



**IPCC Synthesis Report  
Fourth Assessment Report**

***Comments on the Final Government Draft***

**GOVERNMENT and ORGANIZATION COMMENTS**

**– TOPIC 5 (all batches to 7 November 2007) –**

**November 7, 2007**



# INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE



**IPCC Synthesis Report - Fourth Assessment Report (Batch A and B – November 7, 2007)**

<b>Topic - Batch - Comment</b>	<b>Page</b>	<b>Line</b>	<b>To Page</b>	<b>To Line</b>	<b>Comment</b>
6-A-1	0	0			Well-written in general. (Government of Argentina)
6-A-2	0	0			The topic reads as a sequence of unbundled statements; all is said above in the other topics. There may be doubt whether the pages here add a lot of value to the SPM and the other chapters of the SYR. We take a neutral position towards cancel/maintain this topic 6. (Government of Belgium)
6-A-3	0	0			Ocean acidification should be mentioned among the robust findings, as it derives from simple chemical laws. The impacts of it could be listed under key uncertainties. (Government of Belgium)
6-A-4	1	10	1	12	For clarity, delete "or in some cases because" and "or depend on assumptions and possible futures". (Government of European Community)
6-A-5	1	10	1	12	Clarify paragraph. What is the connection between key findings and policy relevance? The sentence implies a connection, but does not elaborate. (Government of United States of America)
6-A-6	1	16	4		Section 6.1 Acidification of surface oceans is also unequivocal and not mentioned. (Government of United Kingdom)
6-A-7	1	24	1	26	Suggest to add "The effects of observed climate change on human and managed systems are emerging." (Government of European Community)
6-A-8	1	28	1	32	Please move this paragraph to Page 2 Line 18, because this paragraph is talking about the drivers of climate change. (Government of China)
6-A-9	1	28	1	28	Please drop the word "widespread" in the sentence (Government of India)
6-A-10	1	31	1	31	Rearrange the sentence as "The patterns of warming on land as well as from the surface to higher altitude, on and in the ocean, are now more robust" (Government of India)
6-A-11	1	38	6	40	Revise to be consistent with the corresponding statement in the WG2 SPM or delete. "At the global scale" implies that observations are available with reasonable coverage across the globe. This is not the case. Observations are scarce or nonexistent over most of the Earth's land surface, particularly the Southern Hemisphere, Eurasia, and the boreal zones. (Government of United States of America)
6-A-12	1	46	1	47	Please stop the sentence after green house gas increases" drop rest of the sentence "and it is likely there is ...." (Government of India)

**IPCC Synthesis Report - Fourth Assessment Report (Batch A and B – November 7, 2007)**

Topic - Batch - Comment	Page	Line	To Page	To Line	Comment
6-A-13	2	1	2	1	Rearrange the sentence as “At the global scale, over the last three decades it is likely that anthropogenic warming had a ..” (Government of India)
6-A-14	2	1			Please change "extremes" to "changes of extreme events" (Government of China)
6-A-15	2	1	2	1	Delete “and monitoring” (Government of United States of America)
6-A-16	2	3	2	3	Delete “it requires” and revise “resolution” to “resolutions are required.” (Government of United States of America)
6-A-17	2	6	2	6	Lack of data (e.g., economic, environmental, social) relating to climate impacts also poses significant limitations on assessing impacts. (Government of United States of America)
6-A-18	2	9	2	12	Land-use changes do not only affect the release of CO <sub>2</sub> , but also the responses of the vegetation to climate change. This feedback from vegetation to climate is largely unknown and therefore unconsidered in climate modelling. I suggest to add this second aspect and stress it more than the already mentioned one. (Government of Switzerland)
6-A-19	2	13	2	13	Please rewrite “methods for analyzing climatic averages...” (Government of India)
6-A-20	2	14	2	14	The “land-use change” emphasis seems too constrained. CO <sub>2</sub> emissions due to any net source other than fossil fuel utilization remain as key uncertainties. Land-use change is only one cause of emissions from terrestrial ecosystems. Changing fire frequencies and intensities are an example of another substantial source that is difficult to estimate. Emissions from aquatic systems—especially wetland and coastal systems—are also difficult to estimate and their magnitudes are subject to significant scientific debate. (Government of United States of America)
6-A-21	2	14	2	15	Recommend language changes to resolve grammatical issue with subordinate clauses. Currently reads as if “magnitude of CO <sub>2</sub> emissions ... of individual methane sources...” Change “and from individual methane sources” to “... and all methane emissions from all sources...” To ultimately read as “The magnitude of CO <sub>2</sub> emissions from land-use change, and all methane emissions from all sources remain as key uncertainties.” (Government of United States of America)
6-A-22	2	32	2	33	Although the current text states 'future warming where land warms more than the adjacent oceans ..', there are no such descriptions in WG1-Report. The following expressions are suggested: 'The pattern of future warming over many land areas which is greater than global annual mean warming and more in northern high latitudes is seen in all future scenarios.' (Government of Japan)

**IPCC Synthesis Report - Fourth Assessment Report (Batch A and B – November 7, 2007)**

<b>Topic - Batch - Comment</b>	<b>Page</b>	<b>Line</b>	<b>To Page</b>	<b>To Line</b>	<b>Comment</b>
6-A-23	2	32	2	41	Add likelihood and/or uncertainties as assigned in the WG reports. (Government of United States of America)
6-A-24	2	43	2	43	The sentence reads better if 'to be' is inserted before 'less', thus: "Equilibrium climate sensitivity is very unlikely to be less than 1.5°C. " (Government of New Zealand)
6-A-25	2	43	2	44	The expression "Equilibrium climate sensitivity" may not be understood by the public. Give a short explanation. (Government of Switzerland)
6-A-26	2	43	2	44	I believe that a reference to chapter 2.3 of Topic 2 about climate sensitivity would help the reader here. (Government of Switzerland)
6-A-27	2	43	2	43	Change this sentence to read: "It is very unlikely that equilibrium climate sensitivity is less than 1.5°C." (Government of United States of America)
6-A-28	2	46	3	1	The language of these sentences could be improved. Furthermore, the current language wrongly suggests that the listed sectors, systems, and regions are the only ones that are vulnerable. At the very least, change "vulnerable" to "particularly vulnerable" (to be consistent with the language in WG II Chapter 20) and add "systems and" before "sectors" (because ecosystems are no sectors). (Government of European Community)
6-A-29	2	47	2	47	This sentence discusses both systems and sectors. Therefore replace "Vulnerable sectors are" with "Vulnerable systems and sectors are". (Government of Australia)
6-A-30	2	47	2	47	Suggest using "Especially vulnerable sectors are ..." or suchlike. (All sectors have vulnerabilities and the point made here is on the more/most vulnerable ones.) (Government of Sweden)
6-A-31	2	47	2	47	some ecosystems seems to be too general, it would be useful to specify. (Government of Argentina)
6-A-32	2	47	2	47	Ecosystems are not a "sector". Change to include "systems and sectors" (Government of United States of America)
6-A-33	2	49	2	49	Suggest using "Especially vulnerable regions are ..." or suchlike. (All regions have vulnerabilities and the point made here is on the more/most vulnerable ones.) (Government of Sweden)
6-A-34	3	1	3	2	The sentence should be reorganised. Suggest using something akin to "While the aggregate vulnerability is less in other regions, some people, areas and activities can nevertheless be particularly at risk, even those with high incomes." (Government of Sweden)

**IPCC Synthesis Report - Fourth Assessment Report (Batch A and B – November 7, 2007)**

<b>Topic - Batch - Comment</b>	<b>Page</b>	<b>Line</b>	<b>To Page</b>	<b>To Line</b>	<b>Comment</b>
6-A-35	3	6			Please add "flood and drought" after "tropical cyclones". Reason: There are much progress on the assessment of flood and drought in AR4, also. (Government of China)
6-A-36	3	6	3	6	Please add "both developing and" before "developed countries" (Government of Sweden)
6-A-37	3	8	3	8	For “some” weather events.. please specify what are these some events.. (Government of India)
6-A-38	3	12	3	12	Please specify sectors in place of some (Government of India)
6-A-39	3	17	3	17	Please drop first word “widespread” (Government of India)
6-A-40	3	23	3	24	Comparison of Figure 3 from the TAR WG 1 SPM and Figure SPM.2 from the AR4 WG 1 SPM suggests that aerosol-related uncertainties have been reduced. If this is correct, the sentence should be changed to "Uncertainties regarding the impacts of aerosols on the magnitude of the temperature response and the carbon cycle have been reduced since the TAR but are still significant." (Government of European Community)
6-A-41	3	27	3	27	Suggest amending the sentence to "... that could increase sea level more than in the current projections". With the uncertainty, the reference seems more to be on the actual rise, rather than the projections. (Government of Sweden)
6-A-42	3	31	3	33	Although the current text cites 'uncertainties in the meltwater supply from Greenland ice sheet and ..' as a cause of 'Large scale ocean changes .. cannot be reliably assessed', there are no such discriptions in WG1-Report. At least the phrase 'in the meltwater supply from Greenland ice sheet and' should be deleted, because there is no basis to emphasize only to Greenland ice sheet among other uncertainties. (Government of Japan)
6-A-43	3	38	3	38	Add this paragraph: "Atmosphere-Ocean General Circulation Models cannot provide information at scales finer than their computational grid (typically of the order of 200 km) and processes at finer scales are important {WGI 11.1}. This leads to uncertainties in regional climate projections." (World Meteorological Organization)
6-A-44	3	42	3	43	Suggest modifying to “ Understanding of low-probability/high-impact events and the cumulative impacts of sequences of smaller events, which are required for risk-based ...” (Government of United States of America)
6-A-45	4	5	4	6	Again, useful to say whether what is refered to is autonomous or planned adaptation. (Government of United Kingdom)

**IPCC Synthesis Report - Fourth Assessment Report (Batch A and B – November 7, 2007)**

<b>Topic - Batch - Comment</b>	<b>Page</b>	<b>Line</b>	<b>To Page</b>	<b>To Line</b>	<b>Comment</b>
6-A-46	4	5	4	5	Adaptation of what? Human beings? Animals and plants? Ecosystems? Human systems? Specify. (Government of Switzerland)
6-A-47	4	6	4	6	Instead of writing some climate events please mention which climate events (Government of India)
6-A-48	4	8	4	9	This statement appears so general and unconstrained. We suggest to replace "likely" with 'certain' . We should be more specific about the emission rates of GHG's, and over what periods. (Government of United Kingdom)
6-A-49	4	11	4	14	Replace “at costs from” with “at costs that range from” (Government of United States of America)
6-A-50	4	16	4	16	Explain the expression "Range of stabilisation levels". Stabilisation levels of what? Climate? Specify (Government of Switzerland)
6-A-51	4	21	4	21	add after "few decades" and the lower the risk of a dangerous anthropogenic interference of the climate system. (Government of Germany)
6-A-52	4	23	4	27	We believe this section should be expanded along the lines that the earlier stabilisation is achieved, and at lower levels, the lower the risks to society and the natural world associated with future climate change. This is a robust finding. (Government of United Kingdom)
6-A-53	4	23	4	23	Please delete "(445-490ppm, with best estimate ...)". Reason: Topic 5 Table 5.1 and SPM Table3 provide six stabilized GHG concentration levels, but here only one (445-490ppm) is used, which is not reasonable and scientific. And also this one is only with 6 assessed scenarios, which are less than others, according to the table. (Government of China)
6-A-54	4	23	4	27	It is questionable to list these statements as robust findings when the information is patched together from underlying sections of the WG reports, and not from the SPMs. The lowest published stabilization scenarios are identified, and it appears a truism that the lowest stabilization scenarios could reduce risks, but was the reduction in risks actually assessed across the range of stabilization scenarios? (Government of United States of America)
6-A-55	4	23	4	23	Is it not clear if the “445-490 ppm” stabilization range is for all GHGs or just CO2. (Government of United States of America)
6-A-56	4	23	4	24	Delete explanatory brackets "(445-490ppm, with best estimate equilibrium temperature increase of 2°-2.4°C above pre-industrial)" or append with footnote in accordance with footnote for Table 5.1: "Note that the CO2 equivalent concentrations were estimated for CO2-only scenarios using CO2-eq to CO2 ratios of multi-gas scenarios for the year 2100. This is an approximation to longer-term stabilization levels, although it is overestimating post-2100 CO2 equivalence concentrations in particular for the lower stabilization levels. Hence, the 2°C-2.4°C best estimate equilibrium

**IPCC Synthesis Report - Fourth Assessment Report (Batch A and B – November 7, 2007)**

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					temperatures overestimates the longer-term temperature under a 350ppm-400ppm CO2 stabilisation." (Government of Germany)
6-A-57	4	23	4	23	Change "The lowest stabilisation scenarios..." to "the lower of the assessed stabilization scenarios". (Government of Germany)
6-A-58	4	26	4	27	Please delete "In these scenarios, global emissions would need to peak over the next decade and to fall below 50% of current levels by 2050." Reason: There are no corresponding descriptions about this point in three WGs' AR4. (Government of China)
6-A-59	4	29	4	31	An almost similiar paragraph appears in Topic 5.8, p. 10, line 43 to p. 11, line 4. That paragraph point at the conflicts that also can occur between the goals sustainable development and climate change policy. Here the content is self-evident and thus perhaps redundant. (Government of Sweden)
6-A-60	4	32	4	35	Please move the paragraph to line 20 i.e at the start of the section (Government of India)
6-A-61	4	39	4	40	Delete "This is a key ...vulnerability." The topic heading is "Key uncertainties" so this isn't needed. (Government of United States of America)
6-A-62	5	1	5	6	The effect of changes in behaviour and lifestyles, and the best methods to influence them could be listed under key uncertainties. (Government of Belgium)
6-A-63	5	44	5	46	Should read as : Climate data coverage remains limited or is non-existant in some regions and there is a notable lack of geographic balance in data and literature on observed changes in natural and managedsystems, with marked scarcity in developing countries. (Government of Argentina)