-area relationships (which do not always appear to hold true). A further important weakness is that species ranges are poorly known in many parts of the tropics. For example, major revisions have been (and are being) made to the distribution maps of birds and primates in Amazonia in recent years, two of the best known groups. These weaknesses should be identified in the text. (Jos Barlow, University of East Anglia)	Dc thanks
13-798	A	25	48	25	48	When it says that global warming will increase species extinction in Mexico, it is being considered only the effect of increase of temperature? More details would be wellcome. (Magda Aparecida Lima, Brazilian Agricultural Research Corporation - Embrapa)	Dc
13-799	A	25				13.4.1: very generalised information. Focus on Amazon, although extinction risks in the Amazon area are minimal (because of the generally wide species	Dc

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
						distributions) compared with some densely populated areas with marked local aggregated of endemic species (e.g., Fjeldså et al. 1999). Why not mention the potential value of genetic resources in centres of endemisms, e.g. the local aggregates of unique types of potatoes in the Cuzco area and Cochabamba/Chuquisaca (Hijmans & Spooner 2001). (Jon Fjeldsa, University of Copenhagen)	ver
13-800	A	26	0			13.4.2.: Why not mention the potential importance of maintaining ecological functions in local areas with predictable conditions in the montane regions? (see Fjeldså et al. 1999). (Jon Fjeldsa, University of Copenhagen)	Dc
13-801	A	26	1	26	4	There if basically no reference to when the negative impacts in biodiversity and several other sectors are expected. The timing for the negative impacts may be important for those who read this chapter. The timing may be estimated based on current trends or using climate change projections (with uncertainty) from GCMs. (Víctor Magaña, National Autonomous University of Mexico)	Dc
13-802	A	26	1	26	4	Missing citation, I think it is: Peterson, A. T., M. A. Ortega-Huerta, J. Bartley, V. Sanchez-Cordero, J. Soberon, R. H. Buddemeier, and D. R. B. Stockwell. 2002. Future projections for Mexican faunas under global climate change scenarios. Nature 416:626-629. (Enrique Martínez Meyer, Instituto de Biología, Universidad Nacional Autónoma de México)	Dc
13-803	A	26	6	26	10	There are several other modelling studies for biodiversity elements in the region that have not been included here: Enquist, C. A. F. 2002. Predicted regional impacts of climate change on the geographical distribution and diversity of tropical forests in Costa Rica. Journal of Biogeography 29:519-534. Parra-Olea, G., E. Martinez-Meyer, and G. P.-P. de Leon. 2005. Forecasting Climate Change Effects on Salamander Distribution in the Highlands of Central Mexico. Biotropica 37:202-208. Tellez-Valdes, O., and P. Davila-Aranda. 2003. Protected Areas and Climate Change: a Case Study of the Cacti in the Tehuacan-Cuicatlan Biosphere Reserve, Mexico. Conservation Biology. 17:846-853. (Enrique Martínez Meyer, Instituto de Biología, Universidad Nacional Autónoma de México)	Dc
13-804	A	26	6		10	This last paragraph is redundant and can be cut, but if it is kept it should be supported with more citations. To be sure, political advocacy groups such as the WWF produce good work, but the fact remains that they are political advocacy	Dc

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
						groups and their internal reports are often not independently and anonymously peer reviewed. (Kevin Vranes, University of Montana)	
13-805	A	26	9	26	10	It would be fairer to say that the reduction in tropcial forest areas combined with the degradation of much of the remaining forest will lead to species extinctions. A cynic such as Lomborg would point out that the atlantic forest has few documented extinctions despite a 90% clearance of forest cover (although it is obviously hard to document extinctions, and we don't know how many species will go extinct in the future). (Jos Barlow, University of East Anglia)	Dc
13-806	A	26	13	29	17	This sub-section with its Table 13.4 largely improves previous regional reports. (Osvaldo Canziani, IPCC WG2 Co-chair)	Thanks
13-807	A	26	15	29	17	Might be of interest to include as reference Zhao et al., 2005. Impact of present and future climate variability on agriculture and forestry in the humid and sub-humid tropics and Sivakumar, M.V.K. et al., 2005. Impacts of present and future climate variability and change on agriculture and forestry in the arid and semi-arid tropics. (Encinas Carla , IPCC WG2 TSU)	Gm Accepted
13-808	A	26	21	26	23	This sentence is more on "uncertainties" (Monica Beatriz Wehbe, NATIONAL UNIVERSITY OF RIO CUARTO)	Gm Accepted
13-809	A	26	23			change: "However" by: Despite great variability in yield projections,….. (Monica Beatriz Wehbe, NATIONAL UNIVERSITY OF RIO CUARTO)	Gm Accepted
13-810	A	26	26			change: "planted area" by: suitable lands (Monica Beatriz Wehbe, NATIONAL UNIVERSITY OF RIO CUARTO)	Gm Accepted
13-811	A	26	30	26	30	Venezuelan "piedmont"? Is that the right term? (Walter Baethgen, International Research Institute for Climate and Society, Coulmbia University)	Yes
13-812	A	26	33		39	As observed before (executive summary), considering the relevance of desertification and salinization problems it would be good to be more specific about the most impacted regions (Mercedes Maria da Cunha Bustamante, Departamento de Ecologia, Universidade de Brasília)	Dc
13-813	A	26	33	26	34	Section 13.4.2. Most of these changes in agriculture assume that technology is assumed as constant. The Changes in coffee are by Pinto et al (2002) assume that technology does not assume, and I must say that these results show a lot of uncertainity. (Jose Marengo, CPTEC-INPE)	Gm Accepted
13-814	A	26	33			…the "combined" effect?	Ok

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
						(Monica Beatriz Wehbe, NATIONAL UNIVERSITY OF RIO CUARTO)	
13-815	A	26	34			…security in the region "will result" on….. (Monica Beatriz Wehbe, NATIONAL UNIVERSITY OF RIO CUARTO)	Dc
13-816	A	26	37	26	39	In what time scale that lost is happening? (Magda Aparecida Lima, Brazilian Agricultural Research Corporation - Embrapa)	Dc
13-817	A	26	37	26	39	This sentence is not much appropriate here (Monica Beatriz Wehbe, NATIONAL UNIVERSITY OF RIO CUARTO)	Dc
13-818	A	26	39	26	44	Soil carbon losses and related decrease in soil fertility are probably more important. (Stephan Glatzel, Dept. Of Geography and Regional Research)	Gm Accepted
13-819	A	26	39			delete: Related to soil conditions and change by: In the tropical areas climate….. (Monica Beatriz Wehbe, NATIONAL UNIVERSITY OF RIO CUARTO)	Ok
13-820	A	26	41	26	44	Since it deals with a scenario, It should be used "probably will be" rather than "will be" more dangerous... (Magda Aparecida Lima, Brazilian Agricultural Research Corporation - Embrapa)	Ok
13-821	A	27	1	27	1	Why is the first line of the table shaded? (Tercio Ambrizzi, Institute of Astronomy, Geophysics and Atmospheric Sciences - USP)	Ok done
13-822	A	27	1	28		Table 13.4 is a good summary of impacts in agricultural sector and contains a lot of information on climate scenarios and assessment. In the example of Ecuador the example of future impacts 2010/2030 inn soybean and rice is not clear. The study SESA is not clear the area(s) considered. (Encinas Carla , IPCC WG2 TSU)	Gm Accepted
13-823	A	27	1	27	1	Table 13.4 - In the line about Brazil, the Siqueira's paper (2000) is not referred in references. In fact, Siqueira et al. published a chapter in 2001, where the data are different from those related in this table. The values are: -30, -15 and +21, instead of -31, -16 and + 27, for wheat, maize and soybean, respectivelly. The correct reference of this work is: Siqueira, O.J. W.; Salles, L.A.B.; Fernandes, J.M. Efeitos potenciais das Mudanças Climáticas na Agricultura Brasileira e Estratégias Adaptativas para Algumas Culturas. In: Mudanças Climáticas Globais e a Agropecuária Brasileira, ed. by Lima, M.A, Cabral, O.M.R. ; Miguez, J.D.G. 2001, p. 33-63. (the values are described in the page 55 of this chapter). (Magda Aparecida Lima, Brazilian Agricultural Research Corporation - Embrapa)	Gm Accepted
13-824	A	27	1	28	2	Regions must be better detailed (state, country, region). (Magda Aparecida Lima, Brazilian Agricultural Research Corporation - Embrapa)	Gm Accepted
13-825	A	27	1			Table 13.4. Future impacts in the agricultural sector. Add one new studies. Study: Central Argentina (Vinocur, 2005). a) Climate Scenario: Hadley CM3, B2, 2050, 477ppm CO2, Rainfed. Yield Impact (%) on Maize: +20.9. b) Climate Scenario:	Gm Accepted

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
						ECHAM98, A2, 2050, 520 ppm CO2, Rainfed. Yield Impact (%) on Maize: + 27.3. (Marta Vinocur, Universidad Nacional de Río Cuarto, Agrometeorología)	
13-826	A	27	1			Table 13.4. Future impacts in the agricultural sector. Add one new studies. Study: Central Argentina (Vinocur et al., 2000). a) Climate Scenario: +1.5/+3.5 °C (1 CO2), Rainfed. Yield Impact on PEANUT (%): -4/ -23.2. c) Climate Scenario: +1.5/+3.5°C (1 CO2) and duplicated the variance of temperature-Rainfed. Yield Impact on PEANUT (%): - 22.7 / -38.1. (Marta Vinocur, Universidad Nacional de Río Cuarto, Agrometeorología)	Gm Accepted
13-827	A	27	1			Table 13.4. Future impacts in the agricultural sector. Add one new studies. Study: Central Argentina (Vinocur et al., 2000). a) Climate Scenario: +1.5/+3.5 °C (1 CO2) Irrigated. Yield Impact (%) on Maize: -11/-13.5. b) Climate Scenario: +1.5/+3.5 °C (1 CO2) Rainfed. Yield Impact on Maize (%): -13/-17. c) Climate Scenario: +1.5/+3.5°C (1 CO2) and duplicated the variance of temperature-Irrigated. Yield Impact on Maize (%) -15/-26.7. d) Climate Scenario: +1.5/+3.5°C (1 CO2) and duplicated the variance of temperature-Rainfed. Yield Impact on Maize (%) -19 /-34.5. (Marta Vinocur, Universidad Nacional de Río Cuarto, Agrometeorología)	Gm Accepted
13-828	A	29	1	29	17	Are there any opportunities identified? (Encinas Carla , IPCC WG2 TSU)	Gm Ver
13-829	A	29	1	29	6	Check the reference. The book has been already published. (Jose Marengo, CPTEC-INPE)	Gm Accepted
13-830	A	29	6	29	6	(Krol and van Oel???) (Tercio Ambrizzi, Institute of Astronomy, Geophysics and Atmospheric Sciences - USP)	Gm Accepted
13-831	A	29	8		12	The work cited here (FAO 2001) is a huge report, so I would request that when it is used, the section being used is specifically cited (this also applies to page 26, lines 33-35 as well as other places). In this instance, I can find no uses of the terms “heat stress” or other key words used here in the FAO 2001 report when I search through it. This is especially relevant because a question can be raised about precipitation levels and whether they are expected to increase in areas, which would counteract increases in heat stress due solely to temperature increases. (Kevin Vranes, University of Montana)	Dc
13-832	A	29	14		17	Are there data on this only for Bolivia? What about countries like Brazil and Argentina that are important beef cattle producers? (Mercedes Maria da Cunha Bustamante, Departamento de Ecologia, Universidade de Brasília)	Gm Accepted
13-833	A	29	20	30		Section on water resources. A comment on the potential vulnerability of the Plata	Jcg

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
						basin dicharges to climate change should be added: ¨In the Plata basin , upstream of Corrientes in the Paraná River and of Paso de los Libres in the Uruguay River, about 70 % of the annual precipitation volume evaporates. Thus, relatively moderate percent changes in precipitation are amplified in the runoff (Berbery and Barros 2002, Tucci 2003) (The Hidrological cycle of the La Plata basin in South America. 2002, Journal of Hydrometeorology, 3, 630-645. Berbery, H. and V. Barros; C. Tucci 2003 Chapter 5 of the book Clima e Recursos Hídricos no Brasil .Eds. C. Tucci and B. Braga 348 pp Associcao Brasileira de Recursos Hídricos). In a context of climate change this feature implies that potentail large percent changes in discharges will be possible¨. (Vicente Barros, Centro de Investigaciones del Mar y la Atmósfera (CIMA/CONICET-UBA))	Accepted
13-834	A	29	20	30	26	This sub-section and Tables 13.2 a) and 13.2 b) provide an excellent reference on future trends. The addition of the recent paper by Carey M. (Living and dying with Glaciers, Global and Planetary Change, 2004) would be opportune). (Osvaldo Canziani, IPCC WG2 Co-chair)	Jcg Accepted
13-835	A	29	22	29	34	Since much of Latin America is already water stressed, this section should provide base line number (i.e., the number of people who would be living under water stressed conditions if there were no climate change) for 2025 and 2050. Is climate change the major cause of water stress, or is it an aggrevating factor to an already serious problem? (Lenny Bernstein, IPIECA)	JCG Not accepted. It´s already included (figures between brackets)
13-836	A	29	22	29	23	I can also mentioned that the increase in economic conditions of population would also lead to more compsumption of goods, whose productions are related to more energy (hydro in many LA countries). It would be also important to mention something on the financial resources available for investing in new water related infraestructure..... (Max Campos Ortiz, Regional Committee on Hydraulic Resources-Central America Integration System)	JCG Accepted. It´s included in another section.
13-837	A	29	22		43	Numbers of people with an increase in water stress are given under different scenarions but it is not clear how these numbers are distributed through Latin America. It is also mentioned the impact of the shortage of water supply to the generation of energy in Central America and the Andean region. What about countries like Brazil that depend mostly on hydroeletrical power? (Mercedes Maria da Cunha Bustamante, Departamento de Ecologia, Universidade de Brasília)	**JCG** **No**- Information of numbers of people with an increase in water stress under different scenarions distributed by **country is not available. (see Arnell,2004)** About hydroeletrical power in Brazil **reference is needed.**

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
13-838	A	29	22	29	34	Please refer to threshold values considered by th WMO for minimum requirements of water in various sectors. This could be useful for some Latin American countries or regions. (Víctor Magaña, National Autonomous University of Mexico)	JCG Accepted. It is now included.
13-839	A	29	23	29	24	...growing demands (from increasing population and irrigation) and the expected….. (Monica Beatriz Wehbe, NATIONAL UNIVERSITY OF RIO CUARTO)	JCG Accepted
13-840	A	29	24	29	24	"expected drier conditions". Page 23 states that there are no usable scenarios for future precipitation. Is this only based on temperature change projections? (Walter Baethgen, International Research Institute for Climate and Society, Coulmbia University)	JCG Temperature and precipitations. See Arnell (2004)
13-841	A	29	25			…in Latin America "has been" estimated…. (Monica Beatriz Wehbe, NATIONAL UNIVERSITY OF RIO CUARTO)	JCG Accepted
13-842	A	29	27			…water "stressed" … (Monica Beatriz Wehbe, NATIONAL UNIVERSITY OF RIO CUARTO)	JCG Accepted
13-843	A	29	28			…people living "under water stressed" watersheds "were"estimated… (Monica Beatriz Wehbe, NATIONAL UNIVERSITY OF RIO CUARTO)	JCG Accepted
13-844	A	29	35			Bring here paragraph from page 30; lines 15-22 with modifications (Monica Beatriz Wehbe, NATIONAL UNIVERSITY OF RIO CUARTO)	JCG Accepted
13-845	A	29	37			There are no counties in Colombia. Please clarify if this statement is related to Departamentos (States). (GERMAN POVEDA, Universidad Nacional de Colombia, at Medellin)	JCG Accepted
13-846	A	29	38	29	38	The reference from IDEAM is for Colombia, nor for Peru. The references should be arranged on the text: IDEAM for Colombia and Garcia Vargas for Peru (Jose Marengo, CPTEC-INPE)	JCG Accepted
13-847	A	29	39	29	43	not clear (Monica Beatriz Wehbe, NATIONAL UNIVERSITY OF RIO CUARTO)	JCG Accepted
13-848	A	29	45	29	47	Is this due mainly to climate change or also to land use change? (Stephan Glatzel, Dept. Of Geography and Regional Research)	Due to climate change (see ref. Caceres 2004)
13-849	A	29	46	29	46	How is it possible to have more than 100% decrease? (Lenny Bernstein, IPIECA)	Accepted. The figure is referred to "unsatisfied demand". So it is possible to have figures upper to 100%. The text was changed.
13-850	A	29	47	29	47	Idem as above (Walter Baethgen, International Research Institute for Climate and Society, Coulmbia University)	Accepted. The figure is referred to "unsatisfied demand". **So it is possible to have figures upper to 100%. The text was changed**
13-851	A	29	47			delete: assessed	

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
						(Monica Beatriz Wehbe, NATIONAL UNIVERSITY OF RIO CUARTO)	Accepted
13-852	A	29				Clearly, summaries of trends in water demand (page 29) must be complemented by the scope for pricing reform if a complete picture is to be provided of the water situation in Latin America (Douglas Southgate, Ohio State University)	Not accepted. This comment is not related to this section.
13-853	A	30	4	30	9	(acriculture malpractices): are data lacking from the tropical Andes region? There are some extremely degraded areas here, and also local problems with shortage of water where some of the potentially best agricultural areas have been seriously degraded because of destruction of former wetlands (Bogotá and Ubaté savannas in Colombia, Cochabamba basin in Bolivia). (Jon Fjeldsa, University of Copenhagen)	Accepted. **References would be provided**
13-854	A	30	4			…will probably "increase"… (Monica Beatriz Wehbe, NATIONAL UNIVERSITY OF RIO CUARTO)	Accepted
13-855	A	30	11		13	Where do these numbers come from (97% and 20%)? (Kevin Vranes, University of Montana)	Accepted
13-856	A	30	11	30	13	I do not feel this sentence fit here (Monica Beatriz Wehbe, NATIONAL UNIVERSITY OF RIO CUARTO)	Accepted
13-857	A	30	12			After heavy rains "deforestation and the lack of land planning" (Martha Yvette Munguía de Aguilar, Ministry of Environment and Natural Resources)	Accepted
13-858	A	30	15	30	22	These impacts are not specific to LA but have been observed in several other regions. Summarize this to 1-2 sentences to save space (Pierre-Andre Jacinthe, Indiana University Purdue University, Indianapolis)	Accepted
13-859	A	30	15		22	These issues are about politics and how political systems respond to the needs of urban populations; they are not really about future climate change. (Kevin Vranes, University of Montana)	Accepted
13-860	A	30	15	30	18	change these senteces by: Accelerated urban growth, increasing poverty and low investment in water supply will contribute with: water shortages…. (Monica Beatriz Wehbe, NATIONAL UNIVERSITY OF RIO CUARTO)	Accepted
13-861	A	30	18			delete: as a main problem (Monica Beatriz Wehbe, NATIONAL UNIVERSITY OF RIO CUARTO)	Accepted
13-862	A	30	24	30	26	This section needs to be developed with a clear focus on vulnerabilities of the agricultural and oil industry sectors to water shortages. (Pierre-Andre Jacinthe, Indiana University Purdue University, Indianapolis)	Not accepted.
13-863	A	30	24			delete: the impact of future; and start with: Shortages of water will also have severe consequences in the …. (Monica Beatriz Wehbe, NATIONAL UNIVERSITY OF RIO CUARTO)	Accepted

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
13-864	A	30	29	31	11	As already observed in some marine environments, the increasing concentration of CO2 in the atmosphere brings increase acidity in the oceans of the world. Since this section is devoted to future trends, reference to potential impact of seawater acidification on sea and coastal environments and ecosystems in Latin America should be mentioned (Ref: Carbon Dioxide extends harmful reach to oceans, by Revkin A.C, July 2004, ICS Symposium with IOC's auspices, Royal Society report on Ocean acidification due to increasing atmospheric carbon dioxide, Policy Document 12/05, June 2005) (Osvaldo Canziani, IPCC WG2 Co-chair)	Gn av addressed will be edited The reference was asked to TSU
13-865	A	30	29			Isn't it possible to put all information (or part of it) on Coasts into a Table like the one of agriculture? A Table with the following columns: Study; Scenario; Direct impacts; Indirect impacts (Monica Beatriz Wehbe, NATIONAL UNIVERSITY OF RIO CUARTO)	Gn av Adressed: will be edited A table on coasts will be built
13-866	A	30	31	32	11	Some statement about impacts on coastal zones need supporting reference, especially when they refer to estimated costs. (Encinas Carla , IPCC WG2 TSU)	Gn av Addressed: will be edited
13-867	A	30	32			add after the first phrase: "Once the Latin American coast is densely populated…" (Luis Pinguelli Rosa, Federal University of Rio de Janeiro)	Gn av Adressed: will be edited
13-868	A	30	33	30	36	change by: …of low-land areas affecting sources of drinking water (UbitaranMoreira et al 1999), and increased erosion erosion and altered coastal morphology (Conde….). (Monica Beatriz Wehbe, NATIONAL UNIVERSITY OF RIO CUARTO)	Gn av Adressed: will be edited
13-869	A	30	34	30	34	I suggest the citation of the following chapter: <Codignotto, J. O. 2004. Capitulo 2.1. Erosión costera. In: "Peligrosidad geológica en Argentina". González, M. A and N. J. Bejerman. Asociación Argentina de Geología Aplicada a la Ingeniería. ISBN 987-21766-0-4. Buenos Aires. Pp 90-111.> This publication refers to the high rate erosion process that is currently undergoing in Patagonia. (Jorge Codignotto, FCEN, Universidad de Buenos Aires.)	Gn av Adressed (to be included if pssible / length)
13-870	A	30	34	30	34	It could be added: Kokot (1997) (Roberto Kokot, FCEyN (Universidad de Buenos Aires))	Gn av Not addressed. Reference too old
13-871	A	30	39	30	39	I do not find in the References the citated "CIDAS 2003" in the text. (Jorge Codignotto, FCEN, Universidad de Buenos Aires.)	Gn av Adressed: will be checked
13-872	A	30	40	30	40	A paragraph could be added regarding the produced coastal setback starting from the decrease of the fluvial discharge in the patagonian rivers (Kokot 2004c). (Roberto Kokot, FCEyN (Universidad de Buenos Aires))	Gn av Adressed: will be edited
13-873	A	30	41	30	41	38-104 cm SLR, when? Predicted by whom?	Gn av

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
						(Walter Baethgen, International Research Institute for Climate and Society, Coulmbia University)	Addressed: IPCC 2001 for 2100
13-874	A	30	42			…disappear "for" more…? (Monica Beatriz Wehbe, NATIONAL UNIVERSITY OF RIO CUARTO)	Gn av Not addressed
13-875	A	30	43	30	45	not clear (Monica Beatriz Wehbe, NATIONAL UNIVERSITY OF RIO CUARTO)	AV GN Adressed: will be edited. Sections on Coastal Zone have explained these differential responses of mangroves. Means: mangroves located in low lying coast (more exposed environment) are more vulnerable to ocean erosion (water and wind), more instable substrate ~~that~~ affects the front mangrove's vegetation accelerating the accreation rate that can be deleterious for the front vegetation. ~~In contrast~~, On the other hand the mangrove vegetation that growts in riverine enviroments with high potential dynamics, like deltas and fluvial physiographies will be favored by more accreation rates and high tides. The plasticity of mangrove vegetation is one of the most "robust" ecological advantage that lead to this vegetation to be dominant along the several diverse coastal physiographic arrangements in the tropics. In fact, this plasticiy sometimes can lead to controversies about the response of mangrove vegetation to CC
13-876	A	30	45	30	45	I do not find in the References the citated "Hensel & Proffit 2002" in the text. (Jorge Codignotto, FCEN, Universidad de Buenos Aires.)	Gn av Adressed: will be checked
13-877	A	30	46	30	50	As stated, these sound like certainties while in fact they are projections. Please edit. (Pierre-Andre Jacinthe, Indiana University Purdue University, Indianapolis)	Gn av Adressed: will be edited
13-878	A	30	50	30	50	The citated "Republica de El Salvador 2000" in the text, is written in English in the References . (Jorge Codignotto, FCEN, Universidad de Buenos Aires.)	Gn av Adressed: will be edited
13-879	A	30	50			Also port, harbours and infrastructure facilities could be affected, and so tteh exportation incomes including fisheries (Peru is one the main worl wide producers	Gn av Not addressed

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
						of fish flour) (Julio Garcia, National Environmental Council)	Need References (are bailable?)
13-880	A	30				Recognizing this inverse linkage between agricultural intensification, on the one hand, and farmers' encroachment on natural habitats, on the other, I must quarrel with the authors' description of (all) chemical inputs as agriculture (SIC) malpractices (page 30). For a different view, I commend a 2003 article by Jonathan Rausch ("Will Frankenfood Save the Planet?" Atlantic Monthly, October, pp. 103-108.). Also, the authors should consider the fact that some of the worst land degradation and fastest deforestation in Sub-Saharan Africa and other parts of the developing world are where impoverished farmers do not fertilize at all. A blanket condemnation of fertilizers and other chemical inputs is simply misinformed. (Douglas Southgate, Ohio State University)	The statement is not clear
13-881	A	31	0	32	0	under 13.4.4: why not mention the role of mangroves and other coastal vegetation as protection against disastrous waves (Tsunamis, hurricanes; see Danielsen et al. 2005)? (Jon Fjeldsa, University of Copenhagen)	AV GN Adressed. Will be edited if recent references for LA are available Tsunamis (maremotos) in Latin America are cited for Chile, Nicaragua and Colombia. Chile does not have mangroves. Colombia did not refer anything about mangrove in its **report** Tsunami ("the big wave" is the local name to tsunamis in this location) in Colombia´n Pacific: Tumaco community (reported 2 big waves: January 31 1906 and December 12 1979 associated with flooding) (**EIRD América Latina y el Caribe, 11, 2005**). In 1992 Nicaraguan maremoto lead 116 deads and 40000 injuries, not mangrove affectation or mention
13-882	A	31	2			…activities of "Guyana" are…. (Monica Beatriz Wehbe, NATIONAL UNIVERSITY OF RIO CUARTO)	Gn av Adressed: will be edited
13-883	A	31	3			delete: of Guyana where is expected that… change by: which are expecte to retreat (Monica Beatriz Wehbe, NATIONAL UNIVERSITY OF RIO CUARTO)	Gn av Adressed: will be edited
13-884	A	31	4	31	4	I do not find in the References the citated "Guyana 2002" in the text. (Jorge Codignotto, FCEN, Universidad de Buenos Aires.)	Gn av Adressed: will be checked
13-885	A	31	12	31	12	The correct name is Puntarenas.	Gn av

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
						(Max Campos Ortiz, Regional Committee on Hydraulic Resources-Central America Integration System)	Adressed: will be edited
13-886	A	31	18		19	The acronym "LANM" needs to be introduced and spelled out. (Kevin Vranes, University of Montana)	Gn av Not addressed: It was already introduced
13-887	A	31	22		23	The dollar units must be either per area or missing many zeroes. (Daniel Zarin, University of Florida)	Gn av Adressed: will be edited
13-888	A	31	26	31	26	I do not find in the References the citated "Republic of Ecuador 2000" in the text. (Jorge Codignotto, FCEN, Universidad de Buenos Aires.)	Gn av Adresse: will be edited
13-889	A	31	48	36	15	13.4.4. Coasts.The information on page 31, lines 48-50, and page 32, lines 1-4 it is complemented with the information on page 36, lines 13-15 (13.5.1.4 Coasts) The text can be reduced by integrating and summarizing these part. (Oralia Oropeza-Orozco, of Geography, National Autonomous University of Mexico (UNAM))	Gn av Adressed: will be edited / synthetized
13-890	A	32	0			At page 10 the impacts of ozone on human health are mentioned but there is no mention in the section 13.4.5 (Summary of expected key future impacts and vulnerabilities) . The impacts of ozone on agricultural production, forestry and human health are poorly studied in Latin America although their relevance. (Mercedes Maria da Cunha Bustamante, Departamento de Ecologia, Universidade de Brasília)	Not aplicable regarding human health
13-891	A	32	4	32	4	I do not find in the References the citated "Kokot 2004" and neither "Menendez Re and Kind 2004" in the text. (Jorge Codignotto, FCEN, Universidad de Buenos Aires.)	Gn av Adressed: will be checked ARM Addressed
13-892	A	32	6	32	11	I suggest to inlcude "Barros, V., A. Menendez and G. Nagy (Eds). 2005. Cambio Climatico en el Rio de La Plata. CIMA, CONICET, UBA. Buenos Aires. Pp: 200." This book offers a deep analysis of La Plata River situation related to the Climate Change. (Jorge Codignotto, FCEN, Universidad de Buenos Aires.)	Gn av Adressed: will be edited
13-893	A	32	6	32	11	I suggest to include the following bibliography: Codignotto, J.O. and R. A. Medina. 2005. Morfodinámica del Delta del Río Paraná y su Vinculacion con el Cambio climatico. XVI Congreso Geologico Argentino. Actas (3): 651-656. La Plata.". This publication studies the decrease in the Parana River Delta accretion rate. They work on the relation of this decrease and the Sea Level Rise caused by Climate Change. (Jorge Codignotto, FCEN, Universidad de Buenos Aires.)	Gn av Adressed: will be edited (depnding on length....)
13-894	A	32	9			It should be added the reference Barros. 2005 that is the most comprenhensive account of future floods in the Plata coasts :(Barros, V. Inundación y cambio climatico- Costa argentina del Rio de la Plata, Chapter 5 of the book: El Cambio	Gn av Adressed: will be included

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
						Climático en el Río de la Plata. Eds. Barros V., A. Menéndez, G.J. Nagy, Capítulo 18: 173-180, CIMA-CONICET-UBA, Buenos Aires, Mayo, 2005) (Vicente Barros, Centro de Investigaciones del Mar y la Atmósfera (CIMA/CONICET-UBA))	
13-895	A	32	14	33	31	As already mentioned in respect to human health problems, in Latin America, references to future impacts on some specific regional endemic diseases, like Chagas, and infections, like Ciguatera and poisonous mycosis, should be included. Further, as already observed in various LA large cities, the adverse effects of increasing surface ozone generation, should be reported. The adverse effects of floods and droughts must be re-emphasized here. The many countries references to some diseases like Malaria should be integrated under a common paragraph. A wise redrafting will simplify and reduce the text extension. (Osvaldo Canziani, IPCC WG2 Co-chair)	Addressed
13-896	A	32	14			It would be a good idea if this item includes some cross references regarding chapter 8. This would avoid being repetitive and save some lines on the report as well (Suzana Kahn Ribeiro, Federal University of Rio de Janeiro)	Arm
13-897	A	32	14	32	14	Section 13.4.5. Chech for cinsistency and cross refer to Chapter on Health from WGII (Jose Marengo, CPTEC-INPE)	Addressed
13-898	A	32	14			The whole section is confusing. It first refers to malaria and dengue, then forest fires'impacts, then allergenic spores, then, again, malaria. After two other paragraphs on malaria there is reference to leishmaniasis, then dengue and malaria, again…very confusing for the reader... (Monica Beatriz Wehbe, NATIONAL UNIVERSITY OF RIO CUARTO)	Addressed
13-899	A	32	14			Section 13.4.5. This section should also discuss the effects of climate change on air pollution and therefore on human health. (J. Jason West, Princeton University)	Addressed
13-900	A	32	14			Section 13.4.5. If this section does expand to include consideration of air pollution on health, work in Mexico City has addressed how actions to reduce GHG emissions can also reduce air pollutant emissions, and vice-versa: West, J. J., P. Osnaya, I. Laguna, J. Martinez, and A. Fernandez (2004) Co-control of urban air pollutants and greenhouse gases in Mexico City, Environmental Science & Technology, 38: 3474-3481, doi: 10.1021/es034716. (J. Jason West, Princeton University)	Addressed
13-901	A	32	16		18	Why would this be true? This paragraph starkly illustrates some contradictions I see in other places in the report. One would expect tropical water-borne diseases to	Addressed

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
						increase if there were an increase in precipitation and/or other available water. But in many other places in the report the authors state that areas are expected to be drier or more prone to drought (pg 9, lines 39-41; pg 10, line 16). Wetter conditions are mentioned on line 34 of this page. Where is going to be wet and where dry? Will disease patterns follow? (Kevin Vranes, University of Montana)	
13-902	A	32	21	32	23	rephrase sentence (Jos Barlow, University of East Anglia)	Addressed
13-903	A	32	27	32	28	This is the third time forest fires and climate change have been mentioned. It could be condensed to one place? (Mark Carey, University of California, Berkeley)	Addressed
13-904	A	32	27	32	31	Could add information on health problems due air pollution (smoke) produce by forest fires and burning in Amazon region during El Nino years ($11 millions/yr were expended by Brazilian health system to attend the extras cases of respiratory problem provoked by smoke in Amazon, See Mendonça et al. 2004. Ecological Economics 49: 89-105). (Paulo Moutinho, Amazon Institute for Environmental Research (IPAM))	Addressed
13-905	A	32	42	32	42	For consistency, refer to as HadCM3 and not the Hadley Centre Model (Jose Marengo, CPTEC-INPE)	Addressed
13-906	A	33	5		6	What is the role of precipitation here? Shouldn't it be more important than temperature? (Kevin Vranes, University of Montana)	Addressed
13-907	A	33	13		17	Maybe it's just the use of the word "therefore" but I don't see a cause and effect proven here between the first sentence and second of this paragraph. (Kevin Vranes, University of Montana)	Addressed
13-908	A	33	23		31	repetition (Daniel Zarin, University of Florida)	Text removed
13-909	A	33	27	33	31	section 13.4.5. is reasonably well written. The last paragraph is unclear and requires some editiing (Pierre-Andre Jacinthe, Indiana University Purdue University, Indianapolis)	Addressed
13-910	A	33	27	33	31	Another study assessing potential risk for leishmaniasis is: Peterson, A. T., and J. Shaw. 2003. Lutzomyia vectors for cutaneous leishmaniasis in Southern Brazil: Ecological niche models, predicted geographic distributions, and climate change effects. International Journal for Parasitology 33:919-931. (Enrique Martínez Meyer, Instituto de Biología, Universidad Nacional Autónoma de México)	Addressed
13-911	A	33	27	33	31	This paragraph should be deleted as some lines are repetead in the previous	Text removed

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
						paragraph (Marta Vinocur, Universidad Nacional de Río Cuarto, Agrometeorología)	
13-912	A	33	27		31	As written this implies a 0.22% increase in mortality arising from a decrease in emission?? Also, the second sentence of this paragraph is a repeat of the last sentence of the previous paragraph. (Kevin Vranes, University of Montana)	Addressed
13-913	A	33	30		31	Which are the regions mentioned in the last phrase? (Mercedes Maria da Cunha Bustamante, Departamento de Ecologia, Universidade de Brasília)	Addressed
13-914	A	33	34	38	30	This section needs to ponder between adaptation actions and adaptation studies, this might help to make it shorter and have more pages in section 4. (Encinas Carla , IPCC WG2 TSU)	
13-915	A	33	34			S 13.5 should be: Adaptation: practices, options and constraints (Encinas Carla , IPCC WG2 TSU)	
13-916	A	33	34			Paragraph 13.5 (Adaptation) repeat partly paragraph 13.2.5 (Current adaptation) (Roberto Kokot, FCEyN (Universidad de Buenos Aires))	Addressed Will try to avoid unnecessary reptitions.
13-917	A	33	34	33	34	There are several examples of adaptation (and maladaptation) in the region that could be mentioned. Bout some phrases in the lessons learned after these practices would be useful, particularly in the context of climate variability. (Víctor Magaña, National Autonomous University of Mexico)	
13-918	A	33	34			13.5. Adaptation. 13.5.1. Practices and options.13.5.1.5 Human health.It may be convenient to do a brief review of literature about Mexico regarding the implementation of practices and adaptability options. (Oralia Oropeza-Orozco, of Geography, National Autonomous University of Mexico (UNAM))	Addressed
13-919	A	33	34			13.5. Adaptations. I am sorry but I cannot follow the argument in this section, and sectors' information is quite unbalanced. There is a mixture of things that should be done, things that have already done… I do not have a clear idea on how to better develop this section, but may be trying to put together practices, options and constraints for each sector after describing more common issues as an introduction. (Monica Beatriz Wehbe, NATIONAL UNIVERSITY OF RIO CUARTO)	
13-920	A	33	36	37	34	References: *2005. Natenzon, Marlenko, Gonzalez, Ríos, Barrenechea, Murgida, Boudin, Gentile, Ludueña. "Vulnerabilidad social estructural", "Impactos económicos y sociales por inundaciones"; "Instituciones, cultura y adaptación" en Barros, V.; Menendez, A.; G. Nagy Eds. El Cambio Climático en el Río de La Plata. CIMA- CONICET-UBA – AIACC **2005. Murgida, A; Gonzalez, S. "Social Risk, Climate Change and Human	Addressed will be edited in text or table GN AV

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
						Security: An introductory study case in Metropolitan Area of Buenos Aires". Human Security and Climate Change, http://www.cicero.uio.no/humsec/ Centre for the Study of Civil War, International Peace Research Institute, Oslo (PRIO) & Centre for International Environmental and Climate Research at the University of Oslo (CICERO) for the Global Environmental Change and Human Security Program (GECHS) (Ana Maria Murgida, P.I.R.N.A. - GEOGRAPHIC INSTITUTE / SCHOOL OF ARTS, U.B.A.)	
13-921	A	33	36	37	34	It is important to also refer to the PRESENT adaptation strategies that the different populations of the affected/ affectable areas have been carrying out. There is a remarkable contradiction between the two concepts highlighted by this discourse regarding mitigation - adaptation and human security -, globally coined: the man must remain at the centre of the discussion, but presenting him as a subject-man, who reflexively integrates himself to reality, permanently constructing and transforming it. If these constitutive elements are not properly acknowledged, man comes to be considered a decision maker, without actually participating in the decisions made. When evaluating the adaptation processes, there is a revision of the conditions of social vulnerability facing climate change; therefore, it is necessary to inquire on the state of knowledge of the issue. In order to do that, we should take into account several central aspects (which have been applied to study cases in Buenos Aires* **): social actors, knowledge, behaviours and strategies, patrimony and technology, institutional management and communication. (Ana Maria Murgida, P.I.R.N.A. - GEOGRAPHIC INSTITUTE / SCHOOL OF ARTS, U.B.A.)	
13-922	A	33	36			Section 13.5.1 The entire section lacks explicit focus on governance as a critical, cross-cutting issue. See for example Nepstad et al 2002 Science 295:629-630. There is a similar lack of attention to the potential of market-based initiatives, e.g. Gunningham & Grabosky. 1998. Smart Regulation. Oxford University Press. (Daniel Zarin, University of Florida)	
13-923	A	33	38	34	6	Previous comments by this reviewer emphasized the need to make clear that potential development of ecological corridors is, generally speaking, in to be implemented projects. (Osvaldo Canziani, IPCC WG2 Co-chair)	AV GN (Dr Canziani, disculpe que no traduje pero es algo largo y como e simportante preferí dejarlo así de forma que no perdiera calidad al traducirlo al Inglés). Not aplicable Para el año 2000, como parte de la estrategia de iniciar un proceso de construcción de

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
							corredores biológicos, **Costa Rica basada en la experiencia del Corredor Biológico Talamanca-Caribe** fomenta la formación de comisiones locales de todos los actores para la gestión, coordinación y establecimiento de corredores biológicos. Estas comisiones consolidan procesos de articulación y coordinación de actores en los siguientes corredores: **Corredor Biológico** **Comisión** - Osa Establecida y operando 10 O - Paso de la Danta Establecida y operando 13 O -La Selva-San Juan En proceso formación 5 ON - Chorotega En proceso formación 9 ON - Barbilla En proceso formación 3 ON - cobispa Establecida y operando 5 ON **Corredor Biológico de OSA gestiona y coordina $284.100 para el establecimiento del proyecto** **Primer Borrador del Programa estratégico Regional del CBM (2004)** En el Foro de Donantes de la CCAD que se celebró en San Salvador el 14 y 15 de Octubre 2004 se presentó el primer borrador de la

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
							Síntesis del Programa Estratégico Regional del Corredor Biológico Mesoamericano, el producto más importante de la acción del Proyecto establecimiento de un Programa para la Consolidación de Corredor Biológico mesoamericano. El Programa Estratégico Regional Corredor Biológico Mesoamericano, constituye un instrumento de ordenamiento de la gestión de la CCAD en el área temática de conservación y uso sostenible del patrimonio natural, ayudando a estructurar y organizar los esfuerzos de los países y la demanda de cooperación. Asimismo debe consolidarse como un elemento fundamental de la integración centroamericana, contribuyendo significativamente a la reducción de la pobreza de los habitantes de las comunidades
13-924	A	33	38	34	6	This section is rather weak doesn't provide much information on what's been happening in the region. (Encinas Carla , IPCC WG2 TSU)	Dc
13-925	A	33	39	33	39	This sentence says there are options to reduce "ecosystem degradation." This seems off track from the IPCC mission. The report, in my mind, should offer options for adapting to climate change. Ecosystem degradation, unless it is directly related to climate change, seems to be a very distinct issue than climate change, and thus better left for a different publication. In general, the entire chapter should consistently stay linked to climate change issues. (Mark Carey, University of California, Berkeley)	Dc
13-926	A	33	39	33	41	See also Nepstad et al. 2002. Science 295: 629-631; Carvalho et al. 2000. Nature 409: 131; Soares-Filho et al. Amazon conservation scenarios, Nature, in press; UN Millennium Project 2005. Environment and Human Well-beign: a pratical strategy. Summary version of the report of the Task Force on Environmental Sustainability. The earth Institute at Columbia University, NY, USA. (Paulo Moutinho, Amazon Institute for Environmental Research (IPAM))	Dc
13-927	A	33	39		41	In pursuing this paragraph, some attempt should be made to explain why ecosystem degradation might be bad for local populations and thus governments. It seems	Dc

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
						obvious to a scientist, perhaps, but not to a policy maker or politician (the ultimate consumers of this report). (Kevin Vranes, University of Montana)	
13-928	A	34	3	34	4	WHICH are the "smaller initiatives in Argentina"? There should be added some specific Argentinean initiatives, so that it can be provided a comparative perspective between the Latin American countries. (Ana Maria Murgida, P.I.R.N.A. - GEOGRAPHIC INSTITUTE / SCHOOL OF ARTS, U.B.A.)	Dc
13-929	A	34	8	34	37	There is a recent register of a soybean cultivar more resistent to drought, in Brazil. This information should be surveyed and maybe used as a reference. (Magda Aparecida Lima, Brazilian Agricultural Research Corporation - Embrapa)	To be considered
13-930	A	34	8			Section 13.5.1.2 No mention is made of current initiatives to include compensated reduction within Kyoto (Santilli et al. 2005. Climate Change 71:267-276) (Daniel Zarin, University of Florida)	
13-931	A	34	9	34	10	"identified adaptation but did not analyze them"? What does this mean? Identified when (TAR)? (Walter Baethgen, International Research Institute for Climate and Society, Coulmbia University)	done
13-932	A	34	20	34	20	"longer genotypes"? (Walter Baethgen, International Research Institute for Climate and Society, Coulmbia University)	done
13-933	A	34	28	34	28	Section 13.5.1.2. What about uncertainities?, this references is not complete on the reference section (Jose Marengo, CPTEC-INPE)	Acepted
13-934	A	34	30	34	30	"carbon-sequestration opportunities in the agriculture, particularly in no-till crop system as used in 25 million hectares in Brazil, livestock, and ....." (Gilberto R. Cunha, Brazilian Agricultural Research Corporation (Embrapa))	Av
13-935	A	34	33	34	33	Agrawala reference missing (Walter Baethgen, International Research Institute for Climate and Society, Coulmbia University)	Av
13-936	A	34	38			I suggest include one paragraph related the important role of the region in terms of the forest conservation politics. Some countries are developing importants actions related to forest conservation like adaptation measures to protect importants waters resources. (Oscar Paz, National Climate Change Programme)	Av
13-937	A	35	1	35	18	The efficiency of the transbasin diversion of the São Francisco River in Brazil is still under debate. The authors should careful here and maybe should cite	Accepted. Text adapted.

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
						references presenting different points of view. (Mercedes Maria da Cunha Bustamante, Departamento de Ecologia, Universidade de Brasília)	
13-938	A	35	2			What does the term "inversions" mean here? (Kevin Vranes, University of Montana)	Accepted. Investmentes (changed)
13-939	A	35	7	37	11	Is there any literature on how effective have been these infrastructure projects? (Encinas Carla , IPCC WG2 TSU)	Yes. I Hill send some literatura.
13-940	A	35	7	35	11	Transbasin diversions – yes latinos love ingeneering solutions but often have no clue about the environmental consequences. So why not give a warning statement about basing such plans on functional assessments of ecosystems? (Jon Fjeldsa, University of Copenhagen)	Accepted. Text adapted.
13-941	A	35	19			Current privatization policies in water sectors in the Region would be an additional stressor on low income populations and water private investments could not lead to an appropriate response to future climate impacts on water availability or to future social needs concerning different water uses. (Martha Yvette Munguía de Aguilar, Ministry of Environment and Natural Resources)	No. This is not the section.
13-942	A	35	22	36	44	Maybe most of the examples in this section could be presented in comparative table (Mercedes Maria da Cunha Bustamante, Departamento de Ecologia, Universidade de Brasília)	No
13-943	A	35	22	35	23	The Statement "Since the TAR was published most Latin American countries have presented their National Communucations to the UNFCC (NC) including assessments of impacts, vulnerability and adaptation measures" should be made at the very beginning of this chapter, for a lot of the fact for this chapter is being drawn from the NCs. (Emilio Sempris, Water Center for the Humid Tropics of Latin American and the Caribbean)	Gm Other section
13-944	A	35	23	35	23	Correct UNFCCC (Encinas Carla , IPCC WG2 TSU)	Gn AV Addressed will be edted
13-945	A	35	25			It looks more appropriate to replace the word "adaptation" by vulnerability. As said, many actions for adaptation are still in project status. (Osvaldo Canziani, IPCC WG2 Co-chair)	Gn av Addressed will be edted
13-946	A	35	32	35	32	Argentina is to be added to the list of countries which are making a switch to integrated coastal zone management (Eduardo Usunoff, Instituto de Hidrología de Llanuras)	Gn av Adressed: will be checked in 1st national communication of Argentina
13-947	A	35	49	35	2	What is the current status of this?. Since this was published in 2000 or 2001, there must be some results of this. By the way. What is the year of the reference?, 2000?,	Gn av Adressed: will be checked

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
						2001?. (Jose Marengo, CPTEC-INPE)	
13-948	A	36	0	36	0	Could be made a clear reference to options for ecosystem degradation listed at UN Millennium Ecosystem Assessment (for example, the report by Task Force on Environmental Sustainability) and include recommendations to increase the governance in LA (specially in remote regions like Amazon basin - in this sense, it should be cited how crucial it is to increase governance those regions). (Paulo Moutinho, Amazon Institute for Environmental Research (IPAM))	
13-949	A	36	14	36	15	Add Barros 2005, same reference as in comment No 10. (Vicente Barros, Centro de Investigaciones del Mar y la Atmósfera (CIMA/CONICET-UBA))	Gn av Adressed
13-950	A	36	16	36	16	A paragraph could be added regarding the coastal vulnerability by climatic change in the coast of Río Negro, Argentina (Kokot 2004 b) (Roberto Kokot, FCEyN (Universidad de Buenos Aires))	GN AV Adressed: will be included in coastal systems table
13-951	A	36	40			Due to many factors involved and some uncertainties, it is suggested to use the potential could, instead of can. So the sentence will read: "Coastal biodiversity could be maintained…" (Osvaldo Canziani, IPCC WG2 Co-chair)	Gn av Adressed: will be edited
13-952	A	36	40	36	44	It is doubtful that this paragraph adds anything to the report. Suggestion: delete. (Pierre-Andre Jacinthe, Indiana University Purdue University, Indianapolis)	Gn av Adressed
13-953	A	36	40		44	Similarly, these references can help section 13.5.1.4: Coasts, on page 36, lines 40-44. (Oralia Oropeza-Orozco, of Geography, National Autonomous University of Mexico (UNAM))	Gn av Adressed
13-954	A	36	48	37	34	This section should include reference to the existing global and regional warning and alert systems, like the WHO (Global Health Watch), the PAHO reports, etc. It would be of interest to decision making to inform about developments like the publication of "Methods of assessing human health vulnerability and public health adaptation to climate change", published by WHO (Europe) under the auspices of Health Canada, WMO and UNEP, in 2004 (Osvaldo Canziani, IPCC WG2 Co-chair)	Addressed
13-955	A	36	48			The qualification "preventable" before steps is suggested. (Osvaldo Canziani, IPCC WG2 Co-chair)	Arm
13-956	A	37	0			En el heading sobre constrains, change for Constrains and Limits, and address the issue of lack of insurance schemes (Emilio Sempris, Water Center for the Humid Tropics of Latin American and the Caribbean)	

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
13-957	A	37	3			The reference to Epstein, 2001 here does not appear in the reference list. I assume this reference refers to one of the works by Paul Epstein of the Harvard Medical School. If so, this reference must be checked and carefully considered, as in my experience Paul Epstein is notorious in his public speaking for severely exaggerating the evidence of climate change and its influences on infectious disease. (Kevin Vranes, University of Montana)	Addressed
13-958	A	37	13		34	The planned actions in Brazil could be specified as was done for other countries. For example: the actions to combat dengue in Colombia are similar to those adopt currently in Brazil. Are the planned actions similar in the different regions? (Mercedes Maria da Cunha Bustamante, Departamento de Ecologia, Universidade de Brasília)	Discuss with Chapter 8 CLAs
13-959	A	37	13	37	16	Section 13.5.1.5. Check this with Chapter on Health in WGII. I am sure that something has been already produced. See Confalonieri's references. (Jose Marengo, CPTEC-INPE)	Addressed
13-960	A	37	26	37	27	The sentence "Identify high vulnerable areas … and identify resources needed" has no clear meaning. It needs a verb. (Eduardo Usunoff, Instituto de Hidrología de Llanuras)	Addressed
13-961	A	37	35	37	35	Novel applications are being analyzed to predict and plan dengue outbraks in Mexico, see: Peterson, AT, C. Martinez-Campos, Y. Nakazawa, and E. Martinez-Meyer. 2005. Time-specific ecological niche modeling predicts spatial dynamics of vector insects and human dengue cases. Transactions of the Royal Society of Tropical Medicine and Hygiene 99: 649-655. (Enrique Martínez Meyer, Instituto de Biología, Universidad Nacional Autónoma de México)	Addressed
13-962	A	37	37	38	30	Section 13.5.2: Rich countries in LA can implement othr measures than poor countries. The last three sentences of chapter 13.5.2 can be omitted. (Stephan Glatzel, Dept. Of Geography and Regional Research)	Gm ver
13-963	A	37	37	37	50	Some aspects are valid to several Latin American countries,while other are more specific to one country. This paragraph should be revised taking these particularities into account. The text sometimes addresses some common points to determined country, and generalizes other for all countries. So, this part of the text must me harmonized. (Magda Aparecida Lima, Brazilian Agricultural Research Corporation - Embrapa)	Gm ver
13-964	A	37	37			13.5.2. Constrains.This section could be summarized, since it is quite repeating. (Oralia Oropeza-Orozco, of Geography, National Autonomous University of	Ok

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
						Mexico (UNAM))	
13-965	A	37	37	38	30	The paragraph on the constrain doesn't embrace all the environmental, social and economic sectors analyzed in the chapter and doesn't make an appropriate generalization of the America situation as a whole region (Eduardo Planos Gutiérrez, Institute of Meteorology)	Ver
13-966	A	37	39	37	41	As remarked before, the most critical constraint affecting LA, is the lack of basic biogeophysical information, and the practically non-existent socio-economic information on its communities. There is also a lack of risks and disasters preparedness enabling countries to face and cope with the effects of environmental impacts. The lack of reliable dataextends to deficient information on the environmental, social and economic effects of climatic variations. This constraint does not permit understanding of its real costs and other climate change exactions, including DALY indexes, numbers of people at risk, loss of lives and other costs / issues involved. Therefore this paragraph should be improved for the sake of decision makers and development planning. (Osvaldo Canziani, IPCC WG2 Co-chair)	Ok
13-967	A	37	49	37	49	replace mitigation with adaptation (Emilio Sempris, Water Center for the Humid Tropics of Latin American and the Caribbean)	
13-968	A	37	50			The lack of public investment in infrastructure to face floodings or droughts in poor rural areas and the privatization of education and public health due to economic public policies in the Region, would be a major barrier to decrease climate change impacts (Martha Yvette Munguía de Aguilar, Ministry of Environment and Natural Resources)	Addressed
13-969	A	38	2		30	The main objective of the report is to provide a comprehensive and insightful assessment of the state of knowledge on climate change impacts, adaptation and vulnerability in 2006/7. An important contribuition is to identified what sectors/regions have to invest these aspects. In this section is important to specify where the more serious problems are (line 2 - "Several countries..."). The authors correctly stressed the need of human resources and technical support to work on the themes of the assessment in Latin America. This point should be addressed by national governments and international agencies of development. (Mercedes Maria da Cunha Bustamante, Departamento de Ecologia, Universidade de Brasília)	
13-970	A	38	4	38	5	This sentence could be drafted with a wider objective. The following drafting is suggested:	Addressed

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
						" All LA countries should operate epidemiological surveillance and warning systems for infectious diseases and ill- prone climate change events. These systems should collect and archive multidisciplinary information (type of disease and its causes, disease's symptomatology; number of cases, morbidity and mortality indexes, its geographical distribution and any relevant information). The information should be made available to PAHO for a regional dissemination should each case endemism so recommended. (Osvaldo Canziani, IPCC WG2 Co-chair)	
13-971	A	38	4			and due to public health policies which are focused on curative approaches rather than on preventive massive programmes. (Martha Yvette Munguía de Aguilar, Ministry of Environment and Natural Resources)	Addressed
13-972	A	38	6			and public health policies are not integrated to other socio-economic policies in order to be more effective in addressing climate change impacts. (Martha Yvette Munguía de Aguilar, Ministry of Environment and Natural Resources)	Addressed
13-973	A	38	8	38	9	rephrase sentence (Jos Barlow, University of East Anglia)	Addressed
13-974	A	38	14	38	30	In my opinion one of the main constraints for Latin America countries and their policy makers is lack of awareness regarding climate change effects in their own countries. Therefore since this is not a high priority, there is no political drive to establish a strategy towards adaptation (Suzana Kahn Ribeiro, Federal University of Rio de Janeiro)	Ok
13-975	A	38	14	38	30	This paragraph is confused. The constraints should be presented in other way; there is a mix of constraints in different countries and different sectors. References are missing. (Marta Vinocur, Universidad Nacional de Río Cuarto, Agrometeorología)	Ok
13-976	A	38	14		30	Problems discussed in this paragraph should be cited/referenced, else they come off as being anecdotal. (Kevin Vranes, University of Montana)	Ok
13-977	A	38	16	38	17	rephrase sentence (Jos Barlow, University of East Anglia)	Gn
13-978	A	38	18	38	18	...is the DIFFICULTY... (Tercio Ambrizzi, Institute of Astronomy, Geophysics and Atmospheric Sciences - USP)	Gn
13-979	A	38	28			Current economic policies promoting privatization, deregulation, free trade agreements and public administration reduction, are not strengthening adaptive	Gn

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
						capacity in rural or semi-urban poor population to current or future climate. (Martha Yvette Munguía de Aguilar, Ministry of Environment and Natural Resources)	
13-980	A	39	0	39		The case of study was described partly in 13.2.3.2 (Roberto Kokot, FCEyN (Universidad de Buenos Aires))	Cn. Partially accepted. However, the idea is to highlight the issue of Amazonia being one hot-spot of global environmental change.
13-981	A	39	0	39	0	Case studies: Amazonia. I could not find the reference for projected deforestation by 2020. Please provide it. Also, there are some very important and recent reference to add to the text for this box (Asner et al. 2005. Science 310: 480-82 for logging; Soares-Filho et al. Amazon conservation scenarios, Nature, in press for deforestation scenarios and Alencar et al. 2004. Ecological Applications 142: 139-S149). (Paulo Moutinho, Amazon Institute for Environmental Research (IPAM))	Cn Accepted.
13-982	A	39	2	41		It would be useful to include some additional text to connect the case studies presented (Mercedes Maria da Cunha Bustamante, Departamento de Ecologia, Universidade de Brasília)	Gm. [Graciela, this is for you to consider if you create an introductory text to introduce the two case studies]
13-983	A	39	4	39	4	The title doesn't say much on what the case study is about.The text also can be more concise. (Encinas Carla , IPCC WG2 TSU)	Cn Accepted. The title: "Amazonia: a hot-spot of global environmental change"
13-984	A	39	4			13.6. Case studies.It seems to me the case studies are very accurate. The only remark I would make would be in regards to the title of the first example on page 39, line 4. I think it would be worth it to not only stress the name of the region, but also to establish what it is related to, just as it appears in the second case study. (Oralia Oropeza-Orozco, of Geography, National Autonomous University of Mexico (UNAM))	Cn. Accepted. Title changed.
13-985	A	39	5			The two maps in the figure must be at the same scale and must show the same geographical area (Jefferson Cardia Simões, Instituto de Geociências)	Cn Accepted. [Graciela, I don´t know the source of the figures, but it has to be adjusted. The left-hand panel is slightly shifted to the south in relation to the right-hand panel]
13-986	A	39	21	39	21	perhaps?? (Magda Aparecida Lima, Brazilian Agricultural Research Corporation - Embrapa)	Cn No. It is very clear that to be the case.
13-987	A	39	24			does the 'hotspots' refer to deforestation hotspots, or to the Myers biodiversity analysis (where Amazonia was classified as a wilderness area and not a hotspot).	Cn. Partially accepted. The new title will resolve

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
						(Jos Barlow, University of East Anglia)	that issue. It is a hot spot of global environmental change
13-988	A	39	36		38	This is a counterintuitive result (extra CCN should increase, not decrease rainfall). It should be explained further and cited. (Kevin Vranes, University of Montana)	Cn. Accepted. Reference cited (Andreae et al., 2004 Science)
13-989	A	39	37	40	30	Some structural or inherent constraints for adaptation are not clear enough in this section on financial and technological limitations are fairly mentioned. It's clear that without the proper dissemination and public awareness and also without the issue in the political agenda, adaptation action might be overlooked and ineffective. (Encinas Carla , IPCC WG2 TSU)	Cn (the comment may be misplaced and appears not to refer to this section).
13-990	A	39	41			The forest can only be a net sink of carbon (taking up the excess emitted elsewhere) if the forest is growing. Is this the case? (Kevin Vranes, University of Montana)	Cn. Accepted. According to a number of forest inventory studies (e.g., Malhi et al., 2003) and reviews on carbon cycle (e.g., Ometto et al., 2005) for Amazonia, there is evidence of growth of above-ground biomass.
13-991	A	39	44			"deforestation, selective logging and fragmentation are increasing…" (Jos Barlow, University of East Anglia)	Cn. Accepted.
13-992	A	39	45			"…fires, which can kill 41 - 74% of above ground biomass in once-burned and twice-burned forest in central Brazilian Amazonia (Barlow and Peres 2004)" (Jos Barlow, University of East Anglia)	Cn. Accepted.
13-993	A	39	48	40	1	What about the moisture transport from Amazonia to regions outside the basin?, What is the reference for the two maps shown on this box?., Savannization of Amazonia is generated by one coupled global climate model alone, there should be mention to uncertainities. There are not references on this box, the next box on Altiplano show plenty of references. Either borth or none of the boxes should have references, there have to con sistent with each other.. (Jose Marengo, CPTEC-INPE)	Cn. Accepted.
13-994	A	39	50	39	50	teleconnections?? (Magda Aparecida Lima, Brazilian Agricultural Research Corporation - Embrapa)	Cn. Teleconnections refers to atmospheric perturbations generated in one region and that propagates to distant regions through the atmosphere, affecting the climate of distant regions. This is a concept well-known today in global environmental change.
13-995	A	40	0	40	0	The section 13.7 needs some improvement and inclusion of some more information	

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
						cited on UN Millennium Project and in others joint declarations recently made by governments (for example, the Manaus Declaration: http://www.otca.org.br/en/institucional/index.php?id=1084). See also, http://www.otca.org.br/publicacao/informativo_otca5_eng.pdf). (Paulo Moutinho, Amazon Institute for Environmental Research (IPAM))	
13-996	A	40	9	41	36	Case Study #2 on indigenous adaptation to climate change makes many points. I believe the case study could be much stronger if it made a single point about glaciers and people. The case study develops in a way that departs from the title of the case study ("indigenous adaptation"). Some of the background and history information (p. 40, line 47 to p. 41 line 11) could be streamlined and focused on climate change issues, rather than on historical water management. This section also needs citations from science and social science. Important work on Andean climate change prediction are the articles co-authored by Ben Orlove and John Chiang that examine indigenous people's ability to forecast El Nino events. This could be included. The scientific "paper" cited on p. 40, line 47 is actually a journalist who writes for the Wall Street Journal, not a scientist or a published article. Yet there is relevant scientific literature on glacier retreat and water systems in the Andes. Overall, the impacts of glacier retreat on the Andes are significant, but I think they could be presented more strongly here with a more specific focus and more engagement with existing scholarly/scientific literature. (Mark Carey, University of California, Berkeley)	Considered
13-997	A	40	9	41	33	I am wondering what the point of this case study is. The authors seem to highlight the ingenuity of indigenous populations to live with their changing natural environment, successfully doing so since pre-Columbian history, then the authors call them "highly vulnerable communities" (pg 41, line 11). Are there lessons here for other communities in adaptation? Are the lessons about cutting water routes through mountains? (Kevin Vranes, University of Montana)	Considered
13-998	A	40	10			Chacaltaya Glacier figure needs an geographical scale! (Jefferson Cardia Simões, Instituto de Geociências)	Removed
13-999	A	41	2	41	2	... The mountain range (www???)... (Tercio Ambrizzi, Institute of Astronomy, Geophysics and Atmospheric Sciences - USP)	Ok
13-1000	A	41	3			S 13.7 should be: Conclusions: Implications for sustainable development (Encinas Carla , IPCC WG2 TSU)	
13-1001	A	41	18	41	18	The reference on p. 41, line 18 to 374 Andean glacial lakes should also be clarified considerably because it makes a mis-statement. The original citation mentions that	Oc

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
						in 1997 there were 374 glacial lakes in Peru's Cordillera Blanca mountain range. The significance of that figure is that in 1953 there were only 223 glacial lakes, demonstrating that glacier retreat led to a massive increase in potentially dangerous (for outburst floods) glacial lakes in the Cordillera Blanca only. This section of the case study should be clarified to give the precise information. (Mark Carey, University of California, Berkeley)	
13-1002	A	41	21			If there has been a historical record of avalanches and outburst floods according to Carey, 2004, why is there new worry that avalanches and outburst floods will suddenly become a much bigger problem under climate change scenarios? If this isn't about climate change and the authors are simply stating that avalanches and outburst floods will continue and monitoring should be emplaced, then the authors should state that. But I see no evidence here that climate change is expected to create new avalanche danger. (Kevin Vranes, University of Montana)	
13-1003	A	41	40	43	17	It presents more information not conclusion from the previous sections and/or the literature assessed there. Also opens new issues, not sure to be the right place to develop or whether should go in this chapter. (Encinas Carla , IPCC WG2 TSU)	Todos accepted
13-1004	A	41	40	43	17	Section 13.7: I wonder whether this list of legislative measures and ministries is so important. an "Implications for sustainable development" chapter should say which priorities and actions on the reginal and national level are needed. (Stephan Glatzel, Dept. Of Geography and Regional Research)	Cg
13-1005	A	41	40			On implication for sustainable development: I think that besides re-arranging what is already stated with regard to Sustainable development, it will be necessary to try to discuss to some extent the possible outcomes for sustainable development in terms of climate change, based on past, current and future trends in climatic and non climatic factors. (Monica Beatriz Wehbe, NATIONAL UNIVERSITY OF RIO CUARTO)	Cg
13-1006	A	41	42	41	45	For the sake of space saving the cancellation of this sentence is recommended. It adds nothing to this section aim. The following sentences, until line 14, in page 42, must be amended accordingly. In this regard, since all Latin American countries are non-Annex I Parties of UNFCCC, the only Kyoto mechanism they could use is the CDM (Article 12). However, they may use UNFCCC Article 4: Commitments, particularly items d) and e) of clause 1 and clause 7, 8 and 9 (Osvaldo Canziani, IPCC WG2 Co-chair)	Cg

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
13-1007	A	42	3	42	2	... To regenerate (Carabias, Julia...??????) (Tercio Ambrizzi, Institute of Astronomy, Geophysics and Atmospheric Sciences - USP)	CG Added
13-1008	A	42	12			…have SIGNED the (Julio Garcia, National Environmental Council)	CG Changed
13-1009	A	42	16	43	17	This portion is basically a transcription of international decision which triggered some legislative action in some Latin American countries and brought the creation of governmental bodies, ranging from ministerial level to that of secretaries and departments /ministries. Although the information was available through reliable civil non-governmental institutions and NGO's, these developments were not complemented with effective, dynamic actions aiming at the treatment of environmental issues, climate change included, in a coordinated manner with the governmental, provincial and municipal entities and the non-governmental institutions. It is suggested to redraft section 13.7 introducing the necessary messages to decision making levels. (Osvaldo Canziani, IPCC WG2 Co-chair)	Cg
13-1010	A	42	16		36	These three paragraphs are extraneous and can be cut for space. (Kevin Vranes, University of Montana)	Cg
13-1011	A	42	32			comptroller? (Jos Barlow, University of East Anglia)	Cg
13-1012	A	42	40	42	40	... Implementation plan. THEIR objectives are... (Tercio Ambrizzi, Institute of Astronomy, Geophysics and Atmospheric Sciences - USP)	CG The initiative´s objective are to …., therefore it is correct to say "its" objectives are…
13-1013	A	43	5			S 13.8 should be: Key uncertainties and research priorities (Encinas Carla , IPCC WG2 TSU)	
13-1014	A	43	11	1	17	The authors correctly stressed the unbalanced role of environmental, economic and social aspects in the development of the region (Mercedes Maria da Cunha Bustamante, Departamento de Ecologia, Universidade de Brasília)	Cg
13-1015	A	43	13		17	The point that development is driven by economics and that environmental and social issues have taken a back seat is obviously true, but not worth repeating here since it reads like a political agenda I do not believe the purpose of this report is to berate the dominant paradigm of a globalized economy. Rather the point worth making here is that climate change is an economic issue, and that excluding consideration of its economic impacts from economically-driven decisionmaking leads to unnecessary economic losses.	Cg

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
						(Daniel Zarin, University of Florida)	
13-1016	A	43	20			Section 13.8 Due account is needed of the critical shortcomings observed in respect of basic data, this section should refer to gaps and priorities of this kind. The treatment of key uncertainties as well as the answers for the more frequently asked questions and the degree of confidence of AR4 as a whole and this chapter in particular need to be founded on reliable basic information (Osvaldo Canziani, IPCC WG2 Co-chair)	Ok
13-1017	A	43	20	43	20	This section is incomplete. (Encinas Carla , IPCC WG2 TSU)	Ok
13-1018	A	43	20	43	20	Section 13.8 is missing. (Jose Marengo, CPTEC-INPE)	Ok
13-1019	A	43	22			must include public awareness campaign, adaptation as an objective of development (sustainable), planning process and budget allocation. (Julio Garcia, National Environmental Council)	
13-1020	A	44	0			The Reference list is incomplete, some of the references are not cited in the text and some refrences are duplicated or incorrect. (Marta Vinocur, Universidad Nacional de Río Cuarto, Agrometeorología)	Ok
13-1021	A	44	1			References: Torres, Fidel. Impacto de El Niño sobre los cultivos vegetales y la productividad primaria en la sierra central de Piura, in: El Niño en América Latina, Impactos Biológicos y Sociales. Franco, Eduardo, in: El Niño en el Perú: Viejos y Nuevos Temas. Marticorena, Benjamín, CONAM, Vulnerabilidad frente al cambio climático. Samalvides, Núñez, Marquiño, Cabezas y Carrillo: In Cambio Climático: Evaluación de sus impactos desde la perspectiva de la Salud Pública. CAF, The lessons of El Niño-Perú, 2000 (Lenkiza Angulo Villarreal , Soluciones Prácticas-ITDG)	Ok
13-1022	A	44	3	54	41	Many references are incomplete: some do not show title, or information on the journal, plenty of abstracts from conferences and workshops. Plenty of in formation on web sites (is a web site address a valid reference according to the IPCC TSU?). What about personal communications?, reference to INPE?, references to IPCC TAR?. In some cases there is only the name of the authors and a year and nothing more. Plenty of references to Newspapers. The National Communications are available on line, but I am sure that it is posible to obtain from these web sites in formation such as year, number or pages, authors, publisher, etc instead of a web site address.	

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
						(Jose Marengo, CPTEC-INPE)	
13-1023	A	48	16			Add the following reference: "Hansen, J., S. Marx, E. Weber. 2004 (The authors share equal seniority). The role of climate perecptions, expectations, and forecasts in farmer decision making. The Argentine Pampas and the South Florida. Final Report of an IRI Seed Grant Project. IRI Technical Report 04-01. Palisades, New Yourk. 56 pages and Appendix.. (Marta Vinocur, Universidad Nacional de Río Cuarto, Agrometeorología)	
13-1024	A	50	27	50	28	The reference should be replaced by Santilli, M., P. Moutinho, S. Schwartzman, D. Nepstad, L. Curran & C. Nobre. 2005. Tropical Deforestation and the Kyoto Protocol: an editorial essay. Climatic Change 71: 71:267-276. (Paulo Moutinho, Amazon Institute for Environmental Research (IPAM))	
13-1025	A	50	29	50	32	Delete or replace by P. Moutinho and S. Schwartzman (2005) Tropical Deforestation and Climate Change. Amazon Institute for Environmental Research (IPAM), Belém, PA, Brazil (Paulo Moutinho, Amazon Institute for Environmental Research (IPAM))	
13-1026	A	51	46	51	46	The reference Pinto et al is in wrong alphabetical order position. (Tercio Ambrizzi, Institute of Astronomy, Geophysics and Atmospheric Sciences - USP)	
13-1027	A	52	11	52	29	It is better if in the bibliography, the official UNFCCC site is used to reference the National Communication of Countries, where the original and formal submittions were made (http://unfccc.int/resource/docs/natc) Please verify this link since at this moment I do not have access to the internet. (I hope to be able to find a wireless connection tomorrow here in Caracas) (Emilio Sempris, Water Center for the Humid Tropics of Latin American and the Caribbean)	
13-1028	A	52	31			Add the following references: "Rivarola, A.del V., M.G. Vinocur, y R.A.Seiler. 2002/03. Uso y demanda de información agrometeorológica en el sector agropecuario del centro de Argentina. Revista Argentina de Agrometeorología (RADA), 2 (2): 143-149" (Marta Vinocur, Universidad Nacional de Río Cuarto, Agrometeorología)	
13-1029	A	54	12			Add the follwowing reference: " Vinocur, M. 2005. Adaptation of farmers to climate variability and change in central Argentina: a case study. Abstracts 6th Open Meeting of the Human Dimensions of Global Environmental Change Research Community, 9-13 Octobre, 2005, Bonn, Germany. (Marta Vinocur, Universidad Nacional de Río Cuarto, Agrometeorología)	added
13-1030	A	54	12			Add the following reference: "Vinocur, M.G., R. A. Seiler, and L.O. Mearns. 2000. Predicting maize yield responses to climate variability in Córdoba, Argentina.	added

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
						Abstracts Int. Scient. Meeting on Detection and Modelling of Recent Climate Change and its Effects on a Regional Scale, Tarragona, Spain. 29 – 31, May, 2000. " (Marta Vinocur, Universidad Nacional de Río Cuarto, Agrometeorología)	
13-1031	A	54	12			Add the following reference: "Vinocur, M., A Rivarola and R Seiler. 2004. Use of climate information in agriculture decision making: experience from farmers in central Argentina. Proceedings Second International Conference on Climate Impacts Assessment , SICCIA, Grainau, Germany, June 28 – July 2, 2004. Available in: http://www.cses.washington.edu/cig/outreach /workshopfiles /SICCIA /program .shtml (Marta Vinocur, Universidad Nacional de Río Cuarto, Agrometeorología)	
13-1032	A	54	12			Add the following reference: " VINOCUR, M.G.,R. A. SEILER, y L.O. MEARNS. 2000. Forecasting the impact of climate variability on peanut crop production in Argentina. International Forum on Climate Prediction, Agriculture and Development, Palisades, New York, Estados Unidos de Norteamérica. 26 al 29 de Abril de 2000. Pag.: 189-195. International Research Institute for Climate Prediction (IRI) Publications IRI-CW/00/1". (Marta Vinocur, Universidad Nacional de Río Cuarto, Agrometeorología)	It is too specific
13-1033	A	54	12			Add the following reference: " Vinocur, M., and R. Seiler. 2005. Final Technical Report AIACC Project La 29. Characterization of Current Climate and Scenarios of Future Climate Change.Case Study Area: Central-South of Córdoba-Argentina. In Press. (Marta Vinocur, Universidad Nacional de Río Cuarto, Agrometeorología)	We need a copy