#	Ch	From Page	From Line	To Page	To Line	Comment	Response
1	1	0	0	0	0	It will benefit the discussions of concepts and impacts of disasters and climate change if the document can highlight that disasters and climate change impact the poor the most. The concept has to be explored further given the discussion on 8.7, page 36. (Abarquez, Imelda, Oxfam Hong Kong)	The poor are certainly those who face greatest difficulties with disasters and climate change and in chapter 1 more explicit mention of this will be attempted in the last version. This topic is taken up on in greater detail in other chapters
2	1	0	0	0	0	Chapter 1 is focused on the basic aspects of disaster risk. It considers exposure, vulnerability and resilience in relation with the climate change problem. The common shortcoming of this and the following chapters is a certain lack of geographical balance in examples and comments. Namely, most of the problem descriptions and solutions are given for tropical and subtropical latitudes. The only exception is chapter 4, where, in our opinion, this balance takes place, and a comprehensive description of problems encountered in Arctic, sub-Arctic and the permafrost regions is provided. It is important to achieve this balance in further versions of the Special Report. In particular, the example given in Chapter 1(page 11, box 1-1) should be extended to cover a hypothetical situation typical for sub-Arctic region. For this end one could “construct” a situational story involving a representative of the Arctic Indigenous Community. (RUSSIAN FEDERATION)	We think this may vary from chapter to chapter but will certainly review and balance and attempt to compliment box 1.1 in chapter 1.
3	1	0	0	0	0	While the chapter indicates in the title about Vulnerability and Resilience very little is written and analysed in the manuscript. Two paragraphs are devoted to these terms. I think that two separate sections are needed in this chapter for defining and analysing these two in more detail (GREECE)	This can be explained by the introductory nature of chapter 1. In chapter 2 and 8 much more is offered on these notions to compliment the skeleton defintions provided in chapter 1
4	1	0	0	0	0	UNCERTAINTY: The assessment of uncertainty to specific findings and the use of the IPCC uncertainty language needs to be consistent throughout the text. We previously proposed that Chapter 1 added a Box on IPCC treatment of uncertainties, closely following the IPCC Guidance Note which is currently being revised for AR5. It is surprising to see that this important suggestion has not be acted upon. (Stocker, Thomas, IPCC WGI TSU)	Discussion of the Guidance is not appropriate for chapter 1 and instead should go in the SPM. We have used confidence language in chpater 1 and applied it uniformly throughout, in accord with the Guidance.
5	1	0	0	0	0	DEFINITIONS: Please clarify what will be the standard SREX definition when discussing several diverging definitions for one particular expression. (Stocker, Thomas, IPCC WGI TSU)	More effort has been made to clarify divergent definitions, and the SREX glossary definition have been included word-for-word where appropriate.
6	1	0	0	0	0	CONCEPTUAL FIGURE: A conceptual figure linking changing climate/weather variables, thresholds and impacts is needed in Chapter 1. Such a figure was originally included in Box 3.1 of the Chapter 3 FOD and we had proposed to move this to Chapter 1 instead. Unfortunately this figure has now gone from Chapter 3 but is not included in Chapter 1... We thus suggest to add such a Figure in Chapter 1 for the Final Draft. (Stocker, Thomas, IPCC WGI TSU)	We belie+I9ve Figure 1-1 contains sufficient detail to accommodate this concern. Too much detail would defeat the purpose. Furthermore, no satisfactory figure has been given to us.
7	1	0	0	0	0	Good conceptual framing in terms of laying out the different dimensions of risk and the role climate plays there. However, there is a very strong emphasis on disaster risk reduction, sometimes presented as in contrast to disaster response. In reality, there is a continuum between a range of strategies needed to manage disaster risk (as also acknowledged in the Hyogo Framework that the chapter refers to). This includes addressing underlying causes of risk, but also acknowledging that we will not reduce risk to zero (partly because this takes political will, resources and time, but also fundamentally because efficient risk management does not remove all risk). In that light, there will always be a need for systems to deal with residual risk, including insurance, but also relief, recovery and reconstruction. Particularly relief can be made more effective by investing in better disaster preparedness and early warning -- and one of the questions this report should answer is how climate information can help us do that. In summary: the chapter should be clear that there not an either/or choice between addressing underlying factors or responding to disasters, both are part of one package, and both may require adjustments in light of climate change. (International Federation of Red Cross and Red Crescent Societies (IFRC))	Very valid argument that we have attempted to present more clearly, especially in Section 1.1. and subsections within. The intention was not to establish an either/or situation but we will revise this closely.

#	Ch	From Page	From Line	To Page	To Line	Comment	Response
8	1	0	0	0	0	The need for mitigation has to be stressed in this report somewhere as the most ultimatley effective risk management approach. It is linked to the need for transformation - to a low C economy (Rickards, Lauren Amy, University of Melbourne)	Mitigation now discussed in 1.1.2.2
9	1	0	0	0	0	Bibliography Add : Bourrelier P-H.et Dunglas J. 2009, Des événements naturels extrêmes aux figures de la catastrophe in L'Adaptation au changement climatique p 41 à 47, Responsabilité et Environnement, Annales des Mines, Paris. Dupuy JP 2010 Penser les événements extrêmes in Faire face à l'incertitude, p10 à 15 Responsabilité et Environnement, Annales des Mines, Paris. Zajdenweber D. 2009, Economie des extrêmes, krachs, catastrophes et inégalités, Champs essais, Flammarion, Paris. (BOURRELIER, PAUL-HENRI, AFPCN)	We believe the current citations are sufficient and without a specific location these have been left out of the discussion.
10	1	0	0	0	0	It is useful to have the key concepts and thinking laid out clearly, but this chapter is very academic in places and isn't suitable for the policy audience, for example section 1.1.4.1 (UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND)	We have attempted to change the tone without eliminating substantive argument.
11	1	0	0	0	0	The economic consequences of natural disasters are definitely severe, but they generally do not persist and are absorbed quite quickly. Natural disasters disrupt production, but output is typically postponed rather than lost. Ultimately the capacity of a country to recover from a natural catastrophe relies on the amount of spare capacity (see Horwhich 2000). (UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND)	There are a number of viewpoints on this topic that must be assessed in a balanced way, as in 1.1.2.1.
12	1	0	0	0	0	Whole chapter: several references are made to Kahneman and Tversky's work, but not to the basic theory of Von Neumann and Morgenstern, that may already help to cope with several considerations made in the report, concerning for instance equity concerns. Also, risk aversion does not seem to be mentioned anywhere in this chapter, whereas it is a key issue for individual and collective attitudes towards risk. (FRANCE)	This is an assessment and so focuses on recent literature since AR4, and in a few cases, some older work. We are not a review aiming to reconstruct the intellectual past, as discussed in 1.4
13	1	0	0	0	0	General comment - Disaster is defined repeatedly throughout as exposure to physical hazard only - presumably because they have borrowed the definition/ scope of the HFA which also stears clear of other types of disaster hazard. Conflict is not mentioned at all either as a driver of disaster or a result of disaster but we are seeing and will see greater instance of conflict e.g as a result of water scarcity/ mismanagement (Hillier, Debbie, Oxfam)	Valid point that needs to be made in various parts. Chapter 1 will attempt to accomodate the argument.
14	1	0	0	0	0	This is a strong context setting chapter with generally an appropriate level of detail (though section 1.4 could be more concise). However, there is a need to provide balance that reflects the statement on p. 20 that "Comprehensive approaches …. are often more easily developed conceptually than practically". In places this chapter makes adaptation sound so complex that it could serve as a disincentive for adaptation actions. It would be useful to distinguish between adaptation policy and adaptation action - which can be very simple and of a no-regrets nature. (CANADA)	Point taken. The intention was not to create an image of over complexity but rather to say that things take time to move from concept to practice but that concept is critical in going that way. No-regrets options are highlighted as a means to move forward toward more ambitious adaptation goals.
15	1	0	0	0	0	I would like to congratulate the authors for their excellent work in improving chapter 1 of the report. The revised chapter 1 has provided a clear picture on the distinct motivations, concerns and objectives between two community approaches by Disaster Risk Management and Climate Change Adaptation (and sub-communities within them) on dealing with climate-related extremes and risk management. It provides a consensual baseline on the framework on Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation. (Li, Yun, CSIRO Mathematics, Informatics and Statistics)	Noted.
16	1	0	0	0	0	Presentation of risk sharing and transfer as part of integrated risk management, and insurance solutions as main practical response to ex ante risk transfer is relevant to this § (Current framework…), but develpments are too focused on insurance in § 1.4.3. "Barriers to successful adaptation", especially as nothing is retained in the executive summary of this chapter. (NUSSBAUM, Roland, Mission Risques Naturels)	These are highlighted in the Executive Summary, 1.1, 1.3, and 1.4.
17	1	0	0	0	0	The chapter correctly emphasizes the need to invest more in risk reduction. However, in some places it suggests a dichotomoy between risk reduction and response to disasters. This incorrectly suggests that disaster risk could efficiently be reduced to zero. There will always remain a role for response, as well as for emergency preparedness. One of the questions this report should answer is how these need to be adjusted in light of a changing climate. (NETHERLANDS)	Point well taken and is responded to in comment #7.
18	1	0	0	0	0	Structure can be improved, especially in Section 1.3, where items not related to risk analysis (e.g. 1.3.2.2 communication) are included. (NETHERLANDS)	We have revised 1.3's structure, but it must address important issues, such as communiication, relating to Risk reduction/transfer/management.

#	Ch	From Page	From Line	To Page	To Line	Comment	Response
19	1	0	0	0	0	Broader identification of frames for analysis and approaches is needed; there is now a narrow focus on traditional risk analysis (e.g. vulnerability rather than risk concept). Other concepts are now overlooked. (NETHERLANDS)	We have substanially revised section 1.3 to accommodate this concern.
20	1	0	0	0	0	This Chapter is a far easier read than the Summary for Policymakers. The final section, which provides a roadmap, might be more organically intergrated with the rest of the chapter, to help provide a true roadmap to the report (which the SPM does not provide). Key concepts and terms need to be defined, with references, up front and used consistently throughout the report. (UNITED STATES OF AMERICA)	The "roadmap" has been moved to section 1.1.
21	1	0	0	0	0	The report itself should clearly state that it will exclusively focus on events and disasters that are related to climate change. (UNITED STATES OF AMERICA)	Although this is an important consideration, given the inability to decisively assign events to climate change as opposed to natural variability this is almost impossible to do. We do focus on hydro meteorological aspects but also recognising that DRM for these means considering geological events in the same zones as well.
22	1	0	0	0	0	Provides much of the definitional material for an overall framework but needs a better graphic representation and the terminology and relationships among the elements need to be carried forward into some if not all of the following chapters, especially Chapters 8 &9. There is great stuff here, just needs to be woven together across chapters a little better. (UNITED STATES OF AMERICA)	We have attempted to continue to coordinate cross-chapter connections in the drafting of the FGD.
23	1	0	0	0	0	Needs to lay out an "integration path" from adaptation (change management goals) through multi-hazard (stressor) risk management through extreme impact (disaster risk management) to sustainable development. If the readers knew such a path for integration was being pursued, they would find it easier to sort through the confluence of terms and concepts. (UNITED STATES OF AMERICA)	Noted and have attempted to put this path up front prior to developing concepts, in 1.1.
24	1	0	0	0	0	There should be some mention of how adaptation may mean actually changing goals in sustainable development in response to overwhelming influences of a changing climate. An overarching premise of risk management is that we can manage the risks act as a barriers to a set of development goals, but less attention is given to the decisions of choosing completely different pathways to development to take advantage of system transitions. That seems to be where sustainability (with a connotation of stationarity) and adaptation (with a connotation of constant change) can set the conceptual stage for some hard but very important choices. (UNITED STATES OF AMERICA)	Very relevant and taken up in chapter 8. Here in chapter 1, we introduce the notion of transformation and development choices in 1.1.3.
25	1	0	0	0	0	The report itself should clearly state that it will exclusively focus on events and disasters that are related to climate change. (UNITED STATES OF AMERICA)	See comment #21
26	1	0	0	0	0	Add (Ch8, P4, Lines 40-43): Disaster risk reduction considers hazards other than those that are climate-related, such as earthquakes and volcanoes, while climate change adaptation considers vulnerabilities related to phenomena that would not normally be classified as discrete disasters, such as gradual changes in precipitation, temperature, or sea level. (UNITED STATES OF AMERICA)	Added in spirit, if not exact words, in section 1.3.3.
27	1	0	0	0	0	Add (Ch 8, P 4, Line 46-48): Disaster risk reduction is increasingly seen as one of the “frontlines” of adaptation, and perhaps one of the most (UNITED STATES OF AMERICA)	Added in spirit, if not exact words, in section 1.3.3.
28	1	0	0	0	0	Consider adding point from Ch8, P 5, Lines 12-13: Because disaster risk reduction is based on risk assessments that will be affected by climate change, it can no longer be carried out without taking adaptation in account (Milly et al., 2008). (UNITED STATES OF AMERICA)	Added in spirit, if not exact words, in section 1.3.3.
29	1	0	0	0	0	Definitions of adaptation and adaptive capacity in Ch 8, P 5, lines 17-33 are more accessible than the ones used in Chapter 1. Suggest using these definitions in Ch 1 (UNITED STATES OF AMERICA)	We now use the accepted definition in the SREX glossary; Ch 8 is the appropriate lace for the development of these skeleton definitions.
30	1	0	0	0	0	Wow, a much better, less-jargony Chapter 1 - congrats to the CLAs! (Prather, Michael, University of California, Irvine)	Noted.

#	Ch	From Page	From Line	To Page	To Line	Comment	Response
31	1	0	0	0	0	My comments only emphasize major issues. These are: - The chapter should further underline the impact of disasters on intangible resources which make up livelihoods, including issues of access and entitlement. - Is the section on “Asymmetric reactions to gains and losses useful?” - The scope of the section on culture should be expanded beyond risk perception to include issues, again, of differentiated access to means of protection and livelihoods. - This chapter should draw further on pioneer references in the DRR literature to show that the present adaptation paradigm actually reflects the hazard-adjustment paradigm which emerged in the 1930s. - It would make greater sense to move the section on coping and adaptation (1.4) towards the beginning of the chapter along with other definitions. (Gaillard, JC, The University of Auckland)	All issues noted and addressed, except for the structural change, where we are constrained by the approved chapter outline.
32	1	0	0	0	0	overall, I find this a very well written and useful overview and introduction to the report. Only the executive summary does not effectively collate the key points discussed in the main text. It would be informative for the (quick) reader to her about DRR/DRM and how it has evolved, also in relation to adaptation. The refocussing from ex post to ex ante is entirely missing. Then, more information on coping, adaptation and maladaptation would be insightful. (Mechler, Reinhard, INTERNATIONAL INSTITUTE FOR APPLIED SYSTEMS ANALYSIS)	ES rewritten ; The curent version has taken this into account and now both history and emphasis are there.
33	1	0	0	0	0	Citations to other chapters should give specific chapter sections, instead of just chapter numbers. (IPCC WGII TSU)	Noted and changed throughout chapter.
34	1	0	0	0	0	In the chapter, it is not always clear if "disaster risk reduction" and "disaster risk management" are being used as distinct, synonymous, or somewhat overlapping terms. The reader may be confused, especially in the Executive Summary and in Section 1.1.1, prior to presentation of the definitions for DRR and DRM in Section 1.1.2.1. (IPCC WGII TSU)	Point made by various persons and will be given close consideration.
35	1	0	0	0	0	The term "physical event," used commonly in this chapter as well as in the glossary, could be seen as conflating two terms that are distinct in other chapters: extreme (weather and climate) events and physical impacts. Since physical impacts are a subset of extreme events, it may be clearest to use, as the most general term in this chapter, "extreme events," instead of "physical events." (IPCC WGII TSU)	We have attempted to resolve this somewhat messy distinction in sections 1.1.2.1 and 1.2.2.1 in coordination with chapter 3 CLA's.
36	1	0	0	0	0	Overlap with Chapter 2. The definitional discussion of vulnerability in Chapter 2 (primarily Sections 2.2 and 2.3) overlaps with discussion in Chapter 1. Redundancies should be considered and reduced where appropriate. (IPCC WGII TSU)	We have coordinated to reduce and hopefully avoid duplication and repetition.
37	1	0	0	0	0	Use of "threshold" and related terms. In this and other chapters, a number of related terms are used, sometimes synonymously and sometimes differently: climate threshold (which also appears in the glossary), absolute (possibly impact-related) threshold, statistical/probability-based threshold, vulnerability/social (impact-related) threshold, tipping point, critical threshold, critical transition, regime shift. These terms are used to define extreme events or impacts or to characterize non-linear, abrupt, and/or possibly irreversible changes. Where these terms are used, the author team should ensure that the usage is not ambiguous and that it is consistent across chapters. (IPCC WGII TSU)	Noted and acted on to extent possible
38	1	0	0	0	0	The title includes resilience, but that topic is not particularly well covered. (IPCC WGII TSU)	Here we have attempted to maintain skeleton introductory level and not get into too much detail; however, more effort has been made in conjunction with Chapter 8 authors to improve and expand discussion of
39	1	0	0	0	0	The IPCC does not define climate change as being only attributed to anthropogenic activities; the UNFCCC does. The AR4 definition, used in the SREX, specifies that climate change refers to anthropogenic and natural forcings. Please ensure the correct definition is used throughout the chapter. (IPCC WGII TSU)	Climate change is now defined at the beginning of 1.1 and followed throughout text.
40	1	0	0	0	0	There are a number of misspellings and poor sentence structure that a thorough read would fix. (IPCC WGII TSU)	Noted and have attempted to correct.
41	1	1	1	44	5	1. it is proposed in te whole text the paragraph be justified and the line spacing changes into 1.5 instead of 1. (Sehat kashani, Saviz, Atmospheric Sciences and Meteorological Research Center)	We follow IPCC TSU style guidelines.
42	1	1	26	0	0	"Extreme events are" should be change to "An extreme event is" (Simiu, Emil, National Institute of Standards and Technology)	Text removed.
43	1	1	31	1	31	Although it is idscussed below, it would be useful to highlight straight up for policy makers that extreme impacts can result from events that do not seem climatically extreme because of the combination of factors (Rickards, Lauren Amy, University of Melbourne)	See first bullet in Exec Summary and related text cited there.

#	Ch	From Page	From Line	To Page	To Line	Comment	Response
44	1	1	38	1	40	it is worth pointing out that here that exposure to different extremes can be inter-related, and that actual exposure does not last simply for the duration of an extreme 'event' can last far longer than superficial assessments would suggest (eg once flood water recedes, there are problems of water logged soil to contend with; once a drought breaks meteorologically, the hyrological effects can take far longer to be realised, etc) (Rickards, Lauren Amy, University of Melbourne)	See first bullet in Exec Summary
45	1	2	0	0	0	Need to include in the exec summary of the conclusion that climate change is very likely to increase some climate related disaster risks and that new, improved, and strengthened disaster risk reduction processes will be required much earlier in chapter. (UNITED STATES OF AMERICA)	Done.
46	1	2	0	2	0	I miss a discussion on what DRR or DRM is. I think a discussion would come in handy starting with line 47 and before the discussion on risk assessment. Also, in the main text DRR is considered the overarching framework, here it does not appear at all, and DRM is the master term. (Mechler, Reinhard, INTERNATIONAL INSTITUTE FOR APPLIED SYSTEMS ANALYSIS)	See comment #7 for differentiating DRM and DRR, we do not use the ES to define these terms as it is more appropriate for the text, although we have attempted to put them in context. Both DRM and DRR along with DM are now clearly distinguished and hierarchized in the main text.
47	1	2	1	33	15	Here I indicate two concerns and make proposals. Concern 1: The structure of this chapter makes it exceedingly hard to follow,especially in the middle. It does not flow. Rather, it jumps around in a disjointed fashion from definitions (1.1.2) to framing (1.1.4) toconclusions (1.1.5) and then back to more definitions (1.2.2) etc. Things that should logically be linked such as section 1.1.3 and section 1.3.3 are not. This also detracts from readability. Unless these issues are addressed you will lose the impact and the chapter will not be fully policy-relevant. Proposal 1: a) dump all of the basic references in 1.1.2 into a glossary b) then have the current section where it is then c) have section 1.3 - 1.3.2.3.3 c) THEN have a merged section that deals with all major climate change and disaster risk management topics in the chapter, including the links and challenges, then pick up and finish from current 1.4. Section 1.5 does not belong at the end of the chapter but rather at the beginning. Concern 2: the executive summary is thin and does not tell a story. For example, page 2 lines 24-28 is only a general comment on what comprises a disaster and there is no value to putting this front and center. Proposal 2: first, come up with an overall 'storyline' built around the things that are most important to convey as has been done in chapter 6. For example: note that there are new hazard trends which will lead to a DRR / CCA deficit; that there is an evolving internationa, national and local context to address this, but key challenges remain, for example, the emphasis placed on response, key knowledge and knowledge sharing gaps; and that governments and others have a critical role in addressing these challenges. Use key points from the chapters to buttress this. (Brooke, Roy, United Nations)	Subject to constraints, we have attempted to take these recommendations into account in reorganizing the chapter.
48	1	2	8	2	10	Besides the possible concurrence of two or more extreme events, it is important to note the influence of more chronic and/or non-climatic pressures (Rickards, Lauren Amy, University of Melbourne)	Noted in various places in the Exec Summary and the entire chapter.
49	1	2	18	2	20	The stated goal "of providing guidance for advancing climate change adaptation" fails to capture the broader relevance of the report to a range of communities, most particularly disaster risk management. It does not align well with statement of section 1.3.5 that states "a principal goal .... is to capitalize on the potential synergies between the fields of DRR and CAA". (CANADA)	We have attempted to align the goals of the document, the Executive Summary, and Chapter 1.

#	Ch	From Page	From Line	To Page	To Line	Comment	Response
50	1	2	18	2	22	This following comment mainly focuses on page 2, line 18 to 22, but in fact it is valuable for all 9 chapters of the report. Please try it as an overall comment: This report goes beyond an assessment that examines challenges of extreme events and disasters. The report tries to gives the impressionon that anthropogenic climate change will lead to changes in magnitudes and frequencies of all climate extremes. This may be the case, but it might also not be the case. Particularly here the report is not always scientifically correct, as it somehow tries to give the impression that there was an overall, scientifically proveable, anthropogenic impact on climate extremes (physical events). The reprot should be revised under this aspect and it should be taken care of that only scientifically proveable facts are reported as those. The report quite frequently uses the term "expected changes". This expectation is probably based on the Clausius Clapyron equation, it is thus a hypothesis, in most regions and for the largest part of the globe. Since the few observed changes on some extreme events are based on only few areas, the term "expected changes" should thus be exchanged with the term "potential changes". Further, the report is extremely long and full of lengthy definitions. The report is extremely difficult to read and will thus, with a very high level of confidence, not be read by any decision maker or planner, I personally know and work with, that aims at reducing disaster risk. Probably planners should not be the first addresees of the report, but it is also lengthy and challenging for scientists that work with planners to read through this document. It should be considered to shorten the report (all 9 chapters) and try to ensure overall readability. What are the real scientific advances and understandings on climate extreme events since the last IPPC report? Where and how high are the remaining uncertainties of an overall impact of (anthropogenic) climate change on natural extreme events? What are the overall changes in human vulnerabilities (this is addressed well in chapter 4 but somehow lacking from chapter 1). What are overall scientific (and applied science) advances in managing disaster risks? The valuable and important, but lengthy, definitions can, e.g. be moved to respective annexes. (Schmidt-Thome, Philipp, Geological Survey of Finland)	Thank you for these suggestions, many of which are relevant to Chapters 3 and 4 as well. Chapter 3, in particular, has taken great care not to imply a proven anthropogenic effect on climate extremes, unless there exist multiple lines of evidence to that effect. Chapter 3 is careful with language, using terms such as "projected" change, and laying out all the uncertainties. Additionally, this report will have a SPM that will allow readers to decide which parts of the main report they need to read to gather extra information.
51	1	2	18	3	26	Highlight more of the policy relevant statements such as:i) there has been a shift over the past years and an evolution in the understanding of DRM. This creates challenges and opportunities; ii) there is evidence to support the need for a holistic framework for managing/linking DRR/CCA (as noted on p24 of ch1); there is evidence to support the value of a range of no-regrets policies (Brooke, Roy, United Nations)	We believe these points are now highlighted in the Executive Summary.
52	1	2	19	2	20	(1) the SREX is not focusing on the context of "anthropogenic climate change", it also has to cover the natural variability and natural climate change components. (2) IPCC reports ought to be providing the best possible assessment of the science but not to "provide guidance". The results of the assessment will hopefully inform policymakers, without being policy prescriptive. (Stocker, Thomas, IPCC WGI TSU)	Noted and corrected.
53	1	2	24	2	24	Delete first word (Anthropogenic). (GERMANY)	Text removed.
54	1	2	24	2	25	Don't consider Sea level to be a climate or weather 'characteristic'. Sea level could be removed from this list, leaving the core elements of Temp, precip and wind. (Stocker, Thomas, IPCC WGI TSU)	Text removed.
55	1	2	24	2	26	This sentence gives the impression that chapter 3 would prove that anthropogenic climate change shifts temporal averages, frequency, magnitude and character of extreme physical events. This is not the case. Fact is that some characteristics of some extreme events have changed to a certain extent, in some areas. The level of confidence of an anthropogenic impact to these, very few, traceable changes is, depending on the physical event, somewhere between unlikely (or non-existent in the case of floods) and very likely (in the case of warmer winter and summer temperatures). But an overall scientific proof of an anthropogenic climate change impact on all physical events does not exist (see chapter 3). Please correct accordingly (Schmidt-Thome, Philipp, Geological Survey of Finland)	Text removed.
56	1	2	24	2	26	Such statements are prejudging the assessment provided in other Chapter of SREX. Chapter 1 can not use those assessment from Chapters 2, 3, or 4 (or others) in its Executive Summary. It's Chapter 1, not the Summary for Policymakers. (Stocker, Thomas, IPCC WGI TSU)	Text removed.
57	1	2	24	2	26	The value of differentiating between climate change broadly (as defined by IPCC) and anthropogenic climate change (or climate change as defined in UNFCCC) is unclear and potentially confusing, because most of the report uses climate change in the broader sense. (CANADA)	Text removed, and recommendation followed in rest of chapter.
58	1	2	24	2	26	This statement appears very similar to the sentence on p. 3, lines 35-37, which is assigned a likelihood. Would it be desirable to also assign uncertainty language for this sentence in the executive summary? (IPCC WGII TSU)	Text removed.
59	1	2	24	2	28	What does this paragraph add? Should be more robust and draw on findings in other parts of the report. (UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND)	Text removed.

#	Ch	From Page	From Line	To Page	To Line	Comment	Response
60	1	2	24	2	28	The phrase "extreme physical events" conflates, a bit, two other terms: "extreme (weather and climate) events" and "physical impacts." Here to avoid ambiguity, it seems better to use "extreme weather and climate events" and then the shortened phrase "extreme events" in the rest of the paragraph. (IPCC WGII TSU)	Noted, see also comment #35.
61	1	2	28	2	28	Enhance' should be replaced with 'that can cause extreme events'. (Stocker, Thomas, IPCC WGI TSU)	Text removed.
62	1	2	28	2	28	What is meant by the verb "enhance" is not totally clear in the phrase "enhance extreme events.". It might be better to expand more fully on what types of changes in extreme events might be triggered by crossing of thresholds. (IPCC WGII TSU)	Text removed.
63	1	2	32	2	33	This sentence should be rewritten, so that understanding is easier; the message of the sentence is that the impacts of an extreme event not only depend on the strength of the event itself, but there are rather additional factors (which are mentioned afterwards) (GERMANY)	Text removed.
64	1	2	33	2	33	What are "lesser physical events"? (Stocker, Thomas, IPCC WGI TSU)	Text removed.
65	1	2	33	2	33	write "Disasters" instead of "Disaster" (GERMANY)	Text removed.
66	1	2	33	2	33	How are "lesser physical events" different from "non-extreme (weather and climate) events"? If they are not distinct, it would be better to use "non-extreme events." (IPCC WGII TSU)	Noted and Done.
67	1	2	35	2	37	What is meant by "relative importance"? Importance compared to what? Importance in determining whether or not a disaster occurs? Also, what are the "characteristics" being referred to? It is unclear, as a result, what uncertainty is being referred to. (IPCC WGII TSU)	Text removed.
68	1	2	39	2	40	While it is essential to stress the important role of social processes, the statement that "Climate change adaptation cannot be effectively pursued without understanding the diverse ways in which social processes contribute …" could be overwhelming to some decision makers and serve as a disincentive for local action, where simple actions can be important and effective (as noted in section 1.4.3.3). Perhaps rephrase along lines of "Effective adaptation policy requires an understanding of the many ways that social processes contribute to ...." (CANADA)	Point taken and incorporated with slightly different wording. This is a valid point which points more to the way the idea is expressed than the idea itself. We are agreed that all effort shall be made to make the forms of expression useful and easily understandable for decision makers
69	1	2	39	2	45	"Climate change adaptation cannot be effectively pursued without understanding the diverse ways in which social processes contribute to the construction and reduction of disaster risk." This phrasing suggests adaptation is a stand alone activity, rather than action integrated into ongoing DRM effors. Suggested changes: "Integrating climate change adaptation into DRM cannot be effectively pursued without understanding the diverse ways..." (UNITED STATES OF AMERICA)	Text changed and believe the integration aspect is incorporated into revisions.
70	1	2	41	0	0	"vulnerability" is used here without clear definition, whereas all the other terms up to now have been very carefully introduced and spelled out. (Prather, Michael, University of California, Irvine)	Vulnerability is now clearly defined 1.1.2.1 and given futher time and space in what is an introductory statement with skeleton definition.
71	1	2	41	0	0	I now see that "vulnerability" is defined well in p6/l21, but some hint would be good in the ES (Prather, Michael, University of California, Irvine)	Noted
72	1	2	41	2	41	"can" seems weak given the ensuing discussion and whole focus of the chapter (Mechler, Reinhard, INTERNATIONAL INSTITUTE FOR APPLIED SYSTEMS ANALYSIS)	Text changed.
73	1	2	43	2	43	What is meant by poverty being associated with "increases" in vulnerability? Does the author team mean that poverty is associated with higher vulnerability or that onset of (or increase in) poverty increases vulnerability? (IPCC WGII TSU)	Text removed.
74	1	2	43	2	44	the term "complicate" is used in two successive sentences; replace it in one sentence (GERMANY)	Text removed.
75	1	2	44	2	45	Data problems would fit better further below, here it diverts attention from the key points (Mechler, Reinhard, INTERNATIONAL INSTITUTE FOR APPLIED SYSTEMS ANALYSIS)	Text removed.
76	1	2	47	2	47	What is meant with "transfer"? (GERMANY)	Discussed later in text.
77	1	2	47	2	49	Rather than "Risk assessment is a starting point for climate change adaptation and disaster risk reduction and transfer," perhaps it should read "Risk assessment is a starting point for integrating climate change adaptation into disaster risk reduction and transfer." (UNITED STATES OF AMERICA)	Point taken, and text revised slightly, if not exactly.
78	1	2	49	2	50	What is meant by "more labour intensive"? It seems that formalized and sophisticated probabilistic risk analysis would also be labor intensive although in a different way. (IPCC WGII TSU)	Text removed.

#	Ch	From Page	From Line	To Page	To Line	Comment	Response
79	1	2	50	2	50	What are "labour intensive, qualitative schemes" (Mechler, Reinhard, INTERNATIONAL INSTITUTE FOR APPLIED SYSTEMS ANALYSIS)	Text removed.
80	1	3	2	3	23	These statements appear to be statements of fact that are based on some level of evidence and degree of agreement, which may vary across statements depending on the underlying state of knowledge. We are therefore wondering if it would be more informative for the reader to characterize the author team's degree of certainty in the bold sentences here using either evidence and agreement summary terms or levels of confidence. Use of calibrated language could enable the reader to understand more fully and compare more systematically the state of knowledge across statements. (IPCC WGII TSU)	We have attempted to do this where possible in the FGD.
81	1	3	3	3	6	It seems somewhat circular that "climate change adaptation" can help avoid "barriers which may undermine planned adaptation." (IPCC WGII TSU)	Changed and we believe it is straighter
82	1	3	15	3	16	meaning of "in the context of … shifts" is not clear, especially what is implied by the word "shifts" (Jeggle, Terry, University of Pittsburgh)	Text removed
83	1	3	20	3	20	"synergic" or "synergistic"? (Stocker, Thomas, IPCC WGI TSU)	Text removed
84	1	3	20	3	26	The first sentence is trivial and should not be printed in bold, rather the second sentence, which contains a conclusion and finding for potential action. (GERMANY)	Text changed.
85	1	3	21	3	25	"in some countries", "in several countries" -- these statements are extremely vague and because being very unspecific, don't add much to an Executive Summary. Need to be more specific. (Stocker, Thomas, IPCC WGI TSU)	Text changed.
86	1	3	31	0	0	State the intended audience. Is it the disaster risk management community as suggested at 1.4.17? (Wright, Richard, American Society of Civil Engineers)	More than the DRM community certainly. See the explicit addressing of the audience in
87	1	3	31	0	0	The entire introduction is focussed on Anthropogenic Climate Change. In contrast, the SPM explicitly highlights in setting the context, that many extreme events are the result of natural climate variability and that irrespective of human influences on future climate, a wide range of extreme events will still occur. This needs to be made clear here in the introduction of Chapter 1. (Stocker, Thomas, IPCC WGI TSU)	See comment #39.
88	1	3	31	0	0	Section 1.1.1: There is no need for assessed projections coming from Chapter 3 to be given here within a section that is meant to be giving the 'purpose and scope' of the report. The assessed projections coming from Chapter 3 are a key component of this report, and not there simply to provide purpose and scope for the rest of the report! These projections are given out of context and must be removed. A much more appropriate introductory paragraph here would be similar to what is given on lines 1 - 12 (Page 2) of the SPM. We also consider that within this introduction a simple figure such as what was originally in Box 3.1 of the Chapter 3 FOD (and we thought was to now appear in Chapter 1), linking changing climate/weather variables, thresholds and impacts would be crucial to frame the entire report. (Stocker, Thomas, IPCC WGI TSU)	Projections have been removed.
89	1	3	31	3	31	The report should more appropriately be called a "Special Report." (IPCC WGII TSU)	Done
90	1	3	33	3	35	Suggest being more careful with wording - emissions scenarios don't imply policies for mitigation. (UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND)	The statement is not meant to imply implication. Now revised.
91	1	3	33	3	47	In this paragraph, it may be unclear to the reader which sentences (with calibrated uncertainty language) originate from Chapter 3 and which sentences are products of this chapter's assessment. Distinguishing or labeling these sentences more clearly would be helpful. (IPCC WGII TSU)	Noted and this text has been removed. See Chapter 3 for more detail.
92	1	3	35	3	37	This statement is wrong. It is only virtually certain that climate change will affect mean values of climate variables (e.g. temperature). There is no overall proof, and no likeliness at all that anthropogenic climate change has, or will, lead to an overall alteration in the magnitude, frequency and variability of climate extremes. Please correct accordingly (Schmidt-Thome, Philipp, Geological Survey of Finland)	See comment #91.
93	1	3	35	3	37	This is the sort of general, introductory, context-setting statement that is appropriate here in the introduction of Chapter 1. It is however misleading though, as this statement and the probability statement of (virtually certain) did not come from Chapter 3. Given this statement is so general, it could be given as a fact, and the 'virtually certain' could be removed. The reader can then be referred to Chapter 3 for more detail. (Stocker, Thomas, IPCC WGI TSU)	See comment #91.

#	Ch	From Page	From Line	To Page	To Line	Comment	Response
94	1	3	35	3	47	"While specific outcomes of climate change are uncertain, it is virtually certain that the frequency, intensity, and variability of extreme and non-extreme climate events, in addition to the mean values of climate variables, will be altered...(continues with specific probabilities on heat waves, heavy precipitation, and "an increase in some climate-related disaster risks, and in the number, size and spatial extent of disasters related to these specific extremes."). This conclusion could to be added to the executive summary. (UNITED STATES OF AMERICA)	See comment #91.
95	1	3	37	3	37	"Very likely" is not italicized as should be the case for calibrated uncertainty language. (IPCC WGII TSU)	See comment #91.
96	1	3	37	3	39	It is unclear how this sentence is distinct from the previous sentence and therefore why there is a difference in the assigned uncertainty language. Does this sentence focus only on the extremes that contribute (not "can contribute") to disasters? (IPCC WGII TSU)	See comment #91.
97	1	3	37	3	47	The high likeliness that is here referred to is true for only some extreme events in very few areas (chapter 3). Unfortunately this high uncertainty is only somehow expressed in this section. Unfortunately this section tries to give the impression as if there was an overall, globally applicable, high likeliness of such changes. Please correct this. (Schmidt-Thome, Philipp, Geological Survey of Finland)	See comment #91.
98	1	3	38	3	41	I have a reservation about statements “It is in particular very likely that the length, frequency and/or intensity of heatwaves will continue to increase over most land areas, and likely that the frequency of heavy precipitation (or proportion of total rainfall from heavy falls) will increase over many areas”. It is known that in some parts of the world such as Southwest Western Australia, both the frequency of heavy precipitation and proportion of total rainfall from heavy falls have been decreased since around mid 1960s (e.g., Li et al. 2005). The spatial variability of these statements should be taken into account. Reference: Li, Y., W. Cai, and E. P. Campbell, 2005: Statistical modeling of extreme rainfall in southwest Western Australia. Journal of Climate, 18, 852-863. (Li, Yun, CSIRO Mathematics, Informatics and Statistics)	See comment #91.
99	1	3	39	3	47	For all statements refering to chapter 3 material, it may be useful to provide the exact section they are taken from for better traceability. (Seneviratne, Sonia, ETH Zurich)	See comment #91.
100	1	3	40	3	40	"A,B and/or C will increase" strictly reads as either each of A,B and C will increase, or only one of them (A,B or C) will increase. Is this what the sentence is intended to convey? (Global Climate Observing System Steering Committee)	Text removed.
101	1	3	42	0	0	risk .. Remove one . (Vasseur, Liette, Brock University)	Text removed.
102	1	3	43	3	47	There is no mention here of significant climate changes already observed in sea level rise and sea ice summer extent (International Petroleum Industry Environmental Conservation Association (IPIECA))	Text removed.
103	1	3	45	3	45	delete "." (Li, Yun, CSIRO Mathematics, Informatics and Statistics)	Text removed.
104	1	3	46	3	46	If the intended audience goes beyond the scientists, it'd be helpful to offer examples of hydrological and meteorological related disaster risk to clarify these concepts for non-scientists. (UNITED STATES OF AMERICA)	Text removed.
105	1	3	49	3	49	Delete "will undoubtedly be required" -- this is prescriptive and no basis for this statement is provided. If this is the result of the entire SREX assessment, then something similar, not prescriptive, might be included in the SPM. (Stocker, Thomas, IPCC WGI TSU)	Text removed.
106	1	3	49	3	51	Would be helpful to explain why disaster risk reduction efforts haven't been successful. (UNITED STATES OF AMERICA)	Point taken and this is taken up on succinctly in later sections
107	1	3	50	3	50	: “this is all the more important” is proposed to change into “this is all the most important”. (Sehat kashani, Saviz, Atmospheric Sciences and Meteorological Research Center)	Text not present
108	1	4	0	4	0	Section 1.1.2.1: define "climate event", "extreme climate event" (GERMANY)	Done; the distinction between weather and climate is elaborated on in Chapter 3.
109	1	4	3	4	3	Delete "stress the need to move forward" -- it's not appropriate to use UNISDRs reports to conclude any actions as part of the IPCC SREX. Such statements would need to be based on the entire SREX assessment and could, if appropriate, be included in the Summary for Policymakers, but not in the Introduction to the report. (Stocker, Thomas, IPCC WGI TSU)	Text removed.

#	Ch	From Page	From Line	To Page	To Line	Comment	Response
110	1	4	6	4	10	Rewrite of line 6 pp language in order to clarify purpose and scope of the chapter and the report and the need to integrate the salient components of Adaptation into DRR (and vice versa). Rewrite includes change in anthropogenic climate change to "climate variability and change".....This report presents an assessment of: 1) climate change and its effects on extreme events, disaster and disaster risk and disaster risk management, 2) why and how human responses to extreme events and disasters (based on historical experience and evolution in practice) could be integrated more closely with and contribute to climate change adaptation objectives and processes, and 3) why and how climate change adaptation could be integrated into planning for disaster risk reduction and management. The report draws on current knowledge of the science and its applications to address one general and three specific challenges associated with climate variability and change and their effects on extreme events, disaster and disaster risk, disaster risk. The three specific challenges are: (UNITED STATES OF AMERICA)	Noted and acted on.
111	1	4	12	4	12	One purpose of the report is the integration of experience learned in disaster risk management with climate change adaptation to increase the capacity of countries to avoid, prepare for, respond to, and recover from extreme events. (IPCC WGII TSU)	This is another way of saying point (1) in existing text
112	1	4	12	4	33	This seems like a good place to mention that we are also interested in the long-term implications of DRR and CCA and how the synergies can be used to promote a sustainable and resilient future. Right now, Chapter 8 is embedded with chapters 5, 6 and 7. Perhaps adding "resilience and sustainability" to the end of challenge #3: , and inserting a sentence such as "Chapter 8 assesses the implications of climate change extremes for development, and considers the implications of disaster risk reduction and climate change adaptation for long-term resilience and sustainability" on line 31, before "Finally". (OBrien, Karen, Department of Sociology and Human Geography)	TAKEN UP ON AS AN IDEA AND INCORPORATED IN TEXT
113	1	4	18	4	18	In the sentence “To assess the implications of such revisions in the field of disaster risk management for climate change adaptation”, it is not clear what “revisions” are (Li, Yun, CSIRO Mathematics, Informatics and Statistics)	Text Removed.
114	1	4	27	4	27	Special Report, not Assessment Report. (UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND)	Yes, done.
115	1	4	34	4	34	This would be a good place to insert a section on how disaster risk management and adaptation interact rather than waiting until the end of the chapter. Why & should adaptation be integrated into disaster risk management? (UNITED STATES OF AMERICA)	This point enters the discussion in the Executive Summary and is discussed throughout the chapter.
116	1	4	40	4	46	The explanatory remarks made in this paragraph about definitions in the SREX are crucial for the all Chapters. However, in Chapter 1 it should be clarified what the standard definitions are in case multiple variants are being discussed. Also it would be important if the other Chapter could be reminded about the need to highlight any deviations from the definitions provided in the Glossary and in Chapter 1. (Stocker, Thomas, IPCC WGI TSU)	See comment #5.
117	1	4	41	0	0	change to IPCC 2007b, 2007c (Vasseur, Liette, Brock University)	Text changed and no longer relevant.
118	1	4	41	4	41	The citation for ISO (2010) is not provided in the chapter’s reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	Text changed and no longer relevant.
119	1	4	41	4	41	The citation for IPCC (2007c) is not provided in the chapter’s reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	Text changed and no longer relevant.
120	1	4	46	4	46	"an schematic" - "a schematic" (Stocker, Thomas, IPCC WGI TSU)	Changed.
121	1	4	48	0	0	Figure 1-1. To be consistent with the descriptions and definitions presented in the text (see DRR and DRM), the words "cope" and "recover" on Figure 1-1 should be associated with Disaster Risk Management, rather than with Climate Change Adaptation. A great deal of this chapter is devoted to providing precision to all of these terms, and the present draft of the figure obfuscates this precision. (CANADA)	Figure is now changed.
122	1	4	52	5	16	If a Disaster is "the actualization or materialization of disaster risk, is defined as the existence of severe alterations in the normal functioning of a community or a society…" then a Disaster Risk should also include "the potential disruption of normal functioning of community or society" (GARG, AMIT, INDIAN INSTITUTE OF MANAGEMENT AHMEDABAD)	Definitions are used as set in the glossary. But this idea has now been incorporated in the discussion post definition
123	1	4	52	5	29	The logic of the ordering of these terms is not clear. It seems perhaps that a more logical order might be disaster risk, disaster, DRR, DRM, CCA, extreme events. (IPCC WGII TSU)	Point taken but there are reasons to order these definitions in many ways (see comment 124).
124	1	5	0	0	0	The concept of "Disaster" should be presented before the presentation of "Disaster Risk" (GREECE)	Done.

#	Ch	From Page	From Line	To Page	To Line	Comment	Response
125	1	5	0	5	0	The distinction betweendisaster risk reduction and risk management seems not in line with the literature. I think mostly these terms are used synonomously, but here risk management refers to administration and governance and DRR to the broader picture. This is incrorrect and by doing so, there is a risk of delinking from the broader field of risk management, where RM consists of risk assessment, risk reduction and sharing, risk communication and governance. Also, later on disaster management (p. 8, l. 33) is considered a subset of DRM. Yet, I would see DA as the overarching term, and DRR and DRM as the proactive components. As well, in ES DRR is not mentioned at all. (Mechler, Reinhard, INTERNATIONAL INSTITUTE FOR APPLIED SYSTEMS ANALYSIS)	This distinction has been substantially clarified in the FGD and executive summary.
126	1	5	1	5	1	"Community or society" is used several times. This could be defined, and should be consistent with chapters 5-8. (IPCC WGII TSU)	These are not defined, but we have attempted to improve the consistency.Although these terms have an implict significance this does not belie the fact they should maybe be defined here. Theproblem is that thereare so many terms that are used that it is impossible to define all and some have to be defined later in chapters
127	1	5	4	5	10	very good and essential. Appropriately precise and distinctive expression of this crucial definition for the purpose of the overall document. (Jeggle, Terry, University of Pittsburgh)	Interesting comment from one of the architects of ISDR thought and precision on the matter. Interesting because others are in complete disagreement with the definition which is here
128	1	5	4	5	10	Risk sharing or risk transfer is missing in this discussion. (Mechler, Reinhard, INTERNATIONAL INSTITUTE FOR APPLIED SYSTEMS ANALYSIS)	Agree and this should be put making proviso there is distinction between primary risk reduction and risk sharing as a mechanism for financial protection.
129	1	5	12	5	16	Does the definition of disaster include both natural and human induced hazardous physical events? Please clarify. (UNITED STATES OF AMERICA)	Yes, see subsequent paragraph in the FGD.
130	1	5	18	5	19	some ambiguity here as I read the definition. When it speaks of adjustment to the natural systems, I am unclear if that means "as caused by or consequential of the effects of climate change", or rather as "willfully and externally caused to happen by humnakind, as in amelioration or responding to the altered nature induced by climate change". (Jeggle, Terry, University of Pittsburgh)	Good point and this is resolved along with other things in new attempt at more precise definition.
131	1	5	18	5	20	The proposed definition of adaptation is clumsy and unclear. Thoughts are appropriate but expression can be improved. (Wright, Richard, American Society of Civil Engineers)	Point taken and change being introduced; glossary definition now used.
132	1	5	18	5	22	Please include a more accessible definition, for example the one used in chapter 8, p. 5 line 17-19. "Adaptation to climate change has been defined as adjustments to reduce vulnerability or enhance resilience in response to observed or expected changes in climate, climate variability and associated extreme weather events." (UNITED STATES OF AMERICA)	See comment #131.
133	1	5	18	5	22	The definition here of climate change adaptation needs to be reconciled with the glossary entry. (IPCC WGII TSU)	Done, See comment #131.
134	1	5	28	5	29	this report-specific attribution of "risk management" as being understood to refer to disaster risk management throughout the report, as stated, is an essential qualification which must be retained. (Jeggle, Terry, University of Pittsburgh)	Noted
135	1	5	31	0	0	Extreme event : see OG2. add (Zajdenweber 2009) (Dupuy 2010) (BOURRELIER, PAUL-HENRI, AFPCN)	See discussion in chapter 3 and comment 137.
136	1	5	31	5	39	Same as comment 20 bellow. (MODARESSI, HORMOZ, BRGM)	See discussion in chapter 3 and comment 137.
137	1	5	31	5	39	It seems a bit confusing to include here both the IPCC (2007) and the SREX definitions of an "extreme event". The new glossary definition is the result of significant interaction within the Chapter 3 author team and major comments from FOD reviewers. In particular the use of the word "rare" in the previous definition was criticized. It would seem more consistent with the whole report and chapter 3 to only use the SREX definition here. (Seneviratne, Sonia, ETH Zurich)	SREX Glossary definition now used.

#	Ch	From Page	From Line	To Page	To Line	Comment	Response
138	1	5	31	5	39	This is a good definition--but not the definition used by the SPM. While the definition here is that extreme events are those that are “rare within their statistical reference distribution", the SPM's implicit definition would be ""rare within their historical statistical distribution". Some, though not all, of the report seems to implicitly assume that if what is rare today were to become commonplace, then the disasters that are today would also become commonplace. That may not be the intention--it may just be the mistaken inference one makes given the lack of clarify about whether an extreme event is an event that is extreme, or an event that at one time would have been extreme but may be common today. (UNITED STATES OF AMERICA)	See comment 137; good point and argument that needs to be considered elsewhere.
139	1	5	31	5	39	“Extreme events are defined by the IPCC (Baede, 2007) as those that are 'rare within their statistical reference distribution at a particular place.'" It is important to add a temporal aspect to this definition as the statistical reference distribution should be allowed to change over time as well. Thus the definition should be modified to be “rare within their statistical reference distribution at a particular place and time…” This concept of time is quite important when establishing “thresholds” over which to describe an extreme event. If the threshold value is fixed in time, then this definition of extremes does not allow for a confident qualitative description of change in the extremes. To accurately describe the changes, it is essential that the thresholds be associated with the correct reference distribution. This concept is fully described and evaluated with regards to precipitation in Michaels et al. (2004, International Journal of Climatology, 24, 1873-1882). In that work, we show mathematically that by defining a temporally invariant threshold, that “conclusive statements about the proportionality (or disproportionality) of the observed changes cannot be reliably made.” We provide an example of this type of error using observed changes in the amount of precipitation that falls on the wettest day of the year (averaged across the U.S.).While the precipitation on the wettest day has been increasing, we show that its increase is in direct proportion to the overall increase in annual precipitation. However, using an approach with a fixed threshold in time produces the false impression that there has been a disproportionate increase in extreme precipitation. The IPCC has fallen into this trap in previous Assessment reports. That mistake should not be perpetuated in this report. Therefore, particular attention should be paid to when the use of dynamic threshold is more appropriate than a temporally invariant one. As mentioned above, in evaluating precipitation change is one such instance, evaluating heat-related mortality rates is another (as demonstrated in Davis et al., 2003, Environmental Health Perspectives). (UNITED STATES OF AMERICA)	See discussion in chapter 3 and comment 137.
140	1	5	31	6	15	It is important to recognize the role of climate as opposed to climate change in this assessment of damages. In the examples that are listed in the previous paragraphs on pages 5 and 6, “disasters” may arise from the background climate in and of itself. When societies are changing, their vulnerability to climate changes as well. Thus, in order to evaluate the impacts of climate change or adaptive responses to climate change, the impacts of climate and adaptation to climate must first be established. Otherwise, false conclusions arise. As an example, it is often claimed that an aging population will experience higher mortality rates during heat waves of the future than to present heat waves. While this may me true, it has nothing whatsoever to do with climate change, but is merely a factor of the extant climate itself. Thus, to evaluate the impact of climate change, the baseline impact from an aging population in the current climate must first be established. As societies are in a constant state of change, societal change must be evaluated in virtually all evaluations of the impacts of climate change. This has been done to a limited degree in some climate arenas—with the results showing that virtually all the changes in damages can be tied to changes in population demographics—but such work must be expanded to cover all aspects of climate vulnerability in order for valid conclusions to be drawn concerning increased risk and climate change. (UNITED STATES OF AMERICA)	We have tried to emphasize that context is critical, and that climate change takes place in the context of multiple social, economic, and other development changes and trends which are critical determinants of impacts, disaster, and other outcomes. This includes climate variability as well as change. We emphasize that the capacity to respond to routine, every day events is also key.
141	1	5	41	5	43	Some examples would help clarify the idea of "non-extreme physical events" (UNITED STATES OF AMERICA)	This would be any climate or weather event that does not meet the definition of extreme as in the glossary. See Chapter 3.
142	1	5	44	5	47	"it is the reduction and anticipation of overall disaster risk, …, as well as the overall advancement of adaptation practices, that are the more general concern" -- what is this general statement based on? Is this the opinion of the authors, general knowledge or a result of a scientific assessment? Please specify. (Stocker, Thomas, IPCC WGI TSU)	Text changed.
143	1	5	44	5	47	Its not appropriate to characterize extreme climate events and the risk they may signify as either a theme or a central concern of SREX. Rather, it is THE subject of the special report. While it is useful that this work informs the overall advancement of adaptation practices, the report cannot and should try to address adaptation more broadly. (CANADA)	Noted and changed.

#	Ch	From Page	From Line	To Page	To Line	Comment	Response
144	1	5	44	5	47	This sentence could be rephrased to indicate more clearly that the report focuses on the reduction and anticipation of overall disaster risk, in the context of a changing climate, as well as on the overall advancement of adaptation practices in this context. Overall disaster risk arises from extreme weather and climate events and from non-extreme physical events, both of which are affected by climate change. Climate change also has indirect effects on vulnerability and exposure. "Although" in the current sentence does not seem to accurately reflect the focus of the report. (IPCC WGII TSU)	Considered and text modified accordingly.
145	1	5	49	6	2	This is no need for this paragraph (Li, Yun, CSIRO Mathematics, Informatics and Statistics)	Noted and acted on. Text now changed.
146	1	5	51	0	0	changes societies to communities (Vasseur, Liette, Brock University)	Could also be local communities and regional societies
147	1	5	52	0	0	There is no reference for the Desinventar database (International Petroleum Industry Environmental Conservation Association (IPIECA))	It is included in the FGD.
148	1	6	4	6	7	This paragraph marginalizes the importance of ecosystems. Please indicate that ecosystem damage does have a negative effect on livelihoods, food security and human health in most cases. (UNITED STATES OF AMERICA)	Noted and considered. But it should be noted that a good part of such impacts on ecosystems is unavoidable if there has not been human modification of the local environment. Here the argument is very complex and diverse and we agree more attention should be paid to precision.
149	1	6	4	6	7	There also are extreme impacts on infrastructure, institutions (e.g. overwhelming the ability of a society to cope), water security, etc. (IPCC WGII TSU)	This is considered directly in the definition of disaster.
150	1	6	7	0	0	"and" should be replaced by "or", as any one of these may apply, not necessarily all of them (Jeggle, Terry, University of Pittsburgh)	Wording changed.
151	1	6	9	6	9	Mixing of physical and ecosystems in "Extreme physical ecosystem impacts" and reference to Chapter 4 is confusing. Chapter 3 covers the impacts on the natural physical environment whereas Chapter 4 covers the impacts on human systems and ecosystems (Stocker, Thomas, IPCC WGI TSU)	Agree and changed; see comment #35.
152	1	6	9	6	9	"Extreme physical ecosystem impacts ...": Impacts on the natural physical environment are addressed in Chapter 3. This sentence should be revised as follows (or similar): "Extreme impacts to the physical environment are addressed in chapter 3 (Section 3.5) and extreme impacts to ecosystems are considered in detail in chapter 4 as an important aspect ..." (Seneviratne, Sonia, ETH Zurich)	Agree and changed
153	1	6	22	6	22	insert "of climate change adaptation and diaster risk management" between "intergration" and "is…" (Li, Yun, CSIRO Mathematics, Informatics and Statistics)	Done
154	1	6	25	0	0	second sentence does not make a lot of sense (Vasseur, Liette, Brock University)	Revised
155	1	6	28	6	49	The definition of Hazard, from glossary, is not appropriate : it is based on the impact, instead of the chance and its probability. The link between hazard and impact mixs the two determinants of risk which are to be separated for the analysis (Bourrelier 2009). See comments OG4. (BOURRELIER, PAUL-HENRI, AFPCN)	This was discussed. We have attempted to clarify this distinction here and in the glossary definitions.
156	1	6	34	0	0	Regarding if exposure is related to hazard or to vulnerability, we think that it can be associated to one or to the another because we believe that hazard and vulnerability alone are only methodological concepts to understand risk. We need always an inventory of assets that is treated by a latent danger and that is susceptible/fragile/non-resilient in any degree to have a disaster risk configuration. Then one can say R = f (H,V) because exposure is tacit; i.e. there are a set of exposed elements in the influence area of the hazard and we are speaking about the vulnerability of a set of exposed elements. From this perspective hazard and vulnerability are the external and internal factors (or determinants) of risk of the exposure (the inventory of assets, the society). Exposure has spatial and time dimensions (related to hazard) but it can be accepted that “to be vulnerable (to hazard events) we need to be exposed”. Usually we do not need associate exposure to one or to another determinants (because it is implicit or tacit), but if we need to associate it to one of them we prefer associate exposure with vulnerability. Exposure: The social and material context represented by persons, resources, infrastructure, production, goods, services and ecosystems that may be affected by a hazard event. (Cardona, Omar, Universidad Nacional de Colombia)	In chapter 1 we are staying with exposure seen as location but in other chapters other options are examined

#	Ch	From Page	From Line	To Page	To Line	Comment	Response
157	1	6	39	6	39	the term "non-geographical exposure" is confusing. The statement refers to "events at distance in space and/or time" -- why would this be "non-geographical". BTW, it's unclear to us what a "geographical exposure" might be in the first place... (Stocker, Thomas, IPCC WGI TSU)	Revised accordingly
158	1	6	39	6	39	Typo in citation: For Gaspar (2010), the author's name is spelled differently in the chapter text, as compared to the chapter reference list. Please ensure correct spelling of the author's name in both the text and the reference list. (IPCC WGII TSU)	Done
159	1	6	45	6	49	The use of "transforming" may be unclear, as its meaning here seems distinct from the concept of transformation in Chapter 8. Additionally, the use of "latent threat" and "latent risk" in these sentences seems less precise than desirable. For example, the phrase "the potential occurrence of an event" seems perhaps preferable to "latent threat." Then, using "this latent risk" to refer to "hazard" seems inappropriate because hazards are not equivalent to risks, as described more fully in Box 1-2. (IPCC WGII TSU)	Closely considered and eliminated any imprecision or double meanings.
160	1	6	53	6	54	This should be stronger than 'may ' - it is highly likely it not virtually certain that such an approach would be 'suboptimal'. Resilience theory (eg Cork 2010) also suggests that we should stop thinking in terms of 'optimisation' and start thinking in terms of having some redundancy in the system, so I would recommend another term than 'suboptimal' - eg 'ultimately ineffective and even harmful'. Ref: Cork, S. (2010) 'Resilience of social-ecological systems'. Ch. 15 in: S. Cork (ed) Resilience and Transformation: preparing Australia for Uncertain Futures. CSIRO, Melbourne. pp. 131-142. (Rickards, Lauren Amy, University	We do not see this at mentioned line numbers but point taken.
161	1	7	0	0	0	I agree with the revised definition of "vulnerability" (GREECE)	Noted.
162	1	7	4	0	0	Related to sensitivity, we know that this is the term used in CCA. The proposal to define it as "degree to which a system is affected either adversely or beneficially by any kind of disturbance" from WG2 of IPCC can be acceptable. This definition is not indeed very related to the factors of vulnerability (and then to susceptibility and fragility) but to the interactions between society/environment or culture/nature; i.e. to the concept of "coupling" proposed to describe this mutual interactions that can derive, for example, in socio-natural hazards (some types of landslides and floods due to environmental degradation, and CC itself). Nevertheless, if we use it for this meaning we need perhaps another definition more related to responsiveness between interacting system dynamics; i.e something that can be related more to a capacity or a behaviour than a propensity itself. In the framework of DRM and CCA a coherent definition can be: Sensitivity: Capacity of a system for physical reaction or response to external stimuli in its interaction with other systems. (Cardona, Omar, Universidad Nacional de Colombia)	Noted and acted on to extent possible: sensitivity no longer formally defined in chapter 1.
163	1	7	4	0	0	Clearly, susceptibility and fragility can be considered as synonyms but there is a subtle difference behind the message that the researcher/stakeholder is trying to express. For example, from economical point of view, an indicator such as the debt service is reflecting an economical susceptibility and another one, such as the fiscal deficit, is meaning an economical fragility. This is similar in engineering, health, psychology, political and social sciences. They can be used as synonyms but they can be used depending on what we are trying to reflect. This is the reason why some authors opted to maintain both terms. This situation is similar in different languages. A proposal of definitions is the following: Susceptibility: Proneness of the exposed elements to be affected due to the lack of ability to withstand damaging effects and to remain unaltered. This propensity is related, usually, to absence of resistance and it is mainly used to refer to not have enough physical, ecological, economic and institutional strength. Fragility: Inherent weakness or predisposition of the exposed elements to suffer damage due to their brittleness. This is a intrinsic or acquired characteristic or condition that favour the occurrence of adverse effects as a result of a deficiency of robustness and it is mainly used to refer to social, cultural and economic disadvantage. (Cardona, Omar, Universidad Nacional de Colombia)	Susceptibility no longer formally defined.
164	1	7	4	0	0	if the word sensitivity is going to be used, there is a need to be better defined. Right not it is too vague. (Vasseur, Liette, Brock University)	Sensitivity not used.
165	1	7	12	7	13	1. "it helped reveal the role of …" is proposed to change into : "it helped to reveal the role of …" (Sehat kashani, Saviz, Atmospheric Sciences and Meteorological Research Center)	no such text in FGD
166	1	7	16	0	0	can not should be cannot. This should be consistent throughout the text (Vasseur, Liette, Brock University)	Done; for copy editors to decide.

#	Ch	From Page	From Line	To Page	To Line	Comment	Response
167	1	7	16	7	16	Impacts can't exist without exposure, the vulnerabilities certainly can (given the definition of vulnerability in the SREX glossary). (IPCC WGII TSU)	The social make up of a community that is not exposed to an event comprise purely socio economic conditions. When exposed to a possible event they then take on the form or attribute of vulnerability to whatever event may happen. If a community with the very same make up as another is not exposed to the possibility of an event then those conditions may be seen as social and economic deficits etc but not as disaster vulnerability. What is in play here is that exposure tranforms existing conditions into disaster vulnerability conditions. Thus if a person in a non sesismic zone lives in a non sesimic designed house they are not vulnerable but if they are they are.
168	1	7	16	7	17	1. "and is many times specific to different hazards" is proposed to change into : "and in many times specific to different hazards" . (Sehat kashani, Saviz, Atmospheric Sciences and Meteorological Research Center)	Here the wording is wrong but I get the idea and have changed the text.
169	1	7	22	7	29	I am concerned in the IPCC 2007 definition of vulnerability which includes "the degree to which a system is susceptible to and unable to cope with adverse effects of climate change, including climate variability and extremes." Vulnerability also exists to the extant climate. And societal changes lead to vulnerability change in an extant climate. Assuming that vulnerability and changes in vulnerability only arise from climate change leads to gross under estimates of the impacts of climate itself. I hope that this aspect of the IPCC 2007 definition is modified in the definition used by the IPCC in this report and future reports so that it better reflects society's vulnerability and vulnerability changes. Climate change undoubtedly plays some role, but most extant literature studies show that its role is extremely limited compared to the role of societal changes themselves. (UNITED STATES OF AMERICA)	Very valid point. Earlier IPCC deifnition not used here.
170	1	7	31	0	0	this is a well explained paragraph. (Vasseur, Liette, Brock University)	Noted.
171	1	7	35	7	35	Where does the term disaster preparedness fit in? Is it interchangeable with disaster risk mitigation? (UNITED STATES OF AMERICA)	It is a form of disaster risk mitigation- the last resource. It is now defined.
172	1	7	41	7	46	This definition misses the concepts of avoiding (e.g. reducing an urban heat island to avoid certain amount of temperature rise during a heatwave) and preparing for. (IPCC WGII TSU)	Now glossary definition used.
173	1	7	43	0	0	vunlnerability to correct (Vasseur, Liette, Brock University)	Not sure what is wanted here
174	1	7	43	7	43	"institutions" - "institutions" (Stocker, Thomas, IPCC WGI TSU)	Not sure what the comment is
175	1	7	47	7	47	Do you need to define maladaptation here? The idea that there are costs and trade-offs involved and the need to avoid perverse outcomes is critical (Rickards, Lauren Amy, University of Melbourne)	Defined later.
176	1	7	48	0	0	dimension with an accent on the o? And social construction ou social construct? (Vasseur, Liette, Brock University)	will be copy edited.
177	1	7	48	7	49	"Some specialists see lack of capacity as being one dimension of overall vulnerability, while others see it as a counter balance." I don't understand how "lack of capacity" acts as a counter balance to vulnerability. It seems that the abundance of capacity would counter balance vulnerability. But perhaps I am confused by the concept (rather than the sentence structure). (UNITED STATES OF AMERICA)	You are correct; revised accordingly.
178	1	7	48	7	49	What is your assessment? References needed. (IPCC WGII TSU)	Noted. Text revised but our intent is not to take sides in each of these debates.
179	1	7	49	0	0	The term "multi-hazard approach" is not defined. (Simiu, Emil, National Institute of Standards and Technology)	Text removed.
180	1	8	0	0	0	I agree with the revised definition of "adaptive capacity" (GREECE)	OK
181	1	8	2	8	2	Don't need clear and clearly in the same sentence. (IPCC WGII TSU)	Text changed.
182	1	8	7	8	7	Would delete actuarial as part of mathematical (Mechler, Reinhard, INTERNATIONAL INSTITUTE FOR APPLIED SYSTEMS ANALYSIS)	OK done.

#	Ch	From Page	From Line	To Page	To Line	Comment	Response
183	1	8	8	8	8	The citation for Douglas and Wildavsky (1983) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	Changed.
184	1	8	12	8	12	Typo in citation: For Hagman (1984), the author's name is spelled differently in the chapter text, as compared to the chapter reference list. Please ensure correct spelling of the author's name in both the text and the reference list. (IPCC WGII TSU)	Changed.
185	1	8	15	8	16	The phrasing of the sentence (following the semicolon) reads prescriptively. (IPCC WGII TSU)	OK changed
186	1	8	33	8	42	We recommend adding a discussion on the disaster management "cycle". In particular, it is important to stress that DRR and response do not preclude each other (as mentioned several times in the text), but rather they complement each other. Suggested text: "Disaster risk management is a systematic approach to avoiding, transferring and reducing the negative effects of natural disasters through a cycle that includes (i) prevention and mitigation, (ii) preparedness, (iii) response, and (iv) recovery (Kelly and Khinmaung, 2007; World Bank, 2009). "Prevention broadly refers to measures that reduce overall vulnerability by detecting, containing and anticipating events that could result in disasters. These measures include, for example, updating building codes, improving environmental policies and increasing public awareness (UNISDR, 2009). "Preparedness recognises the impacts that cannot be eliminated entirely. This includes strategies, activities and actions taken before hazard events such as contingency planning and pre-positioning stocks of supplies for rapid delivery once a disaster occurs (UNISDR, 2009). "Response refers to the mobilisation of emergency services during or after a disaster to reduce the impacts on affected populations (UNISDR, 2009). "Recovery is the restoration of facilities, livelihoods and living conditions of affected communities, including reparation and upgrading of physical infrastructure, provision of key resources (food and water), and rehabilitation that more broadly save lives, address immediate needs, restore normal conditions and reduce future risks (UNISDR, 2009). "All of these "cycle" components are crucial in managing the impacts of extreme weather events at different stages of a disaster, especially as risks cannot be entirely eliminated." Suggested source: Kelly, C. and Khinmaung, J. (2007) Prepare to live: Strengthening the resilience of communities to manage food insecurity in the Sahel region. Tearfund. World Bank (2009) Building Resilient Communities: Risk Management and Response to Natural Disaster through Social Funds and Community-Driven Development Operations. World Bank: Washington, D.C Definitions from: UNISDR (2009) UNISDR Terminology on Disaster Risk Reduction. United Nations International Strategy for Disaster Reduction: Geneva. (World Food Programme (WFP))	Accomodated as far as can do given word limitations and introduced limited discussion of disaster cycle notion.
187	1	8	34	8	34	The definition is ambiguous, on the one hand it referes to response and recovery, then ex ante mentioned. (Mechler, Reinhard, INTERNATIONAL INSTITUTE FOR APPLIED SYSTEMS ANALYSIS)	Text changed.
188	1	8	35	8	35	"there is a need to clarify this part as I feel one component of early warning is missing and that is monitoring; unless monitoring is part of early warning" (UNITED REPUBLIC OF TANZANIA)	Yes monitoring is one of the four components of early warning systems.
189	1	8	38	8	42	This sentence does not logically follow the previous sentence. (The two sentences reduce to: A does not always mean B. For example, not-A once caused B.) An example should be added to demonstrate why and how decentralized decisionmaking is critical. (UNITED STATES OF AMERICA)	Noted and acted on
190	1	8	38	8	42	"The fostering of active grass roots community involvement, the use of installed local and community capacities, and the decentralization of decision making in disaster preparedness and response have been considered critical for improving future risk reduction and adaptation." Why? Please provide examples to explain why this is true. (UNITED STATES OF AMERICA)	This is an introductory chapter and we have substantiated these claims with citations to relevant literature.

#	Ch	From Page	From Line	To Page	To Line	Comment	Response
191	1	8	44	0	0	might it be useful to add a sentence or two to expressly identify "recovery" as it is now currently tending to be used in a much wider generic sense of "overall" recovery following a disaster event, in contrast to earlier, or individual professional connotations of its being used to relate to the more immediate post-relief satisfaction of initial basic or rudimentary functioning of an affected community, locality, etc. This varied assignment in time can be further confused by residual earlier and less precise references to "reconstruction" (i.e. in physical terms) and "rehabilitation" (i.e. in wider existential, systems or livelihood terms) which some commentatords cite as "following" initial recovery whereas others subsume or consider implicit within "recovery". I believe it has been noted especially since the Indian Ocean Tsunami recovery process in and from 2005 that "recovery" has been used more generally and more publicly in a more encompassing sense in part because of Bill Clinton's use and later popularization of the need to "build back better" as describing the desired aim of recovery. Presently as used without further definition or clarification "recovery" is subject to being understood in any of these possible interpretations given the predilections of the individual reader. Without compromising the various different contexts as outlined above, as stipulated for other definitions you may wish simply to qualify the meaning "for the purposes as used here in this document, etc." (Jeggle, Terry, University of Pittsburgh)	Very good point and will adjust and expand accordingly.
192	1	8	47	9	9	The distinction/inter-relation between the definitions of Coping and Adaptation does not come out well. It may help to define adatptation there itself rather than refering to section 1.4 (GARG, AMIT, INDIAN INSTITUTE OF MANAGEMENT AHMEDABAD)	Yes good point.
193	1	8	47	9	9	The definition of Coping and Adaptive capacity sounds confusing. Could be more objective and clear. (Islam, Md. Siarjul, North Sotuh University)	29
194	1	8	52	8	54	"Adaptive capacity is defined as the ability of people, families, other groups and organizations, institutions and systems, using available skills, resources and opportunities to positively anticipate and adjust to the risk associated with climate change and associated conditions (sea level rise, glacial ice loss, etc.). Provide examples of risks and possible adjustment, rather than just risks, e.g. responding to sea level through wetland restoration, relocation of homes, businesses, and infrastructure. (UNITED STATES OF AMERICA)	Adaptive capacity is discussed in more detail in 1.3, 1.4, and Chapters 2 and 8 of SREX.
195	1	8	52	9	9	This idiosyncratic definition of adaptive capacity and (for that matter) adaptation is not helpful and likely to confuse. No clear reason is presented for why this report needs to use a well-defined term to mean something different from what it normally means. "Capacity to anticipate" is what you mean. (UNITED STATES OF AMERICA)	Adaptive capacity is discussed in more detail in 1.3, 1.4, and Chapters 2 and 8 of SREX.
196	1	9	2	9	9	It should be noted that the definition of adaptive capacity in the AR4 synthesis report (The whole of capabilities, resources and institutions of a country or region to implement effective adaptation measures) is different than that quoted here, and seems more appropriate for this report. More importantly, the definition of adaptive capacity does not (necessarily) provide insights into the definition of adaptation (as implied by line 4) because they are distinct terms. (CANADA)	Adaptive capacity is discussed in more detail in 1.3, 1.4, and Chapters 2 and 8 of SREX.
197	1	9	11	0	0	The term resilience derives several controversies. There are several approaches but, in general, today it is accepted that the nonexistence or absence of resilience is a condition or factor of vulnerability. Thus, deficient information, communications and knowledge among social actors, the lack of institutional and community organization, weaknesses in emergency preparedness, political instability, lack of governance and the absence of economic health in a geographic area, mean a low level of resilience. For some researchers, resilience is a subset of the adaptive capacity, related only to the inherent ability of a system to respond or to absorb hazard stresses (coping). Some authors believe that resilience can be improved or transformed through adaptation (or risk management) and therefore it is a quality or outcome that can be upgraded. Then a definition is the following: Resilience: Adaptive ability of a socio-ecological system to respond and absorb negative impacts as a result of the capacity to anticipate, cope with, and recover quickly from damaging hazard events. (Cardona, Omar, Universidad Nacional de Colombia)	We have closely considered this view along with other comments from other authors. We believe the current text captures this sense, as well as the full perspective on resilience.
198	1	9	11	9	16	The idea that resilience includes the abiity to anticipate is surprising Citations purporting to show that the term has long been used should specifically address the notion that it has long included ability to anticipate. At least one of the references appeares to be to an entire book--that is too vague. Better to reference a specific page or at least a specific chapter. (UNITED STATES OF AMERICA)	Noted; we have closely examined the context and history and have expanded citation of the literature accordingly.
199	1	9	11	9	33	The link between resilience, introduced on page 9, and deep uncertainty and complexity did not find any links in this chapter when it should have done so instead of presenting the connection only on 8.3.3, page 17. The chapter should have also included a resilience framework to address the issue of deep uncertainty and complexity in responding to disasters and climate change. (Abarquez, Imelda, Oxfam Hong Kong)	We have closely consider how and where to deal with this, and believe it is best connected in Chapter 8.

#	Ch	From Page	From Line	To Page	To Line	Comment	Response
200	1	9	11	9	33	The concept of resilience is defined and interpreted in a comprehensive manner. However, the notion of resilience-building is not mentioned, and the concrete relationship between resilience/resilience-building and sustainability/fostering sustainability remains open. (Bohle, Hans-Georg, University of Bonn)	Valid point but these are themes dealt with on other chapters and here we are simply setting up the problem.
201	1	9	11	9	33	This discussion of resilience should consider consistency and overlap with the discussion in chapter 8 on page 17, lines 34-45. (IPCC WGII TSU)	Revised and done in conjunction with Chapter 8 CLAs.
202	1	9	12	0	0	Suppress « anticipate » (BOURRELIER, PAUL-HENRI, AFPCN)	Point made by others and now adjusted
203	1	9	13	9	13	Note that this definition of resilience is slightly different from that in the glossary. (IPCC WGII TSU)	Now reconciled.
204	1	9	15	9	15	The citation for Gordon (1979) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	Changed.
205	1	9	15	9	16	The citation for Werner et al. (1971) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	OK
206	1	9	25	9	29	The description of resilience as "bouncing back" iand coping should perhaps follow the sentence about diverse interpretations, where it reflects the more common parlance that is closely linked to the engineering interpretation. (OBrien, Karen, Department of Sociology and Human Geography)	Text changed to incorporate this suggestion.
207	1	9	27	9	28	Do you need to specify here that you mean positive transformational change and positive influence on adaptive capacity, or is it a more general point? Resilience theory emphasises that transformational change can be involuntary and negative. This section on transformational change needs to be linked more explicity to the heading of sustainable development and the topic of disasters. Is it saying that transformation of current sustainable development activities is needed to decrease vulnerability to disasters? (Rickards, Lauren Amy, University of Melbourne)	Here we are making a more general point; but the comment is very valid.
208	1	9	31	9	31	Here we could emphasize not only learning, but adaptive management, innovation, and leadership (all of which are described as components of resilience in Chapter 8) (OBrien, Karen, Department of Sociology and Human Geography)	Now added.
209	1	9	39	9	40	We need a sentence explaining the difference rather than just an assertion that they are different. (UNITED STATES OF AMERICA)	Text changed.
210	1	9	42	0	0	I am not sure what is meant by "approaches to disasters" ? The sentence may be better and more explicit if expressed as, "The (public ?, or policy ?, or professional ?) concepts of disaster and approaches to disaster risk management have … etc." (Jeggle, Terry, University of Pittsburgh)	Point taken and text changed.
211	1	9	43	0	0	These changes have also occurred under the stimulus of recent climate change physical effects from extreme events such as TCs Katrina and Gonu, 2003 heatwave in Europe or Arctic sea ice summer extent reduction (International Petroleum Industry Environmental Conservation Association (IPIECA))	Accept role of event but can not attribute to climate change.
212	1	9	45	0	0	… International Strategy for Disaster Reduction since 2000, and ... (Jeggle, Terry, University of Pittsburgh)	OK
213	1	9	49	9	4	It is not just response, it is also avoiding and preparing for extreme events. (IPCC WGII TSU)	Here we are talking of disaster or emergency managment which is not about avoiding extreme events in a prevention or mitigation mode
214	1	9	49	9	50	While the text is refering to "emergency management" and "disaster response", it would be more general to discuss "disaster risk reduction efforts", which also include pre-dasater phases of the disaster management cycle (MODARESSI, HORMOZ, BRGM)	This is now done earlier.
215	1	10	1	10	1	Is DRR really reactive? (Mechler, Reinhard, INTERNATIONAL INSTITUTE FOR APPLIED SYSTEMS ANALYSIS)	Reactive in the sense that existing risk is reduced
216	1	10	11	0	0	To what extent does extensive risk refer to time. i.e DRR dealing with uncertainty within near timescales bears similarilty with CCA, but where CC predictions become clearer over longer decadal timescales the links with DRR (i.e decision-making over best pathways) - may start to look different. This possibly needs to expand the interpretation of extensive risk to not only refer to small-scale/ widespread, but over time as well? This is all mentioned later in section 1.3.5 but could be mentioned at this stage to illustrate the full range of challenges/ links at the outset? (Hillier, Debbie, Oxfam)	Interesting comment and challenging in itself. Extensive risk no longer mentioned in text.
217	1	10	14	10	15	What is meant by winners here? Eg construction companies with more work to do following a disaster? Don't want to imply that we should be trying to 'win' or advantage ourselves out of disasters. Perhaps the point is that people are differentially affected, and that disasters can create opportunities as well as costs (Rickards, Lauren Amy, University of Melbourne)	Line indication is incorrect but point taken.

#	Ch	From Page	From Line	To Page	To Line	Comment	Response
218	1	10	18	10	20	"At least two key fundamental contexts and questions arise in establishing the boundaries of the phenomena and social processes that concern disaster risk management and climate change adaptation:…2) a consideration of the most appropriate socio-territorial scale (i.e. aggregations, see schneider et al., 2007) for fostering a deeper understanding of risk causation and risk intervention by involuntary or voluntary risk constructors, risk bearers, and the risk interveners." Please clarify what this means. (UNITED STATES OF AMERICA)	Attempted to revise; however, no one else commented on inaccessibility of the notions.
219	1	10	23	0	0	Suppress extreme (OG2) (BOURRELIER, PAUL-HENRI, AFPCN)	Not sure why.
220	1	10	40	10	40	The citation for Wisner (2004) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	Noted and changed.
221	1	10	42	0	0	sensitivity: since not well defined, it is difficult to know if well employed especially that it seems here to be mixed with susceptibility which is usually not the same. (Vasseur, Liette, Brock University)	Sensitivity and susceptibility not used.
222	1	10	44	10	52	The box referred to in this paragraph seems to suggest that, for individuals, climate-change-related impacts can be difficult to separate from changes due to other drivers. This "lesson" from the Box seems partially contradicted by the text in this paragraph, which suggests that impacts associated with climate change need to be understood and responded to principally at the scale of the individual, household, and community. The Box itself seems to depict a situation in which reactive adaptation (or coping) would occur, but in which proactive adaptation to climate change would not occur without more top-down implementation. The paragraph here does not clearly indicate how reactive vs.. proactive adaptation might be implemented differently across scales from individual to national/international. (IPCC WGII TSU)	Text changed to more completely contextualise the box and its messages as to ongoing life and stress and perception of risk.
223	1	10	46	10	46	The focus on individual and community level seems not appropriate and contradicts earlier and later statements that disaster risk is socially and societally constructed. Overall, the report argues that physical impacts may be more or less localized, but risks and action often has regional, national and international implications and entry points. (Mechler, Reinhard, INTERNATIONAL INSTITUTE FOR APPLIED SYSTEMS ANALYSIS)	Reworded to broaden the context.
224	1	10	46	10	47	very long sentence with too many ideas together. It should be divided into two. (Vasseur, Liette, Brock University)	OK
225	1	10	48	10	52	it is not only the aspect of the "too simple" explanation of top-down ("hierarchial authority" is better than the colloquial 'top-down') that differentiates DRM and CCA. A more evident distinction is that whereas DRM has been modified based on the developed experience of the past 30 years or so, CCA is expressly and significantly NOT able to be projected based on deductive past example. (Jeggle, Terry, University of Pittsburgh)	The numbering for this comment seems wrong but other text adjusted to account for this point.
226	1	11	1	0	0	Box 1-1: Surprising given the amount of criticism this box received in the FOD review that it is still considered a useful addition to this chapter. However, we acknowledge that an improved context for the box has been developed within the preceding paragraphs, and this will be further improved when a useful, informative title is added that highlights the key message from this box. (Stocker, Thomas, IPCC WGI TSU)	We believe the box is valid but now has better contextualization and explanation for those that dont capture its messages.
227	1	11	1	11	29	It is unclear what the relevance of Box 1.1 is. (Trewin, Blair, Australian Bureau of Meteorology)	See comment #226
228	1	11	1	11	31	It is not clear to me how Joseph's story (Box 1-1) is linked to climate change adaptation and climate-realted disaster risk management. Is it really needed? (Li, Yun, CSIRO Mathematics, Informatics and Statistics)	See comment #226
229	1	11	5	11	29	After reading all this dense material, the box was a pleasure just because it is easy to read. It is not yet clear why we have this here. Will we refer back to this story later as we read on? If so, please say so here. If not, the need for this story is a bit unclear (UNITED STATES OF AMERICA)	See comment #226
230	1	11	8	11	8	If the war must be mentioned, and these two particular protagonists in particular, please change "English" to "British". (Global Climate Observing System Steering Committee)	Done.
231	1	11	21	11	22	Within text box interviewing 80 year old Joseph in Tanzania, "What is 'climate change' to Joseph?" It would be helpful if the text box answered this question more clearly. (UNITED STATES OF AMERICA)	See comment #226
232	1	11	36	11	36	In this line and in the paragraph in general, it's not clear what "micro level" means. (IPCC WGII TSU)	Explained now
233	1	11	39	0	0	add , between economic social (Vasseur, Liette, Brock University)	Done
234	1	11	42	0	0	put a . After affected zones. The early 2011 flooding in Queensland, Australia illustrates... (Vasseur, Liette, Brock University)	OK
235	1	11	44	11	47	Ripple Effects needs references. (UNITED STATES OF AMERICA)	OK
236	1	11	44	11	47	This needs a reference or two. (UNITED STATES OF AMERICA)	done

#	Ch	From Page	From Line	To Page	To Line	Comment	Response
237	1	11	45	11	47	It is hard to see how the example of 2011 flooding in Queensland can be based on any robust evidence because it is simply too soon after the event. Can you quantify and support with references what this overall impact on the national economy has been? (Stocker, Thomas, IPCC WGI TSU)	The impact on employment, production, inouts, exports was immediate but we have removed the reference.
238	1	11	50	11	50	Obscure words like 'concatenated' are off-putting. Simpler words like 'linked' should be used unless there is a specific need. (Brooke, Roy, United Nations)	Concatenated is the correct word and not obscure if one is technically into a topic. Linked is not the same thing as neither is "related". Sequenced gets there but is also slightly different.
239	1	12	1	12	13	The conclusion that a more holistic RM approach is needed to link CCA and DRR is out of place here as it does not logically flow from e.g. s. 1.1.3., which makes only superficial reference to the issues that separate DRR and CCA. The conclusion fits better on page 24 at line 39. (Brooke, Roy, United Nations)	Section now eliminated.
240	1	12	3	12	3	We have three problems with this section: 1) "We conclude" seems like a strange thing to say for Section 1.1.5 and out of place for an introductory section. 2) It is unclear as to how this summary relates to the content in 1.1. 3) Conclusions require a significant assessment of information and reference. This contains none. (UNITED STATES OF AMERICA)	Section now eliminated.
241	1	12	11	0	0	"integrated approach …" to what ?? (Jeggle, Terry, University of Pittsburgh)	Text removed.
242	1	12	11	12	13	In this sentence, it's not clear what "basic decentralization principles" are and how they are linked to an integrated approach. (IPCC WGII TSU)	Text removed.
243	1	12	12	12	13	" … components. Participatory methods … etc" would allow for better understanding by the reader (Jeggle, Terry, University of Pittsburgh)	Text removed.
244	1	12	19	0	0	Idem on extreme applied to Impact in the title (OG2) (BOURRELIER, PAUL-HENRI, AFPCN)	Unclear comment.
245	1	12	27	12	30	This section has poor readability that detracts from the substance. In many places throughout the chapter the writing is dense and sentences are long and complicated, needlessly wordy and use the passive voice. This creates a risk that all but the most ardent audiences will lose the thread of the discussion. As an example, this text: "In the following discussion, quantitative definitions of different classes of extreme weather events are explored before considering what characteristics determine that an impact is extreme, how one may define extreme impacts, how climate change may affect our understanding of extreme events and extreme impacts, and how these topics might be considered and communicated" can be re-written as: "The next section explores: quantitative definitions of different classes of extreme weather events; what characteristics determine that an impact is extreme; how extreme impacts can be defined; how climate change can affect the understanding of extreme events and impacts; and how these topics can be communicated." This shortens the para from 59 words to 46 words without changing meaning and making it comprehensible. (Brooke, Roy, United Nations)	Good comment - we have tried to reduce use of passive in the text of Section 1.2 and througout. I257
246	1	12	35	13	17	would it be worthwhile to note that climate normals are now used to anticipate climate fluctuations? (Prather, Michael, University of California, Irvine)	Mentioned
247	1	12	37	12	37	"severe...climate" does not read well. "Climate" could be changed to "climate events". One could also add "chemical processes" as well as "dynamic and thermodynamic processes" if one is discussing the "full range" of climate events, as health-damaging air quality can contribute to making a climate event extreme. (Global Climate Observing System Steering Committee)	Do not want to mix up the term events so used 'phenomena'
248	1	12	39	0	0	seven orders of magnitudes? Reference? (Vasseur, Liette, Brock University)	Sentence turned round to explain
249	1	12	39	0	0	Why "seven orders" - it seems so arbitrary (Prather, Michael, University of California, Irvine)	Sentence turned round to explain
250	1	12	40	0	0	Severe weather is never really continental - in the sense of occurring over the entire continent. (Prather, Michael, University of California, Irvine)	The weather is not continental but the scale of severe weather can be - as in the length of a hurricane track.
251	1	12	54	0	0	Spring should be spring (Vasseur, Liette, Brock University)	OK
252	1	12	54	12	54	"Chennai" -- add "Chennai, India" (and similarly add New York, USA, in the next sentence to be consistent) (Stocker, Thomas, IPCC WGI TSU)	OK
253	1	13	0	0	0	section 1.2.2.3.: what about the conditions like " extreme hot spell"…as suffered in Europe…to public health,…or El-nino and La-nino conditions, forest fire, etc under this subsection. For Bangladesh River erosion is a big problem and it may have relation to climate change as well. (Islam, Md. Siariul, North Sotuh University)	This section is about atmosphere hydrosphere interactions. Droughts and heatwaves are covered elsewhere.

#	Ch	From Page	From Line	To Page	To Line	Comment	Response
254	1	13	1	13	3	Furthermore...: this is a very vague sentence. Stating social consequences, which are specific to location and social context (but can also be economic and/or cultural) (Vasseur, Liette, Brock University)	Sentence turned round to explain
255	1	13	1	13	23	This language is unbalanced and misses an opportunity, as follows: 1) Balance. The text speaks of placing former response orientations under 'scrutiny' and needing to complement their 'dominance'. Taken as a whole, it appears to put response and response preparedness (the main work of humanitarians) in a negative light. Instead, the text could note that response and response preparedness remain essential elements of disaster risk management, AND that broader DRR focussed activities are also vital. 2) Missed opportunity. Borrowing the logic from s.1.3.4, the text could note the need to identify better links between the DRR and response communities. See for example http://ochanet.unocha.org/CC/Community%20Content/Discussion%20Papers/Global_Challenges_Policy_Brief_Jan10.pdf (Brooke, Roy, United Nations)	This comment does not appear to link with the text at this location.The latest text does not place response in a negative frame and also places all in a single integrated complimentary framework.
256	1	13	4	13	5	“Also, an extreme event in the present climate may become much more common under future climate conditions.” Or it may become much more rare. The title of this IPCC report is “Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation”— the changing frequency of extremes, whether they become more frequent or less frequent, impacts risk management and adaptation as both have societal consequences. Overlooking extreme events becoming less common is overlooking an important part of the societal influence of a changing climate. (UNITED STATES OF AMERICA)	Added
257	1	13	5	13	6	I recommend to insert the new definition of "extrem (weather and climate) events" directly in the text, not only in the glossary. (Thieken, Annegret, Helmholtz-Zentrum Geesthacht)	In glossary and 1.1.
258	1	13	6	13	6	"new definition of" -- new compared to what? It's simply the definition used in the IPCC SREX … clarify if it's an update from another source. (Stocker, Thomas, IPCC WGI TSU)	'new' removed
259	1	13	7	0	0	A . to remove (Vasseur, Liette, Brock University)	Small dot excised
260	1	13	10	0	0	"almost" ? Do you mean "mostly" (unmonitored) ? i.e. that it is generally unmonitored.. OR perhaps better, "seldom monitored" (Jeggle, Terry, University of Pittsburgh)	Changed to 'poorly monitored''
261	1	13	10	13	10	Soil moisture is monitored globally to a degree by satellites these days, indirectly through use of comprehensive land-surface data assimilation schemes, and by in-situ measurements in some countries. (Global Climate Observing System Steering Committee)	Changed to 'poorly monitored''
262	1	13	20	14	9	This brief consideration and the references given should be improved. A listing of the most relevant hazards and a quantification of their relevance should be included, for example taken from Munich Re publications (Eberhard Faust from Munich Re is Author in one of the other chapters and will certainly be happy to help). (Ulbrich, Uwe, Freie Universitaet Berlin)	The impact for reinsurers will be on high impact events rather than prolonged events and will not include their social context. Section rewritten but priorities not set around their headline impacts.
263	1	13	24	13	24	"raw materials"?? Hard to see wind as being a material. Can you change wording to "raw elements of ...." to be consistent with the wording used in Chapter 3. (Stocker, Thomas, IPCC WGI TSU)	Text changed.
264	1	13	26	0	0	damaging consequences: not sure this is the rgith trerms? Damages? There is an abuse of the term consequences in this section. (Vasseur, Liette, Brock University)	changed to 'significant damage'
265	1	13	28	13	28	The two references given for extratropical storm fields (Clark et al., 2006; von Ahn et al., 2004) are not well chosen. The first is focused on particular effects that can at some instances cause extremely high wind speeds, but are not generally observed, the second is grey literature focusing on a particular remote sensing methodology. Out of the references for extratropical wind storms, there are certainly more suitable ones. If you wanted to have a recent paper (which is not textbook citation) quantifying the spatio-temporal dimension of extratropical wind storms, you might consider Leckebusch, G.C., D. Renggli, U. Ulbrich, 2008: Development and Application of an Objective Storm Severity Measure for the Northeast Atlantic Region. Meteorol. Z., 17, 575-587 and references therein, in particular LAMB, H.H., K. FRYDENDAHL, 2004. ‘Grading of storms’, in ‘Historic Storms Of The North Sea, British Isles And Northwest Europe’. – Cambridge University Press (UK), 7–32, ISBN 0521619319. If you wanted to address wind arising from small scale convective storms as well, you should add a reference quantifying their frequency or relevance. (Ulbrich, Uwe, Freie Universitaet Berlin)	Reference swapped to Leckebusch et al., additional ref added for severe convective storms.
266	1	13	29	13	29	please change wording to "... Including tropical and extra-tropical cyclones" to be consistent with Chapter 3, who use 'cyclones' rather than 'storms'. (Stocker, Thomas, IPCC WGI TSU)	changed

#	Ch	From Page	From Line	To Page	To Line	Comment	Response
267	1	13	31	13	31	I am not convinced that slowly moving intense cyclones should be particularly prone of bringing heavy precipitation, nor that there is a study proving this in general terms. I thus recommend to remove the second part of this sentence. (Ulbrich, Uwe, Freie Universitaet Berlin)	removed
268	1	13	32	0	0	A single extreme storm may bring extremes of precipitation and wind AND waves. (International Petroleum Industry Environmental Conservation Association (IPIECA))	Noted and changed.
269	1	13	36	0	0	Section 1.2.2.3 on Atmosphere-Hydrosphere Extremes: it's unclear why this section is needed. It strays into the Chapter 3 assessment and appears to highlight a subset of physical impacts. We suggest to delete this section and instead to refer to Chapters 3 and 4 for the assessment. (Stocker, Thomas, IPCC WGI TSU)	Removed section hedaing and simplified the list
270	1	13	36	0	0	1.2.2.3. Atmosphere-Hydrosphere Extremes…instead we use common term as "Hydro-climatic Extremes" (Islam, Md. Siarjul, North Sotuh University)	Changed
271	1	13	38	13	41	Consider including the "cryosphere" in lines 38 and 41 e.g. "The behavior of the atmosphere is also highly interlinked with that of the hydrosphere, cryosphere, and …" (Brown, Ross, Environment Canada @ Ouranos)	added
272	1	13	40	0	0	Examples could also include desert wadi flash-flooding (International Petroleum Industry Environmental Conservation Association (IPIECA))	Noted.
273	1	13	40	13	40	"Among the more important..." - This is a value judgement - what is this 'importance' based on? Area affected? Lives lost?. It might be safer to say - "Among the more widely documented extreme events... Or Among the most well understood extreme events.....". (Stocker, Thomas, IPCC WGI TSU)	Noted and changed.
274	1	13	40	13	41	Consider adding rain-on-snow (ROS)as an example of an extreme phenomenom "resulting from climate and weather interacting with the cryosphere, hydrosphere and geosphere". ROS impacts ungulate foraging, snowmelt floods and the soil thermal regime. Two appropriate references are Rennert et al. (2009) and Sui and Koehler (2001). Rennert, Kevin J., Gerard Roe, Jaakko Putkonen, Cecilia M. Bitz, 2009: Soil Thermal and Ecological Impacts of Rain on Snow Events in the Circumpolar Arctic. J. Climate, 22, 2302–2315. doi: 10.1175/2008JCLI2117.1 Jueyi Sui, Gero Koehler, Rain-on-snow induced flood events in Southern Germany, Journal of Hydrology, Volume 252, Issues 1-4, 31 October 2001, Pages 205-220, ISSN 0022-1694, DOI: 10.1016/S0022-1694(01)00460-7. (Brown, Ross, Environment Canada @ Ouranos)	Second ref added and note made.
275	1	13	42	13	42	"reflecting" - "causing" (Stocker, Thomas, IPCC WGI TSU)	changed
276	1	13	44	13	51	...exceeding the 1- or 2-year maximum…again, not a good definition of flood…for example…Bangladesh is a flood plain country and 80% of the country is floodplain. During dry season river use to confine within its channel people use to cultivate land. Now in November-April (dry season) period if the river swell and inundate surrounding floodplain with a height of 3 fett, it is a flood because it will cause damage to standing crops. Whereas, during monsoon, when entire floodplain is covered with water, nobody cultivates land there and at the same place 5-10 feet height of water is not a flood...but usual flooding of floodplain. During that time flood is when the water level rise beyond 10-12 feet and damage houses and lives. So, definition of Flood should be as " a level of enundation which can cause harm to life and property"...poential of an inundation height to damage life and property no doubt varies with spatial and temporal contexts. (Islam, Md. Siarjul, North Sotuh University)	changed flood definition
277	1	13	44	13	51	This paragraph could start with "Mountain flooding and shifts in snow seasonality, hydrological patterns and sublimation and evapotranspiration rates." Suggested citation: de Jong, C., Collins, D. and Ranzi, R. (2005). Climate and Hydrology in Mountain Areas. John Wiley and Sons (pp. 384). (de Jong, Carmen, University of Savoy)	ref added.
278	1	13	44	13	51	de Jong, C, Whelan, F. and Messerli, B. (2005) Water balance of high mountain basins. Special Issue of Hydrological Processes. Vol. 19 (12), p. 2323-2449. (de Jong, Carmen, University of Savoy)	Previous ref by this author added
279	1	14	3	0	0	should be " Landslide and avalanches" (Islam, Md. Siarjul, North Sotuh University)	Avalanches have distinct origin and are omitted for reasons of space.
280	1	14	3	0	0	Not sure that it is the only way there are landslides. I think this has been a little too much simplified. (Vasseur, Liette, Brock University)	Clarified
281	1	14	3	14	3	The citation for Dhakal and Sidle (2004) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	added

#	Ch	From Page	From Line	To Page	To Line	Comment	Response
282	1	14	3	14	4	I believe the proper terminology for landslides in permafrost terrain is "active-layer detachments" and these can be triggered by several mechansims including warming, rainfall and forest fires - see Lewcowicz A.G. and C. Harris, 2005: Frequency and magnitude of active-layer detachment failures in discontinuous and continuous permafrost, northern Canad a, Permafrost and Periglacial Processes, 16,115-130. (Brown, Ross, Environment Canada @ Ouranos)	Added
283	1	14	3	14	4	Add "... Excess rainfall, thawing of permafrost slopes, and recession of glacial ice". Note, it is the thawing of permafrost, not the eventual melt that leads to landslides. (Stocker, Thomas, IPCC WGI TSU)	thawing' added
284	1	14	6	14	8	Don't see why this last sentence is needed. Many of the examples you give above are clearly related to long-term changes in mean climate. (Stocker, Thomas, IPCC WGI TSU)	Removed
285	1	14	6	14	8	It would be useful to add a reference at the end of this sentence to Section 3.1.6 which addresses this issue in detail. (Seneviratne, Sonia, ETH Zurich)	Sentence removed
286	1	14	15	0	0	Idem (OG2) (BOURRELIER, PAUL-HENRI, AFPCN)	???
287	1	14	21	0	0	coral reefs in warming... Not really right term to use since acidification seems to be a combination of many other factors such as pH (Vasseur, Liette, Brock University)	removed mention
288	1	14	22	14	23	Does an extreme impact always have enduring consequences? Over what temporal scale? (IPCC WGII TSU)	changed to 'typically long lasting'
289	1	14	25	14	26	please provide a source for these statements about "beneficial effects" and "may reduce insect pests" (Stocker, Thomas, IPCC WGI TSU)	sources included
290	1	14	28	14	29	This section provides an example of how non-extremes can lead to extreme impacts (wildfire followed by heavy rain leading to landslides and soil erosion). It would be useful to include this example or other examples of non-extremes at the 1st mention on p. 2 of chapter 1, if not p. 2 of the SPM. (UNITED STATES OF AMERICA)	Now included in ES.
291	1	14	28	14	30	Also chapter 3 addresses this issue (under Section 3.1.3). I would thus suggest to replace parenthesis with "(see chapter 3 [Section 3.1.3] and 9 for examples)" or similar. (Seneviratne, Sonia, ETH Zurich)	cross ref added
292	1	14	32	14	32	What are the levels of resistance? (IPCC WGII TSU)	Altered to level of protection
293	1	14	46	0	0	Idem (OG2) (BOURRELIER, PAUL-HENRI, AFPCN)	???
294	1	14	53	0	0	Blackburn et al, 2010. There is not in the references at the end of the chapter (GREECE)	removed
295	1	14	53	14	53	The citation for Blackburn et al. (2010) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	removed
296	1	15	2	0	0	Extreme preconditioning : a good example is also the Arctic general thickness reduction in Multi-year ice which preconditions/amplify the summer low sea ice extent (International Petroleum Industry Environmental Conservation Association (IPIECA))	Now included.
297	1	15	5	15	5	Chapter 4 should also be cited here, given you are referring to ecological responses. (Stocker, Thomas, IPCC WGI TSU)	Now included.
298	1	15	7	0	0	Swetman, 2003...) is missing (Vasseur, Liette, Brock University)	Westerling and Swetman (2003) now in refs
299	1	15	7	15	7	Typo in citation: For Westerling and Swetman (2003), the second author's name is spelled differently in the chapter text, as compared to the chapter reference list. Please ensure correct spelling of the author's name in both the text and the reference list. (IPCC WGII TSU)	Corrected
300	1	15	8	15	10	To be more accurate here; cooler SST in the wake of a TC can serve to reduce the local potential intensity, which has the potential of limiting a TC's maximum intensity. But it won't, by itself, cause a TC to "lose intensity". (Kossin, James, NOAA / NESDIS / National Climatic Data Center)	Corrected
301	1	15	11	0	0	Intense rainfall from TCs do not always help to fill reservoirs. It depends on the soil properties. For example, TC Gonu in Oman had not such beneficial effect. (International Petroleum Industry Environmental Conservation Association (IPIECA))	text says 'on many occasions'
302	1	15	14	0	0	Suppress anthropogenic (OG4) (BOURRELIER, PAUL-HENRI, AFPCN)	the 'anthropogenic' is important here as othewrise attribution would not have any significance
303	1	15	14	15	16	You should direct the reader to Section 3.2.2 for further discussion of D&A of extremes. (Stocker, Thomas, IPCC WGI TSU)	added

#	Ch	From Page	From Line	To Page	To Line	Comment	Response
304	1	15	14	15	16	However, the probability that climate change has increased the risk for the event to occur ("loaded dice") can be assessed in some cases (see e.g. Stott et al. 2004, Pall et al. 2011) [Stott, PA, D.A. Stone, and MR Allen, 2004, Nature, 432, 610-614; Pall, P., T. Aina, D.A. Stone, P.A. Stott, T. Nozawa, A.G. Hilberts, D. Lohmann, and M.R. Allen, 2011, Nature, 470, 382-386] (Seneviratne, Sonia, ETH Zurich)	Added
305	1	15	14	15	20	this paragraph should be placed higher in the text since this is hugely important. It might be good to add a few exmaples. (Vasseur, Liette, Brock University)	Moved to the end of 1.2.2.1
306	1	15	15	15	16	The wording suggests that an extreme event could me "non-natural". Be more careful with such statements as they can easily be misinterpreted. I suggest to write that "extreme events occur even without any anthopogenic climate forcing". (Ulbrich, Uwe, Freie Universitaet Berlin)	replaced with 'without this contribution'
307	1	15	16	15	19	As stated earlier in the text, there can be combinations of moderate events or (even anthropogenic) boundary conditions which eventually cause extreme events. So this is neither a complication, nor are they "unrelated" - the different physical processes or boundary conditions both contribute to the generation of the extreme event. Thus, under anthropogenic climate change the risk for such extreme events may be altered due to changes in any of the relevant parameters. Please re-write. (Ulbrich, Uwe, Freie Universitaet Berlin)	Reworded
308	1	15	25	15	25	I wonder about environmental impacts nd whether not to include? (Mechler, Reinhard, INTERNATIONAL INSTITUTE FOR APPLIED SYSTEMS ANALYSIS)	Collective decision of the Chapter to reference ecosystem services and crops and agricultural systems rather than 'environment impacts'
309	1	15	27	15	36	Metrics need greater depth of references (UNITED STATES OF AMERICA)	this is a compilation of many studies and there is no simple set of references
310	1	15	27	15	36	Suggest that at least one of these measurements be duration (time without power, time before people can move home, time homes are under water, etc.) (UNITED STATES OF AMERICA)	Duration is not an impact but a feature of the extreme.
311	1	15	27	15	36	Another metric to quantify social impacts relates to the psychological impacts of disasters, particularly post-traumatic stress disorder (e.g., Galea et al. 2005. The Epidemiology of Post-Traumatic Stress Disorder after Disasters, Epidemiologic Reviews 7: 78-91) (OBrien, Karen, Department of Sociology and Human Geography)	Added
312	1	15	35	15	35	Delete "impacts of" (Mechler, Reinhard, INTERNATIONAL INSTITUTE FOR APPLIED SYSTEMS ANALYSIS)	deleted
313	1	15	36	0	0	Impacts on reputation could be mentioned (International Petroleum Industry Environmental Conservation Association (IPIECA))	As a generality 'impacts on reputation' is not a universal outcome of extremes.
314	1	15	43	15	43	The MunichRe disaster database could be cited as a high-quality example. See: http://www.munichre.com/en/reinsurance/business/non-life/georisks/natcatservice/default.aspx. (CANADA)	For this discussion referenced only public agency disaster data sets.
315	1	16	0	0	0	Section 1.3: How does rational (or irrational) behaviour come into play as part of risk governance? Additional discussion on this is found throughout the document (Chapter 4 (p. 15 line 15 - p.16 line 6), Chapter 5 (Section 5.3.1), Chapter 8 (8.3.2)). Useful to consolidate discussion around behaviours (and how to change them) into one section - perhaps in Chapter 2 - as behaviour change is critical to success. (International Petroleum Industry Environmental Conservation Association (IPIECA))	This does not seem to be a chapter 1 issue
316	1	16	10	0	0	Wind speed of 76m/s : what is the averaging time 10-min, 3-sec ? (International Petroleum Industry Environmental Conservation Association (IPIECA))	peak gust added
317	1	16	15	16	20	Although this paragraph is under heading "Traditional Adjustment to Extremes", it might be worth adding a sentence that even if communities are accustomed to certain hazards and know how to deal with it, these traditional coping mechanisms might not work anymore under the impacts of cc, when impacts pass a certain threshold (GERMANY)	Note added to end of the section
318	1	16	19	16	19	The Paris heatwave was in August (not July) 2003 (Trewin, Blair, Australian Bureau of Meteorology)	Corrected
319	1	16	23	0	0	Section 1.2.4. Consistency of this section with the glossary, section 3.1.7, and section 8.4.3 should be considered. For example, the glossary contains the term "climate threshold," which is defined differently from "threshold" as used here in the context of impacts becoming disaster. (IPCC WGII TSU)	thresholds' removed
320	1	16	25	0	0	A typology will be to develop (BOURRELIER, PAUL-HENRI, AFPCN)	????
321	1	16	25	0	0	I do not agree the way this sentence starts. Change to: Disasters may lead to severe disruptions... (impacts being changes, there is some reduncdancy here). (Vasseur, Liette, Brock University)	Changed

#	Ch	From Page	From Line	To Page	To Line	Comment	Response
322	1	16	28	16	33	"Building on the definition set out in Section 1.1.1, some have argued that societal impacts resulting from weather, climate or hydrological events become disasters once they surpass thresholds in at least one of three dimensions: spatial (so that damages cannot be restored from proximate capacity), temporal (so that recovery becomes frustrated by further damages), and intensity of impact on the affected population (undermining, although not necessarily totally eliminating the capacity of the society to repair itself)." This sentence wording is somewhat unclear, and the phrase 'proximate capacity' may need defining for non-scientists. (UNITED STATES OF AMERICA)	Removed 'proximate' capacity and attempted to simplify the punctuation of this sentence.
323	1	16	36	0	0	add , between outbreaks and etc. (Vasseur, Liette, Brock University)	Turned round this sentence
324	1	16	42	0	0	In section 1.3, reconsider the headings and section structure -- the discussion has several different elements and the balance and flow are currently unclear (e.g. 1.3.1 on probabilistic risk analysis -- a tool -- coming before 1.3.3 which seems quite a central discussion) (International Federation of Red Cross and Red Crescent Societies (IFRC))	Done
325	1	16	42	0	0	Section 1.3. Overlap with section 2.8.2 should be considered, perhaps moving non-redundant material from 2.8.2 into this section. (IPCC WGII TSU)	We have coordinated with Chapter 2 and tried to reduce the redundancies.
326	1	16	44	17	2	This is no need for this paragraph. Or it need to be revised regarding its link to the topic this section. (Li, Yun, CSIRO Mathematics, Informatics and Statistics)	This paragraph has been divided into two and rewritten to solidify link with the topic of this section
327	1	16	50	0	0	there is a need to introduce the concept of governance. It cannot be added like this without background. Working on this topic at the present in function of risk and adaptation, I can say that this is a very complex but essential issue to deal with if communities or organisations want to move forward. (Vasseur, Liette, Brock University)	This section addresses risk management actions and the allocation of effort among different types of such actions. We introduce the risk governance framework to situation this topic in a broader framework. We believe this situating is necessary and important.
328	1	17	0	0	0	Another definition is RISK=ProbablitityXDamage, but Consequence is more general and inclusive (GREECE)	We agreed.
329	1	17	5	18	5	In the paragraph about probabilistic risk analysis the quantification of risks is not sufficiently described. For example, no information is given about the calculation and usage of quantities scuh as the "expected annual damage (EAD)" or "average annual loss (AAL)", which are, however, frequently used. In addition, the problems connected with these quantities, i.e. the low influence of extreme events and their losses on EAD or AAL, should also be addressed. Useful papers are e.g. Kaplan, S. & Garrick, B.J. (1981), On the quantitative definition of risk, Risk Analysis, 1(1), 11-27; MERZ, B., F. ELMER, A.H. THIEKEN (2009): Significance of 'high probability/low damage' versus 'low probability/high damage' flood events. – Natural Hazards and Earth System Sciences 9: 1033-1046 (http://www.nat-hazards-earth-syst-sci.net/9/1033/2009/nhess-9-1033-2009.html). (Thieken, Annegret, Helmholtz-Zentrum Geesthacht)	This level of detail is not appropriate for this section since we are not discussing how to estimate the quantities but rather the implications of the general framework
330	1	17	10	17	11	It's good to state that others are preferable, but where are they treated in this Chapter or report? Please make clear references to other parts of the report, or spend a section on alternative approaches. (NETHERLANDS)	This is now done at the end of Box 1-2.
331	1	17	17	17	39	Box 1-2: The probabilistic risk analysis is exposed here only in its simplest expression, with no risk aversion nor concavity of the utility function (c.f. expected utility theory of Von Neumann and Morgenstern - "VNM"). (FRANCE)	Exactly. We aim to provide the simplest expression of the probabilistic risk analysis framework in this section.
332	1	17	17	17	39	Box 1-2 - Suggest the inclusion of a discussion on how probability will alter over time due to climate change. While this is addressed well in section 1.3.2.1, the boxes should be able to stand alone, and the concept of on-stationarity is too important not to be mentioned here. (CANADA)	We have added an explicit reference to Section 1.3.3 (formerly 1.3.2) in the text refering to Box 1-2.
333	1	17	17	17	41	I would suggest to note in this box that this approach has some severe limitations for high-impact low-probability events. In these cases, risk is extremely difficult to quantify because of the combination of very small and large numbers, both associated with very large uncertainty bounds compared to their value. This was dramatically illustrated in the case of recent events such as the Hurrican Katrina and the recent earthquake and tsunami in Japan. Note that high-impact low-probabiliy events associated with climate change are mentioned under Section 3.1.7 ("as high-risk low-probability" events). This issue is partly mentioned under Section 1.3.2.2.1 ("cognitive barriers") but it would be useful to at least mention it when presenting this equation. (Seneviratne, Sonia, ETH Zurich)	We have added an explicit reference to Section 1.3.3 (formerly 1.3.2) in the text refering to Box 1-2.

#	Ch	From Page	From Line	To Page	To Line	Comment	Response
334	1	17	19	18	1	This description is the conventional and basic used by the industry and in the field of technological hazards. Nevertheless, in the field of natural and socio-natural hazards and more relevant for the SREX (Chap 1/2l) and for all document should be to describe the framework developed by UNDRO in 1979 that has been the main framework used in DRM worldwide (it is an obligated reference in DRM and should be in CCA when risk is addressed). The expert meeting of 1979 agreed the well-know equation in which Risk is a function of Hazard, Vulnerability, and Exposure (elements at risk): R = (H, V, E). Other appropriate expression derived is Rie= f(Hi, Ve); where Risk of an element e due to an intensity i, is a function of the Hazard with an intensity I and the vulnerability of the element e. This equation is accepted and widely used by the stakeholders (planers, policy makers, engineers, etc.) and it is not mentioned in the Chapter 1. The reference is: UNDRO, 1980: Natural Disasters and Vulnerability Analysis, Report of Experts Group Meeting of 9-12 July 1979 (Geneva: UNDRO) (Cardona, Omar, Universidad Nacional de Colombia)	We have added more current references (than UNDRO 1980) to Box 1-2
335	1	17	25	17	25	inflicting causalities should be "inflicting casualities" (GARG, AMIT, INDIAN INSTITUTE OF MANAGEMENT AHMEDABAD)	fixed
336	1	17	36	0	0	determine via should be "determined via" (GARG, AMIT, INDIAN INSTITUTE OF MANAGEMENT AHMEDABAD)	This text was eliminated in re-write.
337	1	17	43	18	5	The comments on PRA do not, therefore, mention that there exists tools, developed from VNM, that may help to cope with observations made in the report : the concavity of the utility function may help for equity concerns; the degree of concacivity, corresponding for VNM to the degree of risk aversion, explains why voluntary risk transfers may function (in the PRA as exposed, risk neutrality implies no incentive to get insured). (FRANCE)	This level of detail is not appropriate for this section since we are not discussing how to estimate the quantities but rather the implications of the general framework
338	1	17	48	17	50	Insurers and reinsurers often buy risk models and results, in addition to inhouse expertise. I would add "risk modelling firms" after "insurance companies," then further below replace "firms" by "they" or likewise. (Mechler, Reinhard, INTERNATIONAL INSTITUTE FOR APPLIED SYSTEMS ANALYSIS)	This text was eliminated in re-write.
339	1	17	53	0	0	Change to "does not exist. For instance, flood risk maps use estimates..." (Vasseur, Liette, Brock University)	This text was eliminated in re-write.
340	1	18	3	18	5	The governance discussion seeems odd here. (Mechler, Reinhard, INTERNATIONAL INSTITUTE FOR APPLIED SYSTEMS ANALYSIS)	This text was eliminated in re-write.
341	1	18	19	18	21	This paragraph is very redundant from previous ones. (Vasseur, Liette, Brock University)	Re-writing of previous sections now makes this an important transition paragraph
342	1	18	24	18	24	"..100-year flood or a 50-year…" This is just a comment, no change needed. It is interesting that while US federal agencies are directed/required to move towards annual exceedance probability, this report uses recurrence interval. Note, I think moving towards AEPs in the long run may better help explain the likelihood, but in the short run 5-10 years, it will only confuse the public. Many people now better understand 100-year, 50-year as on average once in 100 or 50 years, rather than we've had a 100-yr event and can rest easy for the next 100 years. (UNITED STATES OF AMERICA)	OK
343	1	18	28	18	30	Paleoflood hydrology provides important data based on physical evidence of the magnitude and frequency of flooding preserved in channels and floodplains. In addition, paleoflood study sites within different regions provide important data on the amount, or lack thereof, of changes of maximum flooding in thousands of years. Report needs more paleodata/interpetation recognition. (UNITED STATES OF AMERICA)	This paragraph now mentions paleoclimate records
344	1	18	30	0	0	Please explain whether this is meant to imply anthropogenic climate change only. Importantly, natural climate variability (as explained in many places in this report) also leads to non-stationary over timescales of many decades. Please explain how these different timescales affect frequency estimation. (NETHERLANDS)	This paragraph now mentions paleoclimate records
345	1	18	30	18	31	This assumption generally is not supported by existing paleoflood studies. Paleoflood hydrology provides important data based on physical evidence of the magnitude and frequency of flooding preserved in channels and floodplains. In addition, paleoflood study sites within different regions provide important data on the amount, or lack thereof, of changes of maximum flooding in thousands of years. Report needs more paleodata/interpetation recognition. (UNITED STATES OF AMERICA)	This paragraph now mentions paleoclimate records and, in particular, how these records show larger variability than the data records currently used by most pracitioners of disaster risk management.
346	1	18	30	18	33	One could argue that risks have always been dynamic given the dynamics of vulnerability and exposure and changes therein. (Mechler, Reinhard, INTERNATIONAL INSTITUTE FOR APPLIED SYSTEMS ANALYSIS)	See response to comment 345.
347	1	18	31	18	33	Work done by Bardossy and Pakosch should be considered. (Thieken, Annegret, Helmholtz-Zentrum Geesthacht)	We believe the current cites are sufficient

#	Ch	From Page	From Line	To Page	To Line	Comment	Response
348	1	18	48	18	48	I am not sure about suggesting fuzzy sets as an efficient method, and their use is not limited to subjective risk assessment anyway. I would suggest toning this done a little bit. (Mechler, Reinhard, INTERNATIONAL INSTITUTE FOR APPLIED SYSTEMS ANALYSIS)	There is now only a brief mention of fuzzy sets in section 1.3.3
349	1	18	50	18	50	The citation for Simonovic (2011) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	Done
350	1	18	51	18	51	It might be helpful to cite the new uncertainty guidance (i.e., the AR5 Guidance Note on Treatment of Uncertainties (Mastrandrea et al., 2010): http://www.ipcc-wg2.gov/meetings/CGCs/Uncertainties-GN_IPCCbrochure_lo.pdf). (IPCC WGII TSU)	Done
351	1	18	51	18	52	Should refer here to the new IPCC uncertainty guidance document. As noted in our FOD review, we believe a box should be included at this point to introduce the uncertainty language to be used throughout the report. (Stocker, Thomas, IPCC WGI TSU)	this is an SPM issue, not Chapter 1.
352	1	19	0	0	0	Section 1.3.2.2 (cognitive behaviour): How does distrust of science and technology come into play in terms of behaviours? Is this a big issue? (International Petroleum Industry Environmental Conservation Association (IPIECA))	Box 1-3 now makes clear that these cognative processes affect the main theme of this section -- the allocation of efforts among different types of risk management actions.
353	1	19	30	19	30	"availability heuristic" -- "availability heuristic approach"? (Stocker, Thomas, IPCC WGI TSU)	Availability heuristic is the correct phrase.
354	1	19	31	19	31	The citation for Tversky and Kahneman (1979) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	Changed.
355	1	19	31	19	32	kahneman and Tversky (1979) also observe, on the contrary, an over-weighting of low probabilities, once a figure is given for a (low) probabilistic level, thus distinguishing between perception of such a figure (over weighting) and personal perception of the likelihood of a non-recently experienced risk (under estimation). (FRANCE)	this text was eliminated in re-write
356	1	19	41	19	42	This may not be the fact that "Ignoring the risk of extremes is common in low income, hazard prone communities". (Li, Yun, CSIRO Mathematics, Informatics and Statistics)	This phrase has been removed from the text.
357	1	19	43	19	43	The citation for Maskrey (1988) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	Changed.
358	1	19	50	19	51	It is not true that "Statistical theories and concepts related to disperision or extremity of events trean the direction of deviations from average conditions or central tendency in a symmetric fasion" . This is because the tails of the distributions (e.g., Frechet, Gumbel, and Weibull distribution family) used to fit the extremal events are often not symmetric. (Li, Yun, CSIRO Mathematics, Informatics and Statistics)	this text was eliminated in re-write
359	1	19	50	19	53	These lines let think that the conceptual mathematical tools available cannot capture real perceptions. This is not correct: even without speaking of recent developments of risk and uncertainty theory, the basic VNM approach represents, through the concavity of the utility function, such a disymmetry. The reference to Kahneman and Tversky (1979) should be more precise: they observed that individuals focussed more on relative gains and losses that on absolute outcomes ('final assets"), unlike what the basic VNM framework supposes. (FRANCE)	this text was eliminated in re-write
360	1	20	0	0	0	Section 1.3.2.2.3 (Influence of culture and ideology) - Social media: plethora of opinions can now be found on the web. Who and what can be trusted? Any suggestions for policy-makers (and others) in a world of increased connectivity? (International Petroleum Industry Environmental Conservation Association (IPIECA))	The role of social media is an interesting question, but not within the perview of this overview chapter.
361	1	20	2	20	2	Add "economic constraints and barriers"? (Mechler, Reinhard, INTERNATIONAL INSTITUTE FOR APPLIED SYSTEMS ANALYSIS)	this text was eliminated in re-write
362	1	20	5	20	27	The analysis is interesting, but does not come to the logical conclusion that action on risks may modify perception of individuals, and create in return high expectations for intervention: risk management actions are not exogenous. It might be worth t to mention it, and useful for some types of risk management actions in specific contexts. (FRANCE)	We have added text Section 1.3.1.1 to address this important point.
363	1	20	9	20	9	The citation for Weber (2010) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	Changed.
364	1	20	18	20	27	The example about "The US public's distrust of nuclear power…" does not make sense to me. The whole paragraph should be either removed or rewritten. (Li, Yun, CSIRO Mathematics, Informatics and Statistics)	The paragraph has been rewritten.

#	Ch	From Page	From Line	To Page	To Line	Comment	Response
365	1	20	19	20	22	Does this sentence need to be revised in the light of the present Fukushima accident? (Seneviratne, Sonia, ETH Zurich)	The Fukushima accident is too recent to have generated the same richness of studies of public perceptions that are available after the Three Mile Island accident. So we use the latter example here.
366	1	20	22	20	24	Recommend deleting this sentence, as its inclusion weakens an otherwise strong and important section. Retention may be appropriate if there is a substantial (and thoroughly assessed) body of literature that would support this concept of a corrective mechanism, but the reference cited does not support that. (CANADA)	We have reworded this sentence to make its important point more clearly.
367	1	20	30	0	0	Section 1.3.3. This section seems to be inconsistent in its use of disaster risk management and disaster risk reduction. (IPCC WGII TSU)	We have rewritten to clarify the language.
368	1	20	30	21	23	The essence of this paragraph was not clear to me. And I have been wondering whether the ISDR processes and the Hyogo Framework were not mentioned. (Thieken, Annegret, Helmholtz-Zentrum Geesthacht)	We have rewritten this section which now cites the ISDR and Hyogo Framework.
369	1	20	32	20	34	I think the criticism is too pronounced, as there is a long tradition of risk assessment and management (Mechler, Reinhard, INTERNATIONAL INSTITUTE FOR APPLIED SYSTEMS ANALYSIS)	This text was eliminated in re-write.
370	1	20	33	20	33	Here and other place, "NGO" should be predefined before using it. (Li, Yun, CSIRO Mathematics, Informatics and Statistics)	Acronym removed here and elsewhere in chapter.
371	1	20	34	20	35	Rework the series of references (in fact this needs to be more consistent throughout the text). (Vasseur, Liette, Brock University)	Noted
372	1	20	39	20	40	The citation for Blaikie et al. (1996) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	Changed.
373	1	20	47	20	48	The citation for Sen (1982) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	Changed.
374	1	20	48	20	48	Typo in citation: For Wijkmans and Timberlake (1988), the first author's name is spelled differently in the chapter text, as compared to the chapter reference list. Please ensure correct spelling of the author's name in both the text and the reference list. (IPCC WGII TSU)	Changed.
375	1	20	48	20	48	The citation for Lavell (1999) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	Changed.
376	1	20	48	20	49	The citation for UNDP (2004) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	Changed.
377	1	21	6	21	6	It could be useful to add that risks can also be shared using non-market mechansism such as insurance, .e.g could say. Risk sharing of losses often is carried by using taxes for providing relief and compensation (Mechler, Reinhard, INTERNATIONAL INSTITUTE FOR APPLIED SYSTEMS ANALYSIS)	This point is now made in the revised introduction to Section 1.3.
378	1	21	10	21	10	There is also the function for risk sharing that allows risk cedents to aspire to more stable and improved livelihoods. Could add something like the following: "properly designed and functioning risk sharing mechanisms can help to increase underlying resilience when systemic risks are eliminated allowing for higher return investments …" (Mechler, Reinhard, INTERNATIONAL INSTITUTE FOR APPLIED SYSTEMS ANALYSIS)	The revised introduction to Section 1.3. now discusses risk transfer in more detail, along with risk reduction. The definitions focus on the relationship of risk transfer to risk reduction but not resilience, since the latter term is not a focus of these particular definitions.
379	1	21	10	21	11	are the specifics about the reference Lavell and Lavell, 2009, needed? Suggest to delete "for examples of such uses amongst….". (Stocker, Thomas, IPCC WGI TSU)	Text deleted as suggested.

#	Ch	From Page	From Line	To Page	To Line	Comment	Response
380	1	21	13	21	23	The chapter correctly emphasizes the need to invest more in risk reduction. However, the language in some sections, particularly these lines, suggests a dichotomoy between risk reduction and response to disasters (this is also in contrast with the earlier message in the first paragraph of 1.3.3, which correctly pointed out that there is a need to keep investing in capacity for preparepedness and response). These lines however (with wordings like "institutions under scrutiny" and "so called disaster prevention" seem to suggest that there are opposing agendas. In reality, disaster risk cannot efficiently be reduced to zero. There will always remain a role for response, as well as for emergency preparedness. One of the questions this report should also answer (rather than just the questions for long-term development planning) is how these preparedness and response systems need to be adjusted in light of a changing climate -- they can be made a lot more effective by making better use of climate ifnormation on all timescales. In practice, we see a continuum of such climate information needs for preparedness and response and what's needed for long-term risk reduction. (International Federation of Red Cross and Red Crescent Societies (IFRC))	We agree and have tried to modify the text as suggested. In particular, Section 1.3 now focuses on the allocation of efforts among risk reduction, risk transfer, and disaster risk management (narrowly defined).
381	1	21	22	21	23	are the specifics about the reference Ramirez and Cardona needed? Suggest to delete "on the early 1989 creation….". (Stocker, Thomas, IPCC WGI TSU)	Text deleted as suggested.
382	1	21	28	21	28	It might be helpful to clarify which types of future impacts CCA anticipates (i.e., climate change impacts). (IPCC WGII TSU)	left generic
383	1	21	28	21	30	IPCC (1995) is not really "early climate change literature". That's only 16 years ago. The early climate change adaptation literature would be from the 1970s and 1980s. Moreover, IPCC 1995 is a very long report so asking a reviewer to read such a long report to substantiate the assertion is asking too much. (UNITED STATES OF AMERICA)	We have used new citations.
384	1	21	31	21	31	The citation for UNDP (2008) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	Changed.
385	1	21	31	21	31	The citation for WDR (2010) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	Changed.
386	1	21	32	21	32	"the current IPCC definition of adaptation" -- what is the "current IPCC definition of adaptation"? Is it the one given in the Glossary of SREX? Please specify. (Stocker, Thomas, IPCC WGI TSU)	We have reworded this sentence to eliminate the phrase "current IPCC definition of adaptation."
387	1	21	37	21	39	I do not agree with this sentence. Chosing to build in a low-lying area is in fact NOT a climate-related decisions since it is maladaptive. If it was: NOT to build in a low-lying area, I would have said, yes, this is cliate-related decision. (Vasseur, Liette, Brock University)	The cited literature defines the phrase "climate related decision" as is used in the text and provides convincing reasons for doing so. The reviewer provides arguments against the conclusions of this literature.
388	1	21	41	21	48	The paragraph notes that a key concern for adaptation literature has been anticipating future conditions. While this is true for some of this literature, the notable "social vulnerability" literature (that also deals with adaptation) has defined itself in opposition to a focus on future conditions, arguing that adaptations need to be understood as based in the current social vulnerability of people rather than assumed based on future conditions. (Potential reference: Smit, B., & Wandel, J. (2006). Adaptation, adaptive capacity and vulnerability. Global Environmental Change, 16, 282–292). (SWEDEN)	We have added text to address this point and use the cite provided.
389	1	21	42	21	42	"biophysical" -- what do you mean by biophysical conditions? We assume you are referring to physical-biogeochemical conditions. Please replace here and throughout the text. (Stocker, Thomas, IPCC WGI TSU)	Done
390	1	21	43	21	47	In the first sentence here, does CCA address "weather extremes" or "changes in weather extremes due to climate change"? Given the citation to Chapter 3, should the second sentence explicitly state that the increasing severity of risk discussed here is due to increasing hazards, as opposed to increasing vulnerability and exposure? (IPCC WGII TSU)	This text was eliminated in re-write.
391	1	21	46	21	46	Why is chapter 3 cited here in relation to risks? (Stocker, Thomas, IPCC WGI TSU)	This text was eliminated in re-write.
392	1	21	51	0	0	Jones and Preston (2011). In the references it is 2010 not 2011. (GREECE)	Changed.
393	1	21	51	21	51	Please define PRA. (IPCC WGII TSU)	We no longer use this acronym.
394	1	21	51	21	51	The citation for Jones and Preston (2011) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	Changed.

#	Ch	From Page	From Line	To Page	To Line	Comment	Response
395	1	22	3	22	9	The concept of deep uncertainty as it applies to climate change is very apt and although the document explained the characteristics of deep undertainty, the approach to disaster risk management and climate change remain to be within the domain of control ie. banishment and reduction (Smithson, Michael et.al. Coping and Managing under Uncertainty, page 327 of the book Uncertainty and Risk Multidisciplinary Perspectives, edited by Gabriele Bammer and Michael Smithson, c. 2008). Anticipation involves prediction and planning on the basis of forecasts, and therefore is served by uncertianty banishment and reduction. (Abarquez, Imelda, Oxfam Hong Kong)	Robust, anticipatory strategies need not involve prediction (see Robert J. Lempert, Steven W. Popper, Steven C. Bankes, 2003: "Shaping the Next One Hundred Years: New Methods for Quantitative, Long-Term Policy Analysis," RAND MR-1626-RPC) and can aspire to success in the face of surprise (see Robert Lempert. 2007: “Can Scenarios Help Policymakers Be Both Bold and Careful?” in "Blindside: How to Anticipate Forcing Events and Wild Cards in Global Politics" Francis Fukuyama ed. Brookings Institution Press, Washington DC.)
396	1	22	7	22	8	"… but the amount of uncertainty, as measured by our ability to make specific, accurate predictions, may grow larger. In addition, theory and models may change in ways that make them less, rather than more reliable as predictive tools over time." How and why is this? (UNITED STATES OF AMERICA)	Added cititation.
397	1	22	12	22	15	The sentence "Both the climate adapation….have available" is not related to "the resilience". Revise this paragraph. (Li, Yun, CSIRO Mathematics, Informatics and Statistics)	Revised text clarifies the relationship.
398	1	22	24	0	0	Similary should be "Similar" (GARG, AMIT, INDIAN INSTITUTE OF MANAGEMENT AHMEDABAD)	Changed.
399	1	22	30	0	0	Tompkins et al , 2008. There is not in the references. (GREECE)	Changed.
400	1	22	30	22	30	The citation for Lemos et al. (2007) is not provided in the chapter’s reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	Changed.
401	1	22	30	22	30	The citation for Tompkins et al. (2008) is not provided in the chapter’s reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	Changed.
402	1	22	32	0	0	This statement is contrary to the discussion above and the examples cited in this paragraph. Since the statement talks about studies, it must be accompanied with proper reference to studies which suggest this. (GARG, AMIT, INDIAN INSTITUTE OF MANAGEMENT AHMEDABAD)	We have made clear that the statement refers to 'climate risk management' alone, so is now consistent with the above discussion. We have also made the references clear.
403	1	22	32	22	44	Similarly, the examples mentioned do not lead to conclusions that might be interesting for the conception of risk management actions: the concept of extreme weakness could be important to take into consideration, for extreme risks too. (FRANCE)	We are not sure we understand this comment. Text re-written to clarify.
404	1	22	43	22	44	The citation for Ingram et al. (2002) is not provided in the chapter’s reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	Changed.
405	1	22	48	22	48	(e.g, Degg abd Chester, 2005; Nelson, 2005) (Li, Yun, CSIRO Mathematics, Informatics and Statistics)	Changed.
406	1	22	51	0	0	Integrating is not appropriate (OG1) : instead : linking (BOURRELIER, PAUL-HENRI, AFPCN)	We believe that integrating is the appropriate word here.
407	1	22	53	23	54	This section, 1.3.5., Integrating Disaster Risk Management and Climate Change Adaptation, should be discussed sooner in the chapter. The statement "A principal goal of the present assessment report is to capitalize on the potential synergies between the fields of drm and climate change adaptation" could be stated upfront. It would be helpful to state earlier in the chapter that adaptation must be integrated into practices of vulnerable sectors, not treated as a separate activity. This could also be included in the executive summary. (UNITED STATES OF AMERICA)	The earlier sections of this chapter do raise this point. We believe that this section is appropriately placed.
408	1	23	1	23	5	"Disaster risk management can help those practicing climate change adaptation to address impacts now and in the future. Climate change adaptation can help those practiciing disaster risk management to more effectively address future conditions that differ from those of today." This statement relates to the above comment. (UNITED STATES OF AMERICA)	See response to comment 407

#	Ch	From Page	From Line	To Page	To Line	Comment	Response
409	1	23	13	23	18	this point is too important to the thrust of the entire study to cram all these issues in such compacted and compressed reference in passing in one long, referential, but unelaborated sentence. There is considerable significance in these issues that needs to be teased out for proper comprehension by the serious reader. This shorthanded enumeration as presented seems to serve the interests of the writer more than it does to intended, or perhaps here only superficially implied appreciation of the reader. (Jeggle, Terry, University of Pittsburgh)	We have added an example here and changed the tone. Space constraints dictated the compressed format. This is an introductory not defintive chapter so many of these issues are taken up on later
410	1	23	18	23	18	The citation for Sperling and Szekely (2005) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	Changed.
411	1	23	18	23	19	Typo in citation: For Schipper and Pelling (2006), more than two authors are listed in the chapter's reference list. Please ensure the citation is correct and harmonize the reference in both locations (chapter text and reference list). (IPCC WGII TSU)	Changed.
412	1	23	19	23	19	The citation for Thomalla (2007) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	Changed.
413	1	23	24	23	25	I believe this would be more purposeful and accurate in practice if the sentence were to read "… to encourage an expanded bottom up approach grass roots approach …". As stated it appears to be a more exclusive expectation rather than an augmented rationale. The current language employed also resonates with popular rhetorical and possibly even theoretical expectations that may inadequately or ineffectively reflect existing power relationships and realities of capcities. This may not be a popular comment, but I think the sympathies expressed may be overly ideological or unduly optimistic in terms of real (i.e. lokal) politik. hence the suggestion for a more qualified statement. (Jeggle, Terry, University of Pittsburgh)	We have included the suggested word change, and also significantly re-written this text in a way which should reflect these considerations.
414	1	23	24	23	31	Basically I believe that the premise of this paragraph is questionable with respect to disaster risk management, and it certainly is not as assured in practice as is assumed or implied in selected thinking or academic comment. (Jeggle, Terry, University of Pittsburgh)	We have significantly re-written this text in a way which should reflect these considerations.
415	1	23	24	23	31	It is unclear why climate change adaptation is described as top-down. There is significant community-based work on adaptation to climate change. Because local decision makers focus on the short term (5-15 years), fine scaled climate projections are often unnecessary. (IPCC WGII TSU)	We have significantly re-written this text in a way which should reflect these considerations.
416	1	23	26	23	27	in continuation of the preceding comment, which disaster awareness and manifestations of disaster risk management may indeed be pertinent to local conditions, to state it thusly is to ignore the larger systems relavnace which is invariably influenced by and often driven by policy decisions which emanate from higher levels of political authority and necessarily depend on material and financial resources which are seldom sourced at or possibly even able to be effectively utilized in quantitative terms at multiple and generally discreet local or 'grass roots' levels of activity. While the desire of this more localized emphasis is noted, I question whether the logic is sufficiently grounded in political and economic realities. Therefore I am not so sure that this disaster management context is really so different from what is described in the following sentence related to climate change aspects as expressed from line 27 - 29. (Jeggle, Terry, University of Pittsburgh)	We have significantly re-written this text in a way which should reflect these considerations.
417	1	23	30	23	31	the basic point here is that the great majority of disaster risk management still does reflect "agency-driven" approaches despite the wishes or expressed desirabilities of the author(s) that somehow it has factually become 'otherwise'. (Jeggle, Terry, University of Pittsburgh)	We have significantly re-written this text in a way which should reflect these considerations.
418	1	23	42	23	42	Typo in citation: For McCray et al. (2007), the author's name is spelled differently in the chapter text, as compared to the chapter reference list. Please ensure correct spelling of the author's name in both the text and the reference list. (IPCC WGII TSU)	Changed.
419	1	23	44	23	49	This is a pretty fundamental point that needs to be reflected in the summary of this chapter and the report. (UNITED STATES OF AMERICA)	Noted, and deleted here, but point made elsewhere.
420	1	23	49	23	49	add proper reference for the "ongoing 2011 Global Assessment Report from the UN". (Stocker, Thomas, IPCC WGI TSU)	Done.
421	1	23	53	24	13	would pandemics and toxic spill flows within watercourses and rivers be legitimately included here (in line 53), for example so that the contrary examples are not construed only in geological terms and therefore implied exclusively as being of a non-climatic context ? But perhaps this is covered under the pargaph that runs on page 24 from lines 5 to 13 ? (Jeggle, Terry, University of Pittsburgh)	Yes. We have signifcantly rewritten this text in a way that makes this more clear.
422	1	24	5	24	5	Typo in citation: For Birkmann and von Teichman (2010), the second author's name is spelled differently in the chapter text, as compared to the chapter reference list. Please ensure correct spelling of the author's name in both the text and the reference list. (IPCC WGII TSU)	Changed.

#	Ch	From Page	From Line	To Page	To Line	Comment	Response
423	1	24	5	24	5	The citation for World Resources Institute (2007) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	Changed.
424	1	24	6	24	6	The citation for ECA (2009) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	Changed.
425	1	24	6	24	8	"climate change adaptation … can often benefit from a disaster risk management… framework" -- and vice versa. (Stocker, Thomas, IPCC WGI TSU)	We have re-written this section in a way that emphasizes that the benefits and synergies between the two fields can flow both ways.
426	1	24	16	0	0	Are these expected return periods not considerably exaggerated, if one is speaking in terms of disaster risk management policy issues here ? (Jeggle, Terry, University of Pittsburgh)	This text was eliminated in re-write.
427	1	24	16	24	16	Thousand years is not really correct, mostly the discipline does not look beyond 200, maybe 500 years. (Mechler, Reinhard, INTERNATIONAL INSTITUTE FOR APPLIED SYSTEMS ANALYSIS)	This text was eliminated in re-write.
428	1	24	21	24	38	We are not convinced that it is necessary and/or appropriate for the Introduction Chapter to promote specific areas of action/research. This would, if at all, need to come from the following Chapters as a result of their assessment. Suggest to delete this "wishlist". (Stocker, Thomas, IPCC WGI TSU)	Comment 429 praises this material. These are real cases not a wish list so they have been kept here to clearly illustrate roads now being taken
429	1	24	21	24	38	a good and important paragraph (Jeggle, Terry, University of Pittsburgh)	OK
430	1	24	22	0	0	Both could converge more around the agenda of increased priority for natural resource management (see section 2.6.5 on probability of ecosystem decline due to CC) (Hillier, Debbie, Oxfam)	We have added text to make this point
431	1	24	24	24	24	The citation for Schipper and Burton (2008) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	check/update references
432	1	24	25	24	31	It's not clear where the parenthetical cases occur: are they in this report or are they additional sources? (IPCC WGII TSU)	We have clarified the origin of these.
433	1	24	35	24	35	buy in? (Li, Yun, CSIRO Mathematics, Informatics and Statistics)	We have used a less colloquial phrase
434	1	24	39	24	39	As noted in Comment 5 this would be a better place for the conclusion that is currently located at s.1.1.5 (Brooke, Roy, United Nations)	Text now changed
435	1	24	39	24	39	Related to my comment 8, this would be a good place to note that synergies could be achieved between humanitarian and development communities (Brooke, Roy, United Nations)	Text now changed
436	1	24	43	32	21	This entire section lacks the focus and relevance of the preceding sections. It also lacks the very useful practical / applied angle found elsewhere. It would be improved by making it concise and adding examples of how the theory presented has been applied. A box on Hurricane Katrina as part of section 1.4.3.1 would be helpful. (CANADA)	This section has been revised to be more focused, practical, and policy relevant.
437	1	24	45	0	0	"… remains, and particularly in public understanding." I believe this brief addition is desireable so as to take the subject beyond an isolated academic context and to relate the concern to practice. (Jeggle, Terry, University of Pittsburgh)	Text deleted.
438	1	24	48	24	52	This section needs a citation, and it would also help to illustrate these statements on coping and adapting with examples of the two processes. (UNITED STATES OF AMERICA)	Text deleted.
439	1	24	52	0	0	indeed, "in practice". (Jeggle, Terry, University of Pittsburgh)	Text deleted.
440	1	25	0	0	0	"with a population that is now the Netherlands"- this is quite confusing, could they just say what the number is? (UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND)	The text has been edited to be more clear.
441	1	25	0	0	0	at the end of the case study, it would be very interesting to state what new/different adaptations they may be considering in order to protect from the climate-related increase in risk- is it incremental (more of the same) or transformational (trying something completely new)? (UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND)	A review of the latest thinking and discussions about future flood risk management in the Netherlands under climate change is beyond the scope of this
442	1	25	1	25	1	It is unclear whether "present discussion" means Section 1.4 or the general dialogue mentioned in the previous paragraph. If the former, the problem is that the 4 subsections that follow this paragraph do not correspond with the 3 ideas mentioned; if the latter, then we need citations to support the assertion. (UNITED STATES OF AMERICA)	This has been clarified.
443	1	25	10	25	50	This box needs some maps to show the evolution of the protected area over time. (UNITED STATES OF AMERICA)	We don't believe maps are necessary to make the points, especially given space constraints

#	Ch	From Page	From Line	To Page	To Line	Comment	Response
444	1	25	13	25	16	"In such instances, adaptation efforts over time can match a society's coping range with the hazards it typically encounters. As the following example illustrates, this process both depends on and facilitates further economic development, but adjustment in response to shifting hazard distributions is important to avoid increasing and maladaptive hazard exposure." These statements would benefit from citations, as well as being illustrated w/brief example and note that its discussed in more detail in 1.4.3. (UNITED STATES OF AMERICA)	Citation added; reference to the Box and further discussion later in the text also included.
445	1	25	18	25	50	Is this box really necessary? The report is already quite long, and I do not see the actual value of this historical example. (GERMANY)	We believe it is illustrative of many of the points we make.
446	1	25	43	25	43	since which time the total is proposed to change into: " since that time the total …" (Sehat kashani, Saviz, Atmospheric Sciences and Meteorological Research Center)	Wording changed.
447	1	25	43	25	43	Because the 1953 flood killed about 1800 people, it is a bit of a stretch to say that the only major flood was in 1717--especially given the statement that only 1000 people die per century, and the statement later that there was substantial fortification after that flood. It might be better to say there were 2 (or 3) major floods and briefly explain what if anything was done after each. (UNITED STATES OF AMERICA)	We have changed the language as requested.
448	1	25	47	25	48	Bouwer and Vellinga (2007) in fact present evidence that risk has been historically increasing in The Netherlands due to non-climatic drivers in risk. Please amend the statement accordingly. (NETHERLANDS)	Done
449	1	26	0	0	0	Section 1.4.1. This seems out of place since coping and adaptation were already defined. Parts are repetitions and other parts disconnected from the rest of the chapter. Same for 1.4.2 and 1.4.3 partly. It seems that this section was written by another person and the connections have not been made with the rest of the chapter. (Vasseur, Liette, Brock University)	We have attempted to integrate the definition in the earlier part of this chapter with the text in 1.4.1 and with the other parts of section 1.4.
450	1	26	0	26	0	I find discussions of technical concepts that go back to basics and dictionary entries not very helpful. Is this necessary here? (Mechler, Reinhard, INTERNATIONAL INSTITUTE FOR APPLIED SYSTEMS ANALYSIS)	It is helpful to clarify the general meanings of the terms as they are used in many different ways across the literature.
451	1	26	0	27	0	The chapter has a discussion of what coping and adaptation are in a previous discussion. Revisiting the definitions and even providing the history of the evolution of the meaning of those terms in a second section may be unnecessary. Perhaps some of the material here could be folded into the previous discussion of what those terms mean. (UNITED STATES OF AMERICA)	We have attempted to balance the definitions of the terms in the beginning of the chapter and elaboration on the definitions here.
452	1	26	1	0	0	By the time I reached this OED definition, I had already felt that we were inundated with definitions and alternate definitions, and ... I began to like the "Boxes" with concrete examples. Do you need to have so much detail and referencing to "definitions"? (Prather, Michael, University of California, Irvine)	See above in response to #450.
453	1	26	1	32	15	This long section was interesting, but seems more like a heavily referenced introductory text - could be shortened ? (Prather, Michael, University of California, Irvine)	This text has been shortened.
454	1	26	5	0	0	There is already a lot of confusion between Coping and Adapting. The OED definition here is adding to the confusion. This definition is not needed as the beginning of Section 1.4 clearly distinguishes between them (GARG, AMIT, INDIAN INSTITUTE OF MANAGEMENT AHMEDABAD)	The text in 1.4.1 is aimed at sorting out this confusion, not adding to it.
455	1	26	26	0	0	Where climate stresses are set to increase, approaches that aim to help coping only will result in worsened risk - see WRI diagram on coping, resilience and adaptation (Hillier, Debbie, Oxfam)	Agreed. The references cited do not advocate reliance on coping alone.
456	1	26	42	27	32	This section is of limited relevance and could be significantly shortened. Discussion of "recent work on the topic" with the example of UNFCCC (2003) fails to recognize how these discussions have advanced through the UNFCCC, through the Nairobi Work Programme and other initiatives. Given how rapidly considerations of these issues is evolving, it seems inappropriate to use literature 5 or more years old in a discussion of "current usage." (CANADA)	This section has been removed. Some text was imported into 1.4.1 in dramatically shortened form.
457	1	27	4	0	0	1980s ?? Was this actually in the 1980s rather than in the 1990s ? Cuny's "Disasters and Development" appeared in 1984, but did the recognized concepts of diaster risk management appear, and the expression thereof commonly used significantly in the 1980s ? Frank Press first proposed the IDNDR in 1984, but it took the following five years for the concept to gain sufficient "political relevance" before being adopted by the UN General Assembly in 1989. I do not know but would verify the accuracy of the "1980s", or perhaps qualify it as the "later 1980s" if that is indeed the case. (Jeggle, Terry, University of Pittsburgh)	Text deleted.
458	1	27	11	27	12	Avoiding and preparing for extreme events are critical and should be mentioned. (IPCC WGII TSU)	Text deleted.

#	Ch	From Page	From Line	To Page	To Line	Comment	Response
459	1	27	20	27	20	Typo in citation: For Yoho and Tol (2002), the first author's name is spelled differently in the chapter text, as compared to the chapter reference list. Please ensure correct spelling of the author's name in both the text and the reference list. (IPCC WGII TSU)	Corrected.
460	1	27	28	27	29	Schipper and others (2011). In the references it is 2010 not 2011 (GREECE)	Citation deleted.
461	1	27	28	27	29	The citation for Schipper and others (2011) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	Citation deleted.
462	1	28	20	28	26	We suggest breaking this section on the five types of adaptation activities down in bullets for easier reading and clarity. (UNITED STATES OF AMERICA)	Text edited down to a partial list and bulleting seemed unnecessary.
463	1	28	20	28	27	Barnett and O'Neill's "five types" of maladaptation seem to confuse an important, and otherwise clear, concept. If maladaptation is defined as actions that inadvertently increase vulnerability, it is not appropriate to include all activities that increase greenhouse gas emissions as these serve to increase hazard, and elsewhere the chapter stresses that vulnerability is independent of hazard. In addition, a great number of development activities necessary to enhance resilience (and save lives) will result in locally increased emissions, but they should not be considered maladaptive. (CANADA)	This discussion has been reframed slightly to highlight the point that there is concern around normative aspects of maladaptive actions, to emphasize that these normative constructs are mutable, and to highligh the role of third-loop learning in transforming these norms.
464	1	28	29	28	52	Large scale NatCat insurance mechanisms were mainly introduced in developed countries such as New Zealand, Norway, Spain, France and the United States, always in Public Private Partnership, where the first objective was to operate as an economic/financial resilience tool, with at first more no-exclusion concerns, than DRR concerns. Practical experience has shown that the pricing of an insurance product (both rate and deductible levels) may not be able to reflect integrally the existing level of risk: therefore an imperative need for linkage with public risk reduction provisions such as land use plannning and building codes to improve insurability. (NUSSBAUM, Roland, Mission Risques Naturels)	This comments relates to the history of how public-private partnership natural catastrophe insurance schemes were established in the period from the mid 1940s through to the 1960s, at a time when the technical means to calculate risk costs was far less developed and where the focus was on social solidarity. As these systems (as in France) were set up without technical risk rating means they have the potential to be maladaptive - as with the extensive coastal flooding and loss of life in 2010 Windstorm Xynthia. Comment about linkage with public risk reduction measures now added at two points in this paragraph and see response to
465	1	28	29	28	52	The pricing of flood risk should be considered as a more general concept, than only an insurance rate, if applicable. It is primarily necessary for risk governance issues a the level of individuals, local and state authorities. It is used in decision making processes, for instance through CBA tools (NUSSBAUM, Roland, Mission Risques Naturels)	Public risk reduction activities and technical risk rating need to be co-ordinated. Have added two edits to this paragraph to emphasize that adaptation in response to the identification of technical flood risk costs can be both at the indvidual property or community level.
466	1	28	42	28	42	Need to state which government. (IPCC WGII TSU)	Done.
467	1	29	1	29	18	This reasoning is again too narrow as limited to the visible part of the total risk cost (insurance cost) : it should be applied to the total risk cost at the individual and at thelocal authority scale (total loss control concept).. There are countries with risk profiles which require State as reinsurer of last resort, even without climate change effect. In any case, the target is to find a compromise minimising total DRM costs at the various decision levels: individual, local and State, as split in chapters 5, 6 and 7 of the report. But this chapter does not describe enough this main issue for the whole report. (NUSSBAUM, Roland, Mission Risques Naturels)	Role of public authorities added see response to comment 465. The comment about the 'State as a reinsurer of last resort' is beyond the scope of the argument presented here relating to technical risk rating.

#	Ch	From Page	From Line	To Page	To Line	Comment	Response
468	1	29	1	29	18	The authors recognise their assumptions as being rather theoretical, when explaining: "Even in countries with free market flood insurance systems, insurers may be reluctant to charge the full technical rate in acknowledged high hazard floodplains, as consumers have come to assume that insurance costs should be relatively consistent by location..." . There is no country where the rating of a NatCat coverage can reflect exact risk classes. For any reason, be it solidarity or technical (uncertainty about mapping and zoning) , the 'highest relevant resolution' may be less high than targeted. In most areas of the world (depending to the geographical scale considere), floods and/or storms losses, considered at national scale of an insurer, occure every year: the question is about the event occurrence threshold at which those losses can stard to be considered insurable. (NUSSBAUM, Roland, Mission Risques Naturels)	There are territories in the Caribbean which do employ, to the best of the available information, a technical approach to flood risk insurance rating. The comment about 'event occurrence thresholds' for an insurer is beyond the scope of the argument presented here relating to technical risk rating.
469	1	29	8	29	10	In the USA, the report known as CCSP SAP 4.1 "Coastal Sensitivity to Sea Level Rise" (pages 164, 171) explicitly discusses moral hazard in the context of sea level rise. It might be better to cite that in section 1.3.3 which is cross referenced here--but that section does not use the term "moral hazard". One might also distingish the moral hazard that comes from free government guarantees (some types of disaster insurance) from the effect of insurance which tries to account for risk but never can include everything. See http://epa.gov/climatechange/effects/coastal/pdfs/ccsp_part3.pdf#page=33. The citation information is found at page 15 on http://epa.gov/climatechange/effects/coastal/pdfs/ccsp_front.pdf#page=15 (UNITED STATES OF AMERICA)	Text deleted.
470	1	29	8	29	10	USCCSP SAP 4.1 (p 153) notes that in the USA the grandfathering of flood insurance rates can remove the incentive to mitigate hazards even when rates are generally set to reflect risk. If this part of the chapter needs another figure, the figure there might be useful. See http://epa.gov/climatechange/effects/coastal/pdfs/ccsp_part3.pdf#page=15. The citation information is found at page 15 on http://epa.gov/climatechange/effects/coastal/pdfs/ccsp_front.pdf#page=15 (UNITED STATES OF AMERICA)	Thanks for the suggestion, but no additional figure are needed.
471	1	29	9	29	11	This point on the need for additional mechanisms to encourage adaptation, such as pricing signals, is important. It would be useful to highlight what works, e.g. price signals that reflect real risks, in addition to highlighting maladaptation or what doesn't work. (UNITED STATES OF AMERICA)	This section highlights the role of price signals that properly reflect risks.
472	1	29	21	30	17	This section mentions the importance of complexity without explaining it further what complexity actually means; there is so much space used for explaining theoretical concepts that it would be good to add a few sentences on complexity (unpredictability, surprise, emergent properties etc.) - or drop it completely (GERMANY)	The section on complexity has been edited down, defined more clearly, and used more narrowly in reference to managing socioecological systems.
473	1	29	23	29	32	§ 1.4.3.2. on The Role of Complexity provides some limited answer to the question arisen above, when it starts refering to "incomplete consideration and understanding of the complexity of dynamic systems as well as incomplete appreciation of the linkages between different risk management strategies and overall burdens of risk", but this consideration is unfortunately not elaborated further as a risk management issue to the many stakeholders of various levels of risk governance. (NUSSBAUM, Roland, Mission Risques Naturels)	Text deleted.
474	1	29	44	29	44	I wonder if there is a better word than "errant" to use here. The complexity of climate change is a challenge to the meaning-making structures of many or even most people, so maybe it is best to leave out errant (see Kegan, R. 1994. In Over Our Heads: The Mental Demands of Modern Life: Harvard University Press). (OBrien, Karen, Department of Sociology and Human Geography)	Text deleted.
475	1	30	10	30	12	(1) need to provide evidence for the statement about impeded "accumulation of compelling evidence that the climate was changing until the second half of the twentieth century; (2) need to provide a reference to support the second part of the sentence about "significant lay scepticism". We suggest to delete the second part of the sentence starting with "and there remains ..." -- this statement is very unspecific and not science-based. Also, we don't see why it would be relevant here. (Stocker, Thomas, IPCC WGI TSU)	Text deleted.
476	1	30	10	30	12	this sentence is vague and more or less needed. Omit or rewrite it. As mentioned this section is quite general copared to the other sections. (Vasseur, Liette, Brock University)	Text deleted.
477	1	30	36	30	37	This sentence does not make a lot of sense. (Vasseur, Liette, Brock University)	Text deleted.
478	1	30	50	30	51	WDR 2010. Not in the references (GREECE)	Citation deleted.
479	1	30	50	30	51	The citation for WDR (2010) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	Citation deleted.
480	1	30	51	0	0	Lempert and Groves, 2010. Not in the references. (GREECE)	Citation added.

#	Ch	From Page	From Line	To Page	To Line	Comment	Response
481	1	30	51	30	51	The citation for Lempert and Groves (2010) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	Citation added.
482	1	31	4	32	15	This section is a very nice introduction to many of the points that we take up in Chapter 8.6 on Options for Proactive, Long-term resilience to Future Climate Extremes, particularly in 8.6.3 on Facilitating Transformational Change. Both sections have figures and examples of triple-loop learning, and we should perhaps make references to this in each of them. (OBrien, Karen, Department of Sociology and Human Geography)	Figures and discussion consolidated.
483	1	31	15	0	0	Gunderson et al, 2010. Not in the references (GREECE)	Text deleted.
484	1	31	15	31	15	The citation for Gunderson et al. (2010) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	Text deleted.
485	1	31	16	31	16	The citation for Scholtz and Stiffel (2005) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	Text deleted.
486	1	31	17	0	0	One classic example of the failure of adaptive management was the EPA's ozone pollution policy that locked in current science and failed to make the measurements to identify the caused of excess ozone was not just emissions but bad science (1990 NRC report on ozone and air pollution, Seinfeld, chair). (Prather, Michael, University of California, Irvine)	Text deleted.
487	1	31	19	32	15	The discussions of triple-loop learning in chapter 1 (in 1.4.4) and 8 (in 8.6.2) should be coordinated and cross-referenced. (IPCC WGII TSU)	Discussions coordinated and cross-referenced.
488	1	31	22	0	0	Figure 1-2 is not readable, the resolution is not appropriate (International Petroleum Industry Environmental Conservation Association (IPIECA))	Figure deleted.
489	1	31	24	0	0	Folke et al, 2009. Not in the references. (GREECE)	Citation added.
490	1	31	24	31	24	The citation for Sterman et al. (2006) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	Citation added.
491	1	31	24	31	24	The citation for Folke et al. (2009) is not provided in the chapter's reference list. Please ensure this citation is added to the reference list. (IPCC WGII TSU)	Citation added.
492	1	31	24	31	24	Typo in citation: For Argyris and Schön (1978), the second author's name is spelled differently in the chapter text, as compared to the chapter reference list. Please ensure correct spelling of the author's name in both the text and the reference list. (IPCC WGII TSU)	Citations reconciled.
493	1	31	26	31	47	In addition to (or in place of) the driving analogy, it might be helpful to give concrete examples of how coping, adaptation, and transformation can involve single-, double-, and triple-loop learning. (IPCC WGII TSU)	Analogy changed.
494	1	31	26	32	13	This section is mostly theory and needs to be supported by examples of practical application to be of value in this report. The driving analogy should be replaced with examples of how this has been applied to the management of risks associated with extreme climate events. (CANADA)	This text has been changed to reflect more of a practical disaster risk management focus.
495	1	31	31	31	33	Remove the first analogy since it is more or less accurate. Kepp only the people attitudes changing, it is more appropriate. The issues here is that learning is not well explained: personal vs social learning? (Vasseur, Liette, Brock University)	Text deleted.
496	1	32	13	32	13	delete "occasionally". We need develop copying strategies for diaster events including those indcued by climate and non-climate related extreme events. (Li, Yun, CSIRO Mathematics, Informatics and Statistics)	Text deleted.
497	1	32	18	32	21	It is not appropriate to add a new section that will not be subject to expert or government review. (CANADA)	No substantive new material has been added to the report since the SOD.
498	1	32	21	0	0	Section 1.4.4.2: As per IPCC Policies and Procedures, all information contained in the chapters of an IPCC Report must undergo formal expert review. Therefore, new issues beyond those covered in the Second Order Draft can not be introduced in preparation of the final draft of the report. Introducing an entire new sub-section that will not be reviewed is not an option. (Stocker, Thomas, IPCC WGI TSU)	See above.
499	1	32	24	33	15	This section seems to be added as an afterthought, though it is a very important part or the report--especially given that the SPM seems to have no equivalent section. It should be possible to make this section more engaging by constructing readable prose that begins to wrestle with the ideas and examples of each report. If this section were placed near the beginning of the chapter, the entire rest of the chapter could better help the reader to understand what follows and where to find it. (UNITED STATES OF AMERICA)	Text moved to section 1.1.1
500	1	32	26	32	26	Note that chapter 2 does not assess literature on hazard! It takes hazard as a given phenomenon which is translated into a societal effect by exposure and vulnerability. (Ulbrich, Uwe, Freie Universitaet Berlin)	Text changed to reflect hazard as a given

#	Ch	From Page	From Line	To Page	To Line	Comment	Response
501	1	32	26	32	31	The author team should consider revising this introduction of chapter 2 to match chapter 2's most recent content and to address several ambiguities. First, the listing of the determinants of climate risk ("hazard, exposure, and vulnerability") should clearly indicate that chapter 2's focus is on exposure and vulnerability. Second, it seems that it may be preferable to revise the phrase "adapting better to current hazards" to more clearly distinguish the subsequent usage of "adaptation" in reference to climate change (given that this subsequent usage is consistent with the glossary). It might be better to refer, for example, to "reducing vulnerability to current hazards." Third, it is not clear that chapter 2 addresses "how natural hazards research informs the question of how adaptation may address or reduce the risk of 'dangerous' climate change." (IPCC WGII TSU)	Text changed as recommended
502	1	32	33	32	37	Monsoon and El Nino are not climate extremes. This sentence should be rewritten as: "Chapter 3 focuses on changes in climate extremes (eg, temperature and precipitation), and phenomenon related to these extremes (eg, tropical and extra-tropical cyclones, El Nino, and monsoon). The SREX builds on....." (Stocker, Thomas, IPCC WGI TSU)	Text changed as recommended
503	1	32	35	32	35	Should spell out SREX. (IPCC WGII TSU)	Text changed as recommended
504	1	32	39	32	44	In the first sentence of this paragraph, it may be preferable to use the term "climate extremes" in place of "physical events," to be parallel with the preceding description of chapter 3. The wording of this sentence should also be considered given that disasters are defined in the SREX with respect to human systems (not ecosystems). In the second sentence, it seems that the term "hazards" would be preferable to the term "physical changes"; alternatively, the sentence could reworded as "impacts of extreme events depend on their interaction with vulnerability and exposure..." It also seems that, in the third sentence, "impacts" are meant, not "hazards." (IPCC WGII TSU)	Text changed as recommended
505	1	33	1	33	1	We recommend rephrasing: "national level, where the key elements include, inter alia, food security and agriculture…" (World Food Programme (WFP))	Text changed as recommended
506	1	33	24	33	25	For Adger, W. N., N. Arnett, et al. (2005): All author names should be listed here for this reference, without use of “et al.” Please add the other author names to the reference list. (IPCC WGII TSU)	Noted.
507	1	35	54	35	54	For Easterling, D. et al. (2000): All author names should be listed here for this reference, without use of “et al.” Please add the other author names to the reference list. (IPCC WGII TSU)	Noted.
508	1	36	6	36	6	For Fink, A.H., U. Ulbrich and H. Engel (1996): The information on this reference seems to be incomplete. Please add the title of the article for this reference. (IPCC WGII TSU)	Noted.
509	1	36	27	36	28	For Haines, A., A. J. McMichael, et al. (2009): All author names should be listed here for this reference, without use of “et al.” Please add the other author names to the reference list. (IPCC WGII TSU)	Noted.
510	1	36	44	36	45	It is unclear in what relation the link to the Wikipedia entry stands to the reference. Preferrably this link should be deleted. (IPCC WGII TSU)	Noted.
511	1	37	23	37	24	For International Building Codes (2003): The information on this reference is incomplete. Please add the missing information for this reference. (IPCC WGII TSU)	Noted.
512	1	37	35	37	36	For Kahneman, D., P. Slovic, et al., Eds., (1982): All author names should be listed here for this reference, without use of “et al.” Please add the other author names to the reference list. (IPCC WGII TSU)	Noted.
513	1	38	38	38	39	For Milly, P. C. D., J. Betancourt, et al. (2008): All author names should be listed here for this reference, without use of “et al.” Please add the other author names to the reference list. (IPCC WGII TSU)	Noted.
514	1	39	0	40	0	P3 39-40 this sentence is really hard to follow, partly because the result is a non-finding of attribution. So how can there be medium evidence and high agreement if there is no formal attribution yet? If the finding is that losses cannot (rather than cannot yet) be attributed to anthropogenic climate change, it would be easier to understand (although still complicated). The “yet” makes it tricky. Consider rewriting this. (UNITED STATES OF AMERICA)	See comment #91.
515	1	39	9	39	10	For Niemeyer, S., J. Petts, et al. (2005): All author names should be listed here for this reference, without use of “et al.” Please add the other author names to the reference list. (IPCC WGII TSU)	Noted.
516	1	39	17	39	17	For O’Keefe, P. et al. (1976): All author names should be listed here for this reference, without use of “et al.” Please add the other author names to the reference list. (IPCC WGII TSU)	Noted.
517	1	39	37	39	39	For Peters et al. (2006): The link provided for this reference does not link directly to the document cited. Please revise or delete the provided URL. (IPCC WGII TSU)	Noted.
518	1	40	6	40	7	For Risbey, J., M. Kandlikar, et al. (1999): All author names should be listed here for this reference, without use of “et al.” Please add the other author names to the reference list. (IPCC WGII TSU)	Noted.

#	Ch	From Page	From Line	To Page	To Line	Comment	Response
519	1	40	14	40	15	For Schipper, L., M. Pelling, et al. (2006): All author names should be listed here for this reference, without use of “et al.” Please add the other author names to the reference list. (IPCC WGII TSU)	Noted.
520	1	40	18	0	0	Schipper et al 2010. Incomplete reference. No journal or book is given (GREECE)	Noted.
521	1	40	18	40	18	For Schipper, L., et al. (2010): All author names should be listed here for this reference, without use of “et al.” Please add the other author names to the reference list. (IPCC WGII TSU)	Noted.
522	1	40	18	40	18	For Schipper, L., et al. (2010): The information on this reference seems to be incomplete. Please add the missing information, e.g. on the publisher, for this reference. (IPCC WGII TSU)	Noted.
523	1	40	28	40	29	For Simonovic: The reference contains no publication year. Please add this information to the reference in both chapter text and reference list. (IPCC WGII TSU)	Noted.
524	1	40	46	40	46	For SwissRe (2010): The information on this reference is incomplete. Please add the missing information for this reference, e.g. the title of the document / publication. (IPCC WGII TSU)	Noted.
525	1	40	53	40	54	For Thomalla, F., T. Downing, et al. (2006): All author names should be listed here for this reference, without use of “et al.” Please add the other author names to the reference list. (IPCC WGII TSU)	Noted.
526	1	42	8	42	9	For Wisner, B., P. Blaikie, et al. (2004): All author names should be listed here for this reference, without use of “et al.” Please add the other author names to the reference list. (IPCC WGII TSU)	Noted.
527	1	42	12	42	13	For Woodcock, J., P. Edwards, et al. (2009): All author names should be listed here for this reference, without use of “et al.” Please add the other author names to the reference list. (IPCC WGII TSU)	Noted.
528	1	42	14	42	15	For WMO (2010): The information on this reference is incomplete. Please add the missing information for this reference, e.g. the title of the document / publication. (IPCC WGII TSU)	Noted.
529	1	42	26	42	27	For Younger, M., H. R. Morrow-Almeida, et al. (2008): All author names should be listed here for this reference, without use of “et al.” Please add the other author names to the reference list. (IPCC WGII TSU)	Noted.
530	1	43	0	0	0	Figure 1-1: Schematical presentation of the key concepts involved in disaster risk management and climate change adaptation. Institutions most specially the governments play a major role in causing, reducing or eliminating vulnerabilities. Institutions must be reflected in the vulnerability box. Sustainable development is described by human security and well being as discussed in 8.3.1, page 14. If these two concepts merited a lengthy discussion in Chapter 8, it should merit an inclusion in Figure 1-1. Wellbeing, specifically responsible wellbeing has been in the development discourse for some years now and deserve its rightful place in the development agenda. For more on responsible wellbeing please refer to a research prepared by University of Bath, Responsible Wellbeing and Its Implications for Development Policy by Choloe Blackmore. (Abarquez, Imelda, Oxfam Hong Kong)	Figure has been revised and clarified.
531	1	43	0	0	0	Fig. 1-1: This key figure is very illustrative. However, it seems to me somehow unbalanced. While, on the left side, above the circle indicating “physical event”, climate change is positioned, whereas, on the right side, above the circle indicating “sustainable development”, a comparative notion is missing. Why not put “resilience” here? Secondly, on the upper centre of the figure, the arrows are explained by the points manage/reduce/transfer risk, while the arrows on the lower side are not illustrated. Why not put “anticipate/adjust/adapt” here, thus balancing the figure in a more consistent manner? (Bohle, Hans-Georg, University of Bonn)	figure has been revised taking these suggestions into account but aiming for simplicity, not detail.
532	1	43	0	0	0	Figure 1-1: This figure could be considered for the SPM and replace a lot of text. (GERMANY)	We have discussed this.
533	1	43	0	43	0	Figure 1-1 is utterly confusing. It suggests that disaster risk management and adaptation are separate areas of work, whereas in practice, they are strongly overlapping. Both can address the full range of options -- but these are now separated between" manage/reduce/transfer risk" (risk management) and building resilience: anticipate/cope/recover" (adaptation). Morevoer, the way the graphics play out, with a similar shape for the physical event and "sustainable development" does not help at all to clarify the interrelationship between these concepts. We would suggest a strong effort to develop something that does justice to the vision of the report -- a good figure would be very helpful, also for the SPM. Also keep in mind the need for consistency with figure 2.1 (which seems more logical and comprehensive, but is also more comples -- chapter 1and the SPM should go for something simpler). (International Federation of Red Cross and Red Crescent Societies (IFRC))	see #531

#	Ch	From Page	From Line	To Page	To Line	Comment	Response
534	1	43	1	0	0	Figure 1-1. We think this figure provides a strong representation of the key concepts in the report. As one question for the figure, it is not completely clear how sustainable development is intended to interact with exposure, vulnerability, and risk, as well as with DRM and CCA. For example, does SD interact only with exposure, vulnerability, and risk, or is a broader interaction intended? The current white/blue arrow pointing to SD is less clear than the black arrows used for DRM and CCA. Also, it might be useful to consider adding climate-change mitigation both here and in the corresponding introductory text. Climate-change mitigation is not covered in the report, but mentioning it is important for defining the boundaries of the report's scope. Mentioning mitigation here could highlight its role in limiting climate change (schematically in the figure limiting the expansion of the blue circle). (IPCC WGII TSU)	Noted.
535	1	43	3	43	3	"Figure 1-1" Very nice figure; easy to read and follow. (UNITED STATES OF AMERICA)	Noted.
536	1	44	0	0	0	Figure 1-2: Illegible (GERMANY)	Noted. Significantly improved in FGD.
537	1	44	0	0	0	Figure 1-2. Similarities between this figure and figure 8-1 should be considered, and the discussions of triple-loop learning should be harmonized. A figure depicting the three types of learning probably should only appear in one location in the report. (IPCC WGII TSU)	Noted. Significantly improved in FGD.
538	1	44	1	0	0	Figure 1-2 is so degraded as to be useless - one cannot figure out if this works or does not. (Prather, Michael, University of California, Irvine)	Noted. Significantly improved in FGD.
539	1	79	0	0	0	Table 2.1: The text needs clarification. Are 53% of ALL people in a country killed per year, 53% of the people killed are killed by disasters or are 53% of the people exposed to disasters killed by them? (Rock, Joachim, Johann Heinrich von Thuenen-Institute)	Not in this Section.