



**IPCC WGII
Fourth Assessment Report
Climate Change Impacts, Adaptation and Vulnerability
*Government and Expert Review of Second Order Draft***

Specific Comments

GOVERNMENT REVIEW COMMENTS

Chapter 14

August 2006

Discussion of Government review comments and record keeping

IT IS RECOMMENDED THAT:

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

Substantive comments

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

Non-substantive comments

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

General

- The record should be kept in this document, ideally electronically.
- The document becomes part of the traceable account of the Working Group II Fourth Assessment. When completed to the satisfaction of the Review Editors, a copy should be returned to the TSU by the **8th December 2006**.

IPCC WGII AR4 SOD *GOVERNMENT* Review Comments

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
G-14-1	A	0				The North America chapter tends to focus on possible vulnerabilities to extreme events rather than vulnerability to general trend-line climate change. If extremes are the largest vulnerability for North America, this is appropriate, however, a statement to that effect would be helpful. (Government of Australia)	H – focus on extreme events rather than trend-line climate change
G-14-2	A	0				In section 14.4, confidence statements need to be used consistently. Presently, they are used in sections 14.4.2, 14.4.3, 14.4.4, 14.4.8 and 14.4.9 but not in the other sections. (Government of Canada)	H – consistent use of confidence statements
G-14-3	A	0				Chapter is a significantly over-length, exceeding the 31 page indicative length by 8 pages (excluding 2 contents pages) (Government of Finland)	H- length of chapter
G-14-4	A	1	37	1	37	14.2.5 should read "Human Health" (Government of Canada)	changed
G-14-5	A	3	1	4	36	Also this ES has been improved considerable and the authors did really a good job. (Government of Austria)	Thanks
G-14-6	A	3	23	3	23	Suggest" "...where climate is generally (or typically) not a central concern." (Government of Canada)	removed in editing
G-14-7	A	3	26			Change “mainstreaming climate issues into” to “the application of climate science to” (Government of USA)	L Chapter’s chosen useage not changed
G-14-8	A	3	31		31	Suggest replacing “and population growth, and a growing elderly population” with “population growth, and an aging population”. (Government of USA)	Consider rewording - noted in FGD
G-14-9	A	3	43			The word “ignoring” has a negative connotation not supported by the text in 14.2. Suggest replacing with “inaction on the risks” (Government of USA)	Consider rewordingL – noted in FGD M
G-14-10	A	4	0			Create a separate bullet for the Forestry sector. (Government of USA)	Were required to reduce number of bullets and focus on key messages M
G-14-11	A	6	5	6	5	Suggest, instead of "roughly 86%", using "approximately 85%". (Government of Canada)	L - done
G-14-12	A	6	9	6	9	Explain the phrase "Advancing building codes" (Government of Canada)	Reworded – improveing used M
G-14-13	A	6	18			Nice section - very useful as an introduction for the reader (Government of Finland)	Thanks
G-14-14	A	6	24	6	25	The grammar/syntax needs fixing. Suggest "The inclusion of impacts on groundwater/surface water in the impacts on water resources"	rewordedL

IPCC WGII AR4 SOD *GOVERNMENT* Review Comments

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
						(Government of Canada)	
G-14-15	A	6	37	37	39	Understanding the limitations of needing to cite peer-reviewed papers suggest that these trends need to be updated. The Canadian trends based on Zhang et al 2000c have been updated in Hengeveld et al. 2005. An Introduction to Climate Change: A Canadian Perspective, available at: http://www.msc.ec.gc.ca/education/scienceofclimatechange/understanding/icc/icc_e.pdf (Government of Canada)	Used annual mean temp change map from ref. Hengeveld et al not used for annual trend but for seasonal changes Precipitation trends from WGI, Fig 3.3.3.
G-14-16	A	6	38		38	This trend can be updated through 2005. See for example, 2005 State of the Climate report in June 06 issue of BAMS. Precipitation trend can be updated too. See WG I observations chapter. (Government of USA)	M- Updated trends information Used WGI Fig3.3.3 information
G-14-17	A	6	40	6	45	A more recent reference on climatic indices in Canada is: LA. Vincent and E. Mekis. 2006. Changes in Daily and Extreme Temperature and Precipitation Indices for Canada over the Twentieth Century. ATMOSPHERE-OCEAN 44 (2) 2006, 177–193. (Government of Canada)	M- used for daytime and night-time trends and heavy precip days
G-14-18	A	6	41		41	This statement not completely accurate. Min rose faster than max through 70s, and have risen at similar rates since then. See for example Karl et al., late 2005 issue of Environmental Manager. Consider cite and review/revise accordingly. (Government of USA)	M – changed wording
G-14-19	A	6	45	6	47	Two additional papers should be cited on this: (1) Zhang,X., F.W. Zwiers and P.A. Stott. 2006. Multi-model multi-signal climate change detection at regional scale. Journal of Climate (in press); and (2) Gillet, N.P., A.J. Weaver, F.W. Zwiers and M.D. Flannigan. 2004. Detecting the effect of climate change on Canadian forest fires. GEOPHYSICAL RESEARCH LETTERS, VOL. 31, L18211, doi:10.1029/2004GL020876, 2004. A figure from the Zhang et al 2006 paper is included in Ch8 of the WG1 report. (Government of Canada)	M - paper used in forest disturbance and Fig 14.1
G-14-20	A	6	45	6	47	The last part of this sentence "...sulphate aerosols, and natural variation." is not totally accurate as natural variation can be read as natural (internal) variation of the climate system. However, the actual meaning of the detection work is "natural external forcing" (e.g., solar and volcanic activity. Please change natural variation to natural external forcing. (Government of Canada)	L Ok, changed
G-14-21	A	7	1			Figure 14.1: The inset figures could be labelled a, b, c in a clockwise direction to aid navigation.	L- Done

IPCC WGII AR4 SOD *GOVERNMENT* Review Comments

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
						(Government of Finland)	
G-14-22	A	7	1			Figure 14.1 (e): The x-axis is given as a temperature trend rather than as a temperature anomaly, which would seem more logical. (Government of Finland)	M Now shown as a difference from 1955.M
G-14-23	A	8	2	8	5	However, it appears from the figure that these levels are well below those of the 1940s and 1960s, so perhaps this conveys a misleading message. (Government of Finland)	H- Seems out of context. Are they referring to the hurricane damages?
G-14-24	A	8	8	8	12	Over what period do these findings relate? (Government of Finland)	M r
G-14-25	A	8	17		17	The phrase "a greater proportion" is with respect to what? (Government of USA)	L removed
G-14-26	A	8	18	8	20	Gobbledegook! (Government of Finland)	M – removed
G-14-27	A	8	23	8	23	Concerning the 55 mm increase in evapotranspiration, consider giving a percentage change as well. (Government of Canada)	M Ok, if available in paper
G-14-28	A	8	26	8	29	What periods are being compared here? (Government of Finland)	M ok
G-14-29	A	9	16		18	Wildfires are not referred to in box 14.1. Is the box callout placed appropriately? Is this the right callout for this statement? Perhaps it should be 14.3? If so, box placement should be here. (Government of USA)	Need to check box callouts
G-14-30	A	9	17	9	18	Concerning the timeframe for the increase in area burned, figure SPM2a uses the phrase "since the 1920s" which seems inconsistent with the timing used here ("over the last 3 decades") (Government of Canada)	I did not write the SPM
G-14-31	A	9	18	9	18	Wildfires is actually discussed in Box 14.3, please change. (Government of Canada)	OK
G-14-32	A	9	29	9	29	The 10 year time frame for the squirrel breeding study seems too short to be useful here. (Government of Canada)	Agreed is short, but still useful information
G-14-33	A	9	30	9	32	This is an odd statistic. Why choose these 70%? What about the other 30%? (Government of Finland)	I don't know
G-14-34	A	9	31	9	31	Provide a timeframe for the change in occurrence of the first spring butterfly flights. (Government of Canada)	Not in original paper
G-14-	A	11	6	11	7	Suggest adding a transition sentence linking the general statements at the beginning	L Addressed with revisions stemming from

IPCC WGII AR4 SOD *GOVERNMENT* Review Comments

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
35						of the paragraph to the specific that follow. (For example, "Both positive and negative climate related effects have been documented.") (Government of Canada)	Expert Review Commnet E 14 167
G-14-36	A	11	8	11	10	Relative to what? (Government of Finland)	M Addressed with revisions stemming from Expert Review Commnet E 14 173
G-14-37	A	11	10	11	13	What happened with cold anomalies during this period and can an optimum temperature be identified? (Government of Finland)	M No published info available on cold anomalies. Expert Review Comment E 14 374 resulted in a revision which qualifies benefits oif warmer nights
G-14-38	A	12	8		8	Should "most valued" actually be "most economically valuable"? It's not clear if authors intend that salmonids are most culturally prized or are in some form the most economically valuable. (Government of USA)	L Sentence dropped
G-14-39	A	12	39	12	41	The sentence listing morbidity and mortality effects of bacterial infection in Walkerton comes after one describing the characteristics of incidences of waterborne disease outbreaks in the US. The way this sentence is currently written seems to initially imply that Walkerton is in the US (in spite of the identification of its location in Ontario). Also, simply saying that people died and got sick of bacterial illnesses in Walkerton is unhelpful in that it a) does not highlight the role of precipitation extremes and b) does not contextualize this role by discussing the social factors that allowed the outbreak. (Government of Canada)	M sentence dropped
G-14-40	A	13	6	13	8	Suggest a better word to describe the spread of West Nile virus than "march". (Government of Canada)	L sentence dropped
G-14-41	A	13	23	13	23	Consider adding something on air pollution related sensitivity (if available) since there is a corresponding discussion on air pollution in section 14.4.5. (Government of Canada)	M We don't have room for expanded text on these impacts
G-14-42	A	13	35	13	35	Add "e.g." before Chapter 15. This is not the only region with indigenous populations. (Government of Finland)	L- Agree. Statement has been broadened to include indigenous peoples generally, with refernce to the native peoples foundation report of the U.S. National Assessment, and to Alaska and Northern Canada (ACIA 2005 and Ch 15).
G-14-43	A	14	9	14	9	The use of "sprawling" has a negative connotation for many people which may not be appropriate here. Suggest another term such as "spread out". (Government of Canada)	L-Agree. Sentence has been removed to shorten text
G-14-	A	14	24	14	28	It is probably worth mentioning the misappropriation of large amounts of aid	L- We disagree. It may or may not be true that

IPCC WGII AR4 SOD *GOVERNMENT* Review Comments

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
44						money reported recently (i.e. due to corruption and mismanagement). (Government of Finland)	this adds to the problems of the displaced poor, but it this is not an appropriate point to make in this document.
G-14-45	A	14	42		44	To be completely clear that the percentages listed in the sentence that begins with "This includes 79%..", refers to the economic value of the property in those states (not quantity of property), recommend adding the following to the beginning of the sentence: "In terms of economic value,". (Government of USA)	M- "Value" is correct. We have made the suggested change.
G-14-46	A	15	22	15	23	The \$6M cost for a "six meter reduction" in water level seems small, depending on the type of infrastructure involved. (Government of Canada)	M sentence dropped
G-14-47	A	16	17	16	17	Suggested revision to read: "The global climate model simulations analysed fro this report (Ruosteenoja et al., 2003)" (Government of Finland)	L Text modified to accomodate this thought.
G-14-48	A	16	17			I suggest citing these as TAR results, which can be contrasted with AR4 results reported by WG I. (Government of Finland)	M Text modified to address both these runs and AR4.
G-14-49	A	16	17			AR4 results are consistent with those from the TAR (Chapter 11, WG I) (Government of Finland)	Text modified to accomodate this thought.
G-14-50	A	16	17		20	In what sense will temperatures be "outside the range natural variability"? Quantify with min/max bounds from the cited reference. (Government of USA)	M The statement in the text is pretty clear. We don't have space for further explanation.
G-14-51	A	16	20		20	Replace "2020" with the appropriate time slice (2010-2039?). (Government of USA)	L ok
G-14-52	A	16	35	16	43	I suggest omitting this paragraph, and summarising the most recent results using information from the section on North America in chapter 11, WG I. (Government of Finland)	M revised as suggested
G-14-53	A	16	36			Expect a comment on ice storms here from a well known Canadian colleague! (Government of Finland)	L now mentioned
G-14-54	A	16	39	16	39	Concerning "...higher hurricane activity, such as 1941-65 and the 1990's...", consider using a reference that provides more up-to-date information on recent hurricane activity. (Government of Canada)	H newer references added
G-14-55	A	16	46			Section 14.3.2: This needs to introduce the SRES assumptions that pertain to North America, as these scenarios are used in some of the studies reported below. Moreover, I didn't find population projections or information on the ageing population in this section. I think these are relevant to some of the subsequent	H very difficult to include more detail and reduce length.

IPCC WGII AR4 SOD *GOVERNMENT* Review Comments

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
						discussion. (Government of Finland)	
G-14-56	A	16	50		50	Editorial: Reference citation is missing. (Government of USA)	M- Add Burleton to reference list
G-14-57	A	17	6		7	Editorial: Replace the “XXX” s with the dollar values. (Government of USA)	done
G-14-58	A	17	12		17	Suggest deleting “strongly” in line 12 and “the philosophy of” in lines 12 and 13. Replace “strong” with “the” and, “in the last” with “observed over the last” in line 13. In the next to last sentence of paragraph, delete everything after “will all be” and replace with “increasingly international in focus”. In line 17, replace “far from” with “not”. (Government of USA)	M text revised to address comments
G-14-59	A	17	39	17	40	Suggest adding, for clarification, "Higher evapotranspiration related to warming offsets.." (Government of Canada)	M done
G-14-60	A	18	1	18	1	Change to: See Box 14.4 (Government of Canada)	L Formatting glitch
G-14-61	A	18	7	18	8	Should also include this reference: Kutzbach,J.E., Williams,J.W. and Vavrus,S.J. 2005. Simulated 21st century changes in regional water balance of the Great Lakes region and links to changes in global temperature and poleward moisture transport. GRL 34, L17707, doi:10.1029/2005GL023506, 2005. (Government of Canada)	L – was included in SOD
G-14-62	A	18	11	18	12	This sentence needs to have a bit of a preface as to why only lowered water levels is discussed, despite the first sentence that says both lower and higher basin supplies. (Government of Canada)	M done
G-14-63	A	19	17		18	Define the relationship of the Edwards aquifer with the simulations in lines 17-21. (Government of USA)	M Reworded section
G-14-64	A	19	43	19	45	This is not a complete sentence. Reword to: For instance, the TMDL defines..." (Government of Canada)	L reworded
G-14-65	A	20	43	20	45	Line 43 speaks of "...climate drivers...", then line 44 discusses "...non-climate factors like extreme events...". People often associate extreme weather events with climate conditions, so the phrasing may be confusing to many. (Government of Canada)	M Reworded to be more clear
G-14-66	A	21	16	21	21	Some uncertainties have been excluded from these calculations. In any case, I wonder if this information is really required here. It is reported in WG I and in Chapter 2 of WG II.	M – The point of this sentence is to provide a general indication from WG1 results of the scale of potential impacts and the adaptation

IPCC WGII AR4 SOD *GOVERNMENT* Review Comments

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
						(Government of Finland)	challenge. It is worth one sentence in WG2. Revised to reflect final text of WG1 FGD.
G-14-67	A	21	43	21	44	Explain briefly how "...possible changes in El Nino are likely to result in more coastal instability" (Government of Canada)	M Based on past impacts documented in 14.2.3. Reference to earlier section now added.
G-14-68	A	21	51	21	52	The phrase "...by 2020 over the coming decades..." is awkward, even redundant. (Government of Canada)	L This was an editing glitch and has been fixed.
G-14-69	A	22	6			Section 14.4.4: I think more needs to be said here about livestock agriculture and grassland. (Government of Finland)	M Our systematic review of new publications since the TAR did not find new published research on climatic change & livestock, no change
G-14-70	A	22	20	22	20	injects -> introduces (Government of Finland)	L done
G-14-71	A	22	24	22	25	Explain briefly how "...adjusting planting date can more than compensate for direct effects of climate change" (Government of Canada)	M Revisions clarify (1) adjusting planting date refers to planting earlier & (2) this may reduce heat stress
G-14-72	A	22	27		35	Mention the impact of temperature on floral sterility. Mention weeds, pests and diseases, their probable impacts or potential changes in their management. (Government of USA)	M Revisions to 1st sentence in Sec 14.4.4 provides examples of impacts.
G-14-73	A	22	37	22	47	Seems surprising that there is not more material available for the forestry section, particularly relative to the agriculture and freshwater fisheries sections. (Government of Canada)	Key forestry material is in Box 14.3 on fires and insects
G-14-74	A	22	39	22	39	Should this be Box 14.3? (Government of Finland)	Yes refers to Box 14.3
G-14-75	A	22	43	2	44	Suggest "The climatic southern boundary of the boreal forest...", since it is unlikely that the forest will regenerate in the newly favourable area that quickly. (Government of Canada)	Reworded and better reference
G-14-76	A	22	45	22	47	Windthrow is an acknowledged problem under warming in the boreal forests of Europe (due to unfrozen soils plus possible changes in windspeed). Have there been any studies of this in North America? (Government of Finland)	I found no material on climate trends and windthrow, it is a very localized disturbance
G-14-77	A	23	11	23	11	Elaborate if possible how river-spawning walleye will "both gain and lose". (Government of Canada)	REWORDED TO MAKE CLEARER
G-14-78	A	23	18	24	41	The choice of health impacts to list in this section, as opposed to those listed in the current vulnerabilities section (14.2.5) is inconsistent. Why are some current effects listed in 14.4.5, and some others not listed in 14.2.5? As examples, air pollution	This section only includes studies with future climate change projections.

IPCC WGII AR4 SOD *GOVERNMENT* Review Comments

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
						effects could be listed in 14.2.5, and waterborne illness impacts could be listed in 14.4.5. The current presentation gives the misleading impression that these categories are temporally distinct in some important way. One other concern: why not describe the climate-related dynamics of hantavirus in 14.2.5? (Government of Canada)	
G-14-79	A	23	28	23	28	What is meant by "severe" heat wave? Would it be (incorrectly) associated with a specific definition? If so, perhaps the word can be dropped. (Government of Canada)	The definiton of a heat wave is variable
G-14-80	A	23	28	23	33	The American projected heat wave information could be supplemented by looking at a report on projected heat- and air pollution-related mortality in Toronto at http://www.toronto.ca/health/hphe/pdf/weather_air_pollution_summary_june_2005.pdf . (Government of Canada)	Will do if time permits
G-14-81	A	23	42	23	43	See chapter 7, WG I (Box) which considers air quality. (Government of Finland)	
G-14-82	A	23	43	23	44	There exist other, better characterized health impacts of air pollution (than asthma) that could be listed: premature death, increased respiratory hospitalizations, chronic obstructive pulmonary disease, etc. (Government of Canada)	Ozone is the most climate sensitive air pollutant and asthma is the most sensitive to ozone. If we covered this breadth, we would compromise the climate health impact focus.
G-14-83	A	23	43	23	44	The line "Even modest exposure to ozone may encourage the development of asthma in children (McConnell et al., 2002; Gent et al., 2003) is problematic. First, the Gent et al. study cited actually deals with the exacerbation of existing asthma cases, not the development of new ones. Second, the phenomenon observed in the McConnell et al. study cited is a very specific one in which the effect of ozone on the development of new cases of asthma was only observed in highly active children living in "high pollution communities" (lumped together, possibly hiding stratification of effect) in California. Although the 1 and 24-hour average concentrations of ozone (averaged tetra-annually, which may mask the effects of harmful episodes) in most of these communities were still below many common air quality standards, the high activity level of the children in question makes the term "modest exposure" suspect. (Government of Canada)	Disagree with this comment. The McConnell is well-controlled across stratum and exercising children are an excellent model for this effect. The variability is in air pollution and we are not sure why reviewer suspects bias in this peer-reviewed paper
G-14-84	A	23	48	23	48	Consider adding a temperature range to: "...at rates which rapidly increase with temperature". (Government of Canada)	Too specific
G-14-85	A	23	49	23	49	Presumably vehicles contribute this through fuel combustion. (Government of Finland)	Too specific

IPCC WGII AR4 SOD *GOVERNMENT* Review Comments

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
G-14-86	A	24	3	24	3	Suggest qualifying the statement: "...deaths from climate change could (or may) increase..." (Government of Canada)	changed
G-14-87	A	24	15	24	15	Explain briefly the reason for urban versus rural differences in ragweed. (e.g., is it due to warmer urban temperatures?) (Government of Canada)	Have edited and mention elevated CO2 and temperature
G-14-88	A	24	48	24	48	Suggest, instead of "unusually" sensitive, using "particularly" sensitive. (Government of Canada)	L- Change made to "particularly"
G-14-89	A	24	52		52	Suggest replacing "prey species" with "wild species". This makes the statement more general with respect to potential impacts of climate change on the lives of indigenous peoples. (Government of USA)	L- Change made to "wild"
G-14-90	A	25	19		20	Editorial: delete duplicate phrase. (Government of USA)	L –Deleted phrase
G-14-91	A	25	20	25	20	Sentence repeated. (Government of Finland)	L—Deleted phrase
G-14-92	A	25	23	25	23	To what transportation mode/sector does the statement "It also doubled delays and the number of lost trips" refer? (Government of Canada)	M- Deleted sentence
G-14-93	A	25	23		23	It is unclear what is meant by the sentence, "It also doubled delays and the number of lost trips". Suggest deleting the sentence as it adds little to the paragraph. If the sentence is retained then some clarification as to its meaning is required. (Government of USA)	M- Deleted sentence
G-14-94	A	25	25	25	25	The word 'losing' does not fit here. Should it be 'losses in'? (Government of Canada)	L- Losses in/. Made change
G-14-95	A	25	25	25	25	losing -> loss in (Government of Finland)	L- Losses in/. Made change
G-14-96	A	25	29	25	30	There are other studies (peer reviewed) that pertain here. S Lambert of Env Canada has looked at current and future changes in extra tropical storminess and suggested the intensity but not the frequency would increase under climate change. (Government of Canada)	M - Paragraph was removed to shorten text
G-14-97	A	25	32	25	32	Explain briefly what is meant by "Lagged changes in protection" (Government of Canada)	M- Dropped the phrase
G-14-98	A	25	35	25	35	The phrase "...did not carry forward many of the potential identified physical impacts..." is awkward. (Government of Canada)	M-Sentence was removed to shorten the text
	A	25	45	25	45	Suggest "...increasing availability and hence competition for..."	L

IPCC WGII AR4 SOD *GOVERNMENT* Review Comments

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
						(Government of Canada)	
G-14-100	A	25	47		47	It is unclear what a "travel deficit" is and why it is beneficial to reduce it. Suggest replacing with something like, "benefit Canada's recreation sector". (Government of USA)	L addressed in revised text
G-14-101	A	25	50	25	50	Suggest including a reference for the statement "Coastal zones are the most important recreational resource in North America". (Government of Canada)	M Can't find it easily, so revised the sentence is a way that no one would disagree with
G-14-102	A	26	36			Section 14.4.8: This section is too long. I suggest shortening to half the length. (Government of Finland)	HM – discuss-We shortened the text by about 40 percent by moving water supply systems to section 14.4.6 and omitting some details on energy supply and transportation. This also allowed us to add a summary table.
G-14-103	A	26	43	26	48	Innovations in technology are often reliant on energy, and can alter demand in spite of efficiency. One example is the preponderance of electrical appliances operating in "stand-by" mode, which were simply not available in previous decades. (Government of Finland)	L-There is no suggested change here, unless it is to suggest standby mode is a net energy user. No change made as a result of this comment.
G-14-104	A	27	1	27	12	This discussion seems to assume an unchanged future per capita floor area. What are the trends? (Government of Finland)	M-US Energy Information Admin suggests that these trends are upward in the U.S. (Energy Information Administration, Annual Energy Outlook 2006). Floor space per capita increases in Scott et al. We have no comparable information on Canada at the moment, but presume the trend is similar. This section has been much reduced in size, so the sentences that caused the question are now gone
G-14-105	A	27	10	27	11	Add a timeframe for the expected decline in peak electricity demand in Quebec (Government of Canada)	M-Discussion of peak demand in Quebec is now gone.
G-14-106	A	27	36	27	36	Well "constrained" - is this the correct word here? (Government of Finland)	L- "Not well addressed" is a better term, and has been substituted, with WG 1, Ch 11 reference. WG 1 is silent on wind speed and reliability for North America. Paragraph has been rewritten and shortened
G-14-107	A	27	44	27	44	Suggest "With respect to solar energy potential, future cloudiness..." (Government of Canada)	L- We made the requested change
G-14-108	A	28	1	28	2	Question whether a 1mm increase in precipitation would have any impact. The 1-115mm range seems very large.	M-Paragraph was extensively rewritten. It now includes annual precipitation and seasonal

IPCC WGII AR4 SOD *GOVERNMENT* Review Comments

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
						(Government of Canada)	temperature.
G-14-109	A	28	20		20	The phrase “short supply” is too vague for an assessment of this type. Suggest something along the lines of “where many water resources are already at or near full utilization”. (Government of USA)	M-We made the requested change. Paragraph is now in Section 14.4.6.
G-14-110	A	28	35		36	Text reads like it costs \$20 million to replace 1 pipeline support structure. This cannot be right. It implies that at \$70 per barrel – you would need over 285,000 barrels of oil to pay for 1 support structure. (Government of USA)	M-There was as error in both the cost value and source. This has been corrected.
G-14-111	A	29	1	29	1	Suggest "...reduce the reliability of land transport..." (Government of Canada)	L- We made the suggested change
G-14-112	A	29	25	29	25	Explain briefly what is meant by a "more sustainable" transportation system. The term would seem to apply more to some modes than others. (Government of Canada)	M- The phrase is unnecessarily vague and has been dropped.
G-14-113	A	30	10		10	Among large cities, New Orleans had a very large proportion of its population that fell into lower income categories. So why was the consequence being discussed unexpected? Suggest replacing “unexpected” with “observed”. (Government of USA)	M
G-14-114	A	30	15			Figure 14.4: It might be useful to add arrows to the figures to indicate the "compounding effect" of increased withdrawal of water (top - arrow needs to be from top right to bottom left) or the ameliorating effect of social networking (bottom - arrow needs to be from top left to bottom right). Alternatively, have the authors considered using the Australia/New Zealand method of representation of coping range, adaptive capacity and vulnerability? (Government of Finland)	H – Figures We dropped the figure.
G-14-115	A	30	40			Fig 14.4: The figure is somewhat confusing. Too much information combined. The construct of the figure is completely subjective. Either justify the color blend or delete. (Government of USA)	H – Figures This figure was dropped.
G-14-116	A	30	43	30	43	Concerning "trends in these interacting factors" give an example of a trend. (Government of Canada)	M The figure was dropped.
G-14-117	A	30	49		49	Suggest replacing “personal” with “social” – i.e., the net summation of all the personal changes. (Government of USA)	L reworded to address this comment
G-14-118	A	31	21		23	Add parenthetical after “underinvestment in adaptation” to give examples such as sea walls, stilts, levees, replacement of wetlands, etc.. (Government of USA)	Addressed, text revised as proposed

IPCC WGII AR4 SOD *GOVERNMENT* Review Comments

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
G-14-119	A	33	5	33	5	Clarify what is meant by "accelerated inappropriate development". (Government of Canada)	Addressed, text revised
G-14-120	A	33	5		5	Delete "inappropriate" and remove parentheses around "maladapted". (Government of USA)	Addressed, text deleted
G-14-121	A	33	34	33	34	Americans -> US citizens (Government of Finland)	Addressed, text revised as proposed
G-14-122	A	34	2	34	2	Suggest "In two Ontario communities..." (Government of Canada)	Addressed, text revised
G-14-123	A	34	4	34	6	These responses need to be explained. (Government of Finland)	Addressed, text revised
G-14-124	A	34	11	34	12	The logic flow between the second and third sentences in the paragraph is not smooth, as one sentence speaks of wealth (better to say "economic status" ,and the next sentence deals with poor and marginalized. Suggest "Also, in Canada and the US, the poor. (Government of Canada)	Addressed, text revised as proposed
G-14-125	A	34	16		18	As worded, the sentence is judgmental and negative in tone. Suggest replacing with something like, "when the large majority of those requiring evacuation assistance were either poor or belonged to groups with generally limited mobility – including elderly and disabled citizens" (Government of USA)	Addressed, text revised as proposed
G-14-126	A	34	20	34	22	I suggest omitting this paragraph, which doesn't seem to add anything new. (Government of Finland)	Addressed, text removed
G-14-127	A	35	8	36	38	The focus on adaptation constraints is interesting and departs from other regional chapters by focussing on barriers to the exercise of adaptive capacity. It would be useful if the authors could provide information as to why/ in what ways, these barriers differ in North America when compared to other regions. (Government of Australia)	Not applicable, North America examples have been proved were possible and the references all relate to US or Canadian research
G-14-128	A	36	4		4	Extra word in the sentence ending "...building code." (Government of USA)	Addressed, text removed
G-14-129	A	36	16			Figure 14.5: Where do the values for the vertical coloured bars originate? In any case, how does global mean annual temperature (GMAT) change relate to infrastructure lifetime? There seems to be a "disconnect" here. Unless GMAT change can be shown to require a certain rate of infrastructure replacement, I think the temperature bars are superfluous. (Government of Finland)	M – discuss- Obtained value for vertical bars for North America from WG 1 and revised figure.
G-14-130	A	36	35			Fig 14.5: Figure does not clearly indicate the relationship between climate change and structural lifetimes. Consider using horizontal bars to represent the different	M – discuss-We have done this by splitting the figure and put the bars at the bottom,

IPCC WGII AR4 SOD *GOVERNMENT* Review Comments

Chapter-Comment	Batch	From Page	From Line	To Page	To line	Comments	Notes of the writing team
						lifetimes. (Government of USA)	stacked.
G-14-131	A	37	25			Box 14.4: I suggest cutting the length of this by half and omitting the figure which, though striking, doesn't really add much new information. (Government of Finland)	M- discuss. Decreased length by about 50%. Figure has been dropped.
G-14-132	A	37	45	37	47	Suggest, if possible, more consistent use of time periods (2050s and 2040s). (Government of Canada)	M- Eliminated reference to the Mote, et al. 1999 study.
G-14-133	A	39	3			Box 14.5: Is it worth mentioning here the recent initiatives on climate change by many cities and States in the US (in stark contrast to the federal government)? (Government of Finland)	M-We now mention that many North American cities have begun adaptation.
G-14-134	A	39	3			Box 14.5: I suggest cutting the length of this Box by half as there is repetition of earlier discussion. It may be sufficient to restrict the discussion here to a single city. (Government of Finland)	M- discuss. Box has been shortened and refocused. Three cities were kept to show commonality across North American cities.
G-14-135	A	39	15		16	Suggest inserting "what is now" before "a 100-year flood" and replacing "500-year floods" with "what is now a 500-year flood". (Government of USA)	L- We made the suggested change
G-14-136	A	39	45		45	Delete either "greater" or "increasing". (Government of USA)	L- We deleted "increasing"
G-14-137	A	41	2			Section 14.8: It is worth emphasising the point made on P. 25, L35-37 regarding the paucity of studies on costs of climate change. (Government of Finland)	M- added this concept to the last bullet.
G-14-138	A	41	5	41	5	Should be "people, economies, and ecosystems" (Government of Canada)	L- fixed
G-14-139	A	41	22	41	23	Suggest "...extent to which multi-sector responses limit future options". (Government of Canada)	L- We feel that they limit current options as well.
G-14-140	A	41	27	41	27	Delete "(but see (Reid et al, 2005) for an important exception)" and discuss this point under 14.4.9 (Government of Canada)	M- good suggestion. Taken.
G-14-141	A	41	39	41	39	Conflict may be "regrettable" for many, but this is still a value judgement and should be omitted. (Government of Finland)	L- ok
G-14-142	A	41	39		39	Suggest deleting "regrettably" and replace with "potential". It may seem obvious and in fact most will agree with the description but it is a word that conveys an underlying opinion and assessments of this type are better without them. (Government of USA)	L- ok

IPCC WGII AR4 SOD *GOVERNMENT* Review Comments