

<Review comments on First Order Draft of Chapter 5 of Wetlands Supplement>

ID	Government	Chapter/Section	Start Line	End Line	Sub-section	Comment	Supplementary documents	Authors' action	Authors' note
50001	Burghilea, Carmen	5	1	1	5	This chapter presents up to date methodologies to estimate and remove greenhouse gas emissions in managed inland wetlands with mineral soils. The examples offered in text, figures, tables and schemes are very concise and clear. I have very much enjoyed reading this chapter and I especially liked the messages and focusing points.		None	
50002	Guendehou, Sabin	5	1		5	In the chapter write the name of gas for e.g. carbone dioxide (CO2), methane (CH4), Nitrous oxide (N2O) when they are mentioned for the first time and subsequently use only the formulae for CO2, CH4, N2O. This may be applied for carbon (C).		Accepted with modification	
50003	Guendehou, Sabin	5	6	10	5	Having read the content of each section, I have the impression that section 5.1.2 Guidance for Inland Mineral Soil Wetlands and section 5.1.3 Choice of Activity Data do not add anything significant to the document and to our understanding of the process for estimating emissions and removals form Wetlands. I found them not operational and I don't see their relevant in the introduction section. For e.g. Table 5.1 is not relevant, a decision tree in the introduction section is not relevant. The section on Choice of Activity Data should be elaborated further together with a new section on Choice of Emission Factors and moved to section on Methods. The decision tree should also be in the section on Methods. Under Choice of Activity Data, specify the type of activity data needed and make reference to specific section(s) of the 2006 IPCC Guidelines. This also applies to the new section on Choice of Emission Factor: you may specify the type of emission factors and parameters needed or make reference to the 2006 IPCC Guidelines if this was covered therein. The introduction will work well if drafted without subsections.		Accept with modification - chapter has been rewritten to address only Soil Organic Carbon Stocks, Default SOC Change Factor for long term cultivation of cropland with WMS and some aspects of CH4 EIs	
50004	Rock, Joachim	5	6	19	5	Please expand page numbers and include chapter number therein.		Accepted with modification	
50005	Garcia-Apaza, Emilio	5	23	39	5	It is necessary to put in place which are the gases and which are processes that is involved in brief, to introduce to the chapter.		Accepted with modification - Fourth paragraph of Introduction	
50006	Guendehou, Sabin	5	23	25	5	Suggestion to replace the two sentences with: "This chapter provides guidance for estimating and reporting greenhouse gas (GHG) emissions and removals from Managed Inland Wetlands on Mineral Soils hereinafter referred to as Inland Mineral Soil Wetlands (IMS Wetlands)".		Accepted with modification to Wetland Mineral Soils	
50007	PENMAN, Jim	5	23	25		It is not obvious to me why these need a special chapter, so a sentence of two explaining this would be useful.		Accepted with modification - see new introduction	
50306	Pipatti, Riitta	5	23	82		The coverage of the chapter needs some further clarification as many of the activities are covered by other guidance in the 2006 IPCC GLs and this supplement. Stress what is key for choosing guidance given in this chapter, e.g. when to use guidance from chapter 2 and 3, or e.g. for agriculture or wastewater treatment in 2006 IPCC GLs. The possibilities for doublecounting should be highlighted.		Accepted with modification - see new introduction	
50008	Guendehou, Sabin	5	28	28	5	Replace "greenhouse gas" with "GHG" and also in the subsequent parts of the document.		Reject to be consistent with other chapters	
50009	Guendehou, Sabin	5	28	31	5	Suggestion of text: "GHG emissions and removals can be estimated using two approaches including: net changes in carbon (C) stocks in the five C pools (above ground biomass, below ground biomass, litter, dead wood, soil) mostly applied for CO2 fluxes, and gas flux rates to and from the atmosphere using emission factors used for CO2 and non-CO2 fluxes".		Accepted with modification - text has been removed	
50010	Evrendilek, Faith	5	29	29	5	1) "n"et		Does not apply	
50011	Evrendilek, Faith	5	30	30	5	2) "d"irectly		Does not apply	

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50012	Guendehou, Sabin	5	41	79	5	I don't think the introduction is the appropriate place to include the detailed definitions of wetlands and mineral soils. Furthermore, we should not repeat what is already in the 2006 Guidelines (for e.g. you have included the definition of organic soils as contained in the 2006 Guidelines). You may want to include a section on definitions if relevant before the section on Methods or include definitions in a glossary.		Accepted with modification - see new introduction	
50013	Lund, Herluf Gyde	5	46	46	5	FAO 1998 not in references.		Does not apply	
50014	Freibauer, Annette	5	60	79	5	Are saline wetlands as described here managed at all so that the GHG flux would differ from natural? Would there ever be relevant anthropogenic GHG emissions? Is this paragraph needed?		Accepted with modification - see last paragraph of Section 5.1.1	
50015	LANE, Charles R	5	60	60		Some information on how saline inland wetlands are defined would be useful		Accepted with modification - same as above	
50016	PENMAN, Jim	5	60			Unclear why we have started talking about these wetlands. Are they by definition mineral? As are in fact no methods for them, this material should be moved to an Appendix, which can be introduced via the footnote to Table 5.1 below		Accepted with modification - same as above	
50017	PENMAN, Jim	5	63			The punctuation indicated that only sabakhas are generally associated with coasts. Is this the intent? Should wetlands associated with coasts not be covered under coastal wetlands?		Accepted with modification - same as above	
50018	Evrendilek, Faith	5	64	64	5	gas "fluxes have"		Does not apply in the new redaction	
50019	FAGGI, Ana	5	64			uncited reference		Does not apply in the new redaction	
50020	Nakatsubo, Takayuki	5	64		5	fluxeshave → fluxes have		Does not apply in the new redaction	
50021	Podest, Erika	5	64	64		space is needed between "fluxes" and "have"		Does not apply in the new redaction	
50022	Rock, Joachim	5	64	64	5	typo: space missing following "fluxes"		Does not apply in the new redaction	
50023	Xie, Yonghong	5	64	64	5	change "fluxeshave" to "fluxes have"		Does not apply in the new redaction	
50024	Evrendilek, Faith	5	67	67	5	little research "about" carbon		Does not apply in the new redaction	
50025	Rock, Joachim	5	67	67	5	little research ON carbon ...? Sentence is incomplete.		Does not apply in the new redaction	
50026	SHARMA, Chhemendra	5	67	67		Sentence need to be rephrased		Does not apply in the new redaction	
50027	Burghilea, Carmen	5	69	70	5	There is also a recent study (Rodríguez-Murillo et al., 2011) that reported 20 kg C/m <sup>2</sup> (organic carbon) in inland saline wetlands, Tablas de Daimiel, Spain.; Rodríguez-Murillo, J.C., Almendros, G. and H. Knicker. 2011. Wetland soil organic matter composition in a Mediterranean semiarid wetland (Las Tablas de Daimiel, Central Spain): Insight into different carbon sequestration pathways. Organic Geochemistry. Organic Geochemistry 42: 762–773.		Does not apply in the new redaction	

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50028	Evrendilek, Faith	5	73	74	5	Please re-write the following: "Although only a single study, the soil carbon stocks found in Bai et al. (2007) of 41-47 Mg ha <sup>-1</sup> to 30 cm are more similar to upland soils (Table 2.3 in the 2006 IPCC Guidelines) than freshwater mineral wetland soils (Table 5.1)."		Does not apply in the new redaction	
50029	Garcia-Apaza, Emilio	5	85	96	5	Those datas are from natural ecosystems, which not necessarily imply an antropogenic emission.		Does not apply in the new redaction	
50030	Guendehou, Sabin	5	86	89	5	It may be simple to say: "The distribution of the world's IMS wetlands according to climate region is as follows: boreal: 2%, tropical moist: 0.67%, etc". Please use the classification scheme for climate regions of the IPCC (chapter 3 of the 2006 IPCC Guidelines for National Greenhouse Gas Inventories).		Accepted with new redaction	
50031	LANE, Charles R	5	86	86		How is "most important" defined?		Accepted with new redaction	
50032	SHARMA, Chhemendra	5	86	89		The sentence gives an impression of more focus on 'most important' climate zones.		Accepted with new redaction	
50033	Evrendilek, Faith	5	97	97	5	range"s"		Does not apply in the new redaction	
50034	Guendehou, Sabin	5	100	101	5	Please add a reference		Does not apply in the new redaction	
50035	LANE, Charles R	5	100	100		wetlands can be underlain by soils, too - not just sediments (which are formed by depositional activity).		Noted	
50036	LANE, Charles R	5	101	101		the paranthetical section after "hydroperiod" is redundant and not useful.		Accepted with new redaction	
50037	LANE, Charles R	5	102	102		what are removals?		Does not apply in the new redaction	
50038	LANE, Charles R	5	104	104		IMS wetlands include playas and other systems that may have large areas of bare ground (perhaps due to high salt content retarding vegetative growth).		Does not apply in the new redaction	
50039	LANE, Charles R	5	105	105		Add an example or define management activities, and consider adding "affecting soils and vegetation" after example.		Does not apply in the new redaction	
50040	FAGGI, Ana	5	110			uncited reference		Does not apply in the new redaction	
50041	Lund, Herluf Gyde	5	111	112	5	Seo et al., 2010 not in references		Does not apply in the new redaction	
50042	LANE, Charles R	5	112	112		organize references chronologically		Does not apply in the new redaction	

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50043	FAGGI, Ana	5	118			uncited reference		Does not apply in the new redaction	
50044	Lund, Herluf Gyde	5	118	118	5	Bodelier, 2011 not in references		Does not apply in the new redaction	
50045	da Rocha Campos, José Ricardo	5	122	123	5	I recommend add the problem of the soil compaction.		Does not apply in the new redaction	
50046	Rock, Joachim	5	134	135	5	Harvesting removes crown material, so interception should Decrease, not increase afterwards.		Does not apply in the new redaction	
50047	LANE, Charles R	5	135	135		give a reference to one or more of the "many studies"		Does not apply in the new redaction	
50048	LANE, Charles R	5	144	146		an in-text box providing general details of Vol 4 Ch 2 would be useful to the reader who doesn't want to go and find/read the 2006 Vol 4 Ch 2 section		Rejected	
50049	Guendehou, Sabin	5	148	150	5	Move the text "Management activities ... amendments)" to line 198		Does not apply in the new redaction	
50050	da Rocha Campos, José Ricardo	5	150	151	5	Soil compaction		Does not apply in the new redaction	
50052	LANE, Charles R	5	154	154		Table 5.1: provide descriptions of acronyms used in the table		Accepted with modification of Table 5.1	
50053	Rock, Joachim	5	154	154	5	Table 5.1, NOTES: What is meant by "FWMS"?		Accepted with modification to Wetland Mineral Soils	
50054	Wirth, Tom	5	154	154	5	Table 5.1: Under footnote 1: what does FWMS stand for?		Accepted with modification to Wetland Mineral Soils	
50055	FEDERICI, Sandro	5	163	165		the aggregation of areas under different land uses IS NOT a good practice and should therefore not be suggested.		Accepted with modification - see new section 5.2.1.1	
50056	LI, Qian	5	163	163		All area should be estimated as accurately as possible: please define "as accurately as possible". 1% bias/SD? Or 10%? Once the bias reaches 50%, would the estimation still be reliable?		Accepted with modification - see new section 5.2.1.1	
50057	FEDERICI, Sandro	5	167	167		Tier 1 assumes that all changes occur in the year of conversion ONLY FOR LOSSES OF BIOMASS; gains of biomass have to be estimated when they occur (i.e. along a period)		Accepted with modification - see new section 5.2.1.1	
50058	Rock, Joachim	5	175	177	5	Not clear. If a site is classified as "Forest" a regular harvest does not cause a LUC and thus the respective area is "FF". And neither suspension of harvest nor increase in harvest constitute LUC. So there is no need for a change in guidance. In addition, this section does not contain any guidance on how changes in management are to be included in the reporting.		Accepted with modification - Section removed, see new section 5.2.1.1	
50059	Eve, Marlen D	5	179	179	5	form should read "from"		Accepted with modification - Section removed, see new section 5.2.1.2	
50060	LANE, Charles R	5	179	179		from not "form"; also even "pristine" wetlands are affected by anthropogenic loading of N which may have an effect on emissions - should be noted.		Accepted with modification - Section removed, see new section 5.2.1.3	
50061	Rock, Joachim	5	179	179	5	from, not "form"		Accepted with modification - Section removed, see new section 5.2.1.4	

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50062	Segarra, Dr. Katherine E. A.	5	179			word form should be from		Accepted with modification - Section removed, see new section 5.2.1.5	
50063	PENMAN, Jim	5	181	184		Another non-20 year default transition period! I think it would be much better to stack with 20 years throughout the guidance, unless there is very good reason not to, because of the scope for confusion if different parts of the inventory are using different defaults.		Accepted with modification - Default period changed to 20 years, except for long term cultivation on croplands with WMS where there is information for 40 years	
50064	FEDERICI, Sandro	5	182	184		Why 10 years? How this time period has been established? What is the consistency between the default period of 20-years implemented in the IPCC 2006 guidelines? How is this period consistent with the 40-yers period proposed in chapter 4 of this supplement?		Accepted with modification - Default period changed to 20 years, except for long term cultivation on croplands with WMS where there is information for 40 years	
50065	Freibauer, Annette	5	182	182	5	A transition time of 10 years is inconsistent with the transition time of 20 years used as default for land use changes. I suggest harmonizing the transition time and adjust the Efs accordingly.		Accepted with modification - Default period changed to 20 years, except for long term cultivation on croplands with WMS where there is information for 40 years	
50066	LANE, Charles R	5	182	182		why was a ten year equilibrium state chosen? Please defend.		Does not apply in the new redaction	
50067	Nakatsubo, Takayuki	5	182		5	... are encouraged to us. .... → "...are encouraged to use"		Does not apply in the new redaction	
50068	Podest, Erika	5	182	182		encourage to us more... use instead of us		Does not apply in the new redaction	
50069	Rock, Joachim	5	182	182	5	use, not "us"		Does not apply in the new redaction	
50070	Guendehou, Sabin	5	185	186	5	I found the decision tree difficult to apply. We need to include clear language. 1) What do we mean by detailed information in the first diamond? It may be helpful to include a footnote to explain this or make reference to specific sections in the document or the 2006 Guidelines; 2) There are some contradictions in the decision tree: for e.g. the decision tree indicates that detailed information does not exist but there are domestic studies on GHG emissions/removals. Furthermore, domestic studies may be tier 3; 3) to the question: Are managed inland wetlands with mineral soils a key category, the guidance should be to apply higher tier (tier 2 or tier 3) and not tier 1 as indicated in the decision tree.		Accepted with modification - Decision tree removed	
50071	Wirth, Tom	5	188	188	5	This section needs to be more "cookbook" like, providing clear guidance on selecting and applying the methods and choosing AD and EF.		Accepted with modification to a complete new Chapter redaction	
50072	Freibauer, Annette	5	189	308	5	Does this section refer to land converted to inland mineral wetlands or also to inland mineral wetlands remaining inland mineral wetlands?		Accepted with modification - Land Remaining in a Land Use Category.	
50073	Guendehou, Sabin	5	191	192	5	It may be helpful to clarify that biomass includes aboveground and belowground living biomass and that dead organic matter includes dead wood and litter. Also, chapter 2 of volume 4 of the 2006 Guidelines is about Generic methodologies applicable to multiple land-use categories and is not specific to IMS Wetlands. Maybe clarify that these generic methods apply also to IMS Wetlands, otherwise, reformulate the text. Please use in the document the same language, for e.g. Managed Inland Wetlands and IMS Wetlands are used interchangeably, do they refer to the same land-use category?		Accepted with modification - see new Chapter redaction	
50074	Guendehou, Sabin	5	195	196	5	Delete the text "Refer also to figure 4.2 .....assigning key categories" as it is not relevant. We are dealing with only IMS Wetlands in this section.		Accepted with modification	

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50075	FEDERICI, Sandro	5	198	198		tier 1 cannot assume no changes in all pools. Indeed, IMW may includes also land with wooden vegetation (as forestland) for which IT IS NOT good practice to assume no changes under tier 1		Accepted with modification - Decision tree removed	
50076	Rock, Joachim	5	198	201	5	Not clear - this chapter also covers wetlands in forests which are included in the "Forest land remaining forest land" category. Management therein DOES change biomass stocks and changes in management can result in significant biomass and C stock changes. Please clarify.		Accepted with modification - see new section 5.2.1.1	
50077	FEDERICI, Sandro	5	199	202		Following a change in management practices the biomass and dead organic matter will not vary significantly after 10 years (Miller and Fujii, 2010), and this land area will not fall into the definition of a key category (see Figure 1.2. in Chapter 1 of Volume 4 in the 2006 Guidelines for guidance on defining key categories). How it is possible to say that the land area will not be part of a key category?		Accepted with modification - see new section 5.2.1.2	
50078	Guendehou, Sabin	5	199	202	5	I'm not convinced that this is applicable to all IMS Wetlands, changes in biomass and DOM depend. in addition to management practices, on edapho-climatic conditions and there are large differences in these conditions across regions. I think, it is strong to say that the category will not be a key category. I suggest to delete the text.		Accepted with modification - see new section 5.2.1.3	
50079	Wirth, Tom	5	200	200	5	10 year transition period is different than the 20 year standard in 2006 GLs. Consistency with 2006 GLs would seem important to avoid confusion on tracking of land		Accepted with modification - see new section 5.2.1.4	
50080	LANE, Charles R	5	202	202		what are significant changes?		Accepted with modification - see new section 5.2.1.5	
50081	Evrendilek, Faith	5	204	204	5	there "are" reliable data		Accepted with modification - see new section 5.2.1.6	
50082	PENMAN, Jim	5	206			To what end? Is this part of the estimation of GHG emissions or removals?		Accepted with modification - see new section 5.2.1.7	
50083	LANE, Charles R	5	211	212		provide a reference for WWF GLWD		Does not apply in the new redaction	
50084	FAGGI, Ana	5	213			uncited reference		Does not apply in the new redaction	
50085	Lund, Herluf Gyde	5	213	213	5	Mitsch and Gosselink, 2011 - not in references		Does not apply in the new redaction	
50086	Guendehou, Sabin	5	216	235	5	Are these default values on uncertainties applicable to IMS Wetlands? Otherwise, include a text explaining why these values can be used as default for IMS Wetlands. What is forest carbon factors? In this section, please provide guidance or make reference to the 2006 Guidelines on how uncertainties can be combined to estimate uncertainty associated with CO2 emissions or removals for biomass and dead organic matter.		Accepted with modification - see new Section 5.2.1.1	
50087	Lund, Herluf Gyde	5	217	217	5	FAO (2006) not listed in References		Does not apply in the new redaction	
50088	PENMAN, Jim	5	217			AT 95% CL?		Does not apply in the new redaction	
50089	LANE, Charles R	5	218	220		provide standard deviations or ranges for the percentages in this section as done for "wood density (10 to 40%)"; also is wood and fuelwood removal given for non-industrialized countries?		Does not apply in the new redaction	
50090	PENMAN, Jim	5	218			Why the range?		Does not apply in the new redaction	

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50091	Evrendilek, Faith	5	222	222	5	or region-specific - insert hyphen		Does not apply in the new redaction	
50092	Evrendilek, Faith	5	223	223	5	or region-specific - insert hyphen		Does not apply in the new redaction	
50093	FEDERICI, Sandro	5	223	223		FMWM; please spell it		Does not apply in the new redaction	
50094	LANE, Charles R	5	223	223		BCEFs and FWMW? Please define acronyms.		Does not apply in the new redaction	
50095	Rock, Joachim	5	223	223	5	What is meant by "FWMW"? Please give definition / explanation.		Does not apply in the new redaction	
50096	LANE, Charles R	5	227	227		What are dead organic matter pools? Are recently fallen leaves counted as such? Compressed peat material that is hundreds of years old but still discernable as leaves?		Does not apply in the new redaction	
50097	PENMAN, Jim	5	230			re: DOM measurement errors - What does this mean? That the values may be twice or half the central estimate? Literally an error of -100% means that the value is zero.		Does not apply in the new redaction	
50098	Guendehou, Sabin	5	234	235	5	This sentence should not be in "Uncertainty assessment" but maybe in "Methods". I do not understand the sentence. The lack of data should not be used to justify (or assume) that there are no changes in C stocks in a pool. If a pool is expected to be significant it should be estimated and inventory compilers are encouraged to collect data.		Does not apply in the new redaction	
50099	Rock, Joachim	5	234	235	5	If you have no data you only assume changes in C stocks if the changes are associated with a key category. But how do you determine a key category if you have no data? And what is to be done if this is a key category but you still have no data on DOM-C stock changes?		Does not apply in the new redaction	
50100	LANE, Charles R	5	235	235		what are some examples of a "key category"?		Does not apply in the new redaction	
50101	Freibauer, Annette	5	236	308	5	what I expect and hope to find here is guidance about: what soil types, or land situations (e.g. valleys, river banks of e.g. 10 m along all inland waters,...) are included here, and how to get the activity data; how much of the original carbon is lost by drainage?		Accepted with modifications - New Uncertainty Assessment Section written	
50102	LANE, Charles R	5	237	237		altered flow differs from regulated flow and could also have a significant influence on wetland C stocks		Does not apply in the new redaction	
50103	LANE, Charles R	5	239	239		water table changes affect C stocks both negatively and positively		Does not apply in the new redaction	
50104	Guendehou, Sabin	5	244	244	5	I'd suggest that you delete the sentence. Some countries have the ability to apply higher tiers (tier 2 or tier 3 ) by collecting data and using sophisticated methods.		Accepted with modification - see new Section 5.2.1.2	
50105	Guendehou, Sabin	5	244	254	5	It may be helpful to specify where these studies mentioned have been conducted. It is not clear what is "annual multiple inventories". The message in this paragraph could be to say that "few studies on changes in C stocks in IMS wetlands were conducted based on higher tier".		Accepted with modification - see new Section 5.2.1.2	
50106	Evrendilek, Faith	5	245	245	5	site-specific - insert hyphen		Accepted with modification - see new Section 5.2.1.2	

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50107	LANE, Charles R	5	248	248		four studies that were found in the literature, that is		Accepted with modification - see new Section 5.2.1.2	
50108	FAGGI, Ana	5	249			uncited reference		Accepted with modification - see new Section 5.2.1.2	
50109	Lund, Herluf Gyde	5	249	250	5	Sgouridis 2011 not in references.		Accepted with modification - see new Section 5.2.1.2	
50110	Rock, Joachim	5	250	251	5	Please check: you mention three studies but give only two references.		Accepted with modification - see new Section 5.2.1.2	
50111	PENMAN, Jim	5	251	254		Either the Tier 1 method should be that the flux is zero, or we should provide an estimation method. This choice seems to suggest that we have Tier 1a or 1b, which seems unsatisfactory		Accepted with modification - see new Section 5.2.1.2	
50112	LANE, Charles R	5	252	252		what are multiple inventories?		Accepted with modification - see new Section 5.2.1.2	
50113	Evrendilek, Faith	5	253	253	5	If data from multiple inventories "are"		Accepted with modification - see new Section 5.2.1.2	
50114	Evrendilek, Faith	5	253	254	5	changes "in" soil C stocks in IMS wetlands "are"		Accepted with modification - see new Section 5.2.1.2	
50115	Guendehou, Sabin	5	256	275	5	Harmonize the use of "2006 Guidelines" and "2006 IPCC Guidelines". Write "soil organic carbon (SOC)" first and SOC in subsequent lines.		Accepted with modification - see new Section 5.2.1.2	
50116	Lund, Herluf Gyde	5	259	259	5	Here and elsewhere IPCC 2006 is cited, but it is not listed in the References, Consider adding..		Accepted with modification - see new Section 5.2.1.2	
50117	PENMAN, Jim	5	261			Are these land-use practices in fact relevant to IMS wetlands?		Accepted with modification - see new Section 5.2.1.2	
50118	Evrendilek, Faith	5	262	262	5	"occur"		Accepted with modification - see new Section 5.2.1.2	
50119	PENMAN, Jim	5	263			Are these land-use practices in fact relevant to IMS wetlands?		Accepted with modification - see new Section 5.2.1.2	
50120	LANE, Charles R	5	267	267		Table 5.1: could be presented as a map? Also is any information available on the likely direction of the error, or is it assumed to be both +/-?		Accepted with modification - see new Section 5.2.1.2	
50121	Lund, Herluf Gyde	5	267	268	5	Table 5.1 Bernoux et al. (2002) not listed in references.		Accepted with modification - see new Section 5.2.1.2	
50122	Lund, Herluf Gyde	5	267	268	5	Table 5.1 - Change Jobbagy to Jobbágy		Accepted with modification - see new Section 5.2.1.2	
50123	Evrendilek, Faith	5	273	273	5	Table 5."1 above"		Accepted with modification - see new Section 5.2.1.2	
50124	PENMAN, Jim	5	273	274		Is this not Tier 2?		Accepted with modification - see new Section 5.2.1.2	
50125	Guendehou, Sabin	5	278	279	5	Please clarify the type of data here (is it land area?)		Accepted with modification - see new Section 5.2.1.2	
50126	LANE, Charles R	5	279	279		provide reference for FAO		Accepted with modification - see new Section 5.2.1.2	
50127	PENMAN, Jim	5	281			Equation 5.1 - Should cross-reference to generic advice in 2006 GL		Accepted with modification - see new Section 5.2.1.2	



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ID	Government	Chapter/Section	Start Line	End Line	Sub-section	Comment	Supplementary documents	Authors' action	Authors' note
50128	Burghilea, Carmen	5	283	285	5	Should the equation 5.1 report absolute values?		Accepted with modification - see new Section 5.2.1.2	
50129	PENMAN, Jim	5	283			Equation 5.1 - at least some brackets are missing from the equation		Accepted with modification - see new Section 5.2.1.2	
50130	LANE, Charles R	5	284	284		Equation 5.1 - this is for mineral wetland soils, so add "wetland soils"		Accepted with modification - see new Section 5.2.1.2	
50131	KIM, Raehyun	5	287	287		yr-1 =>yr-1		Accepted with modification - see new Section 5.2.1.2	
50132	LANE, Charles R	5	287	287		add "wetland soils" to mineral		Accepted with modification - see new Section 5.2.1.2	
50133	Guendehou, Sabin	5	290	292	5	Please include the reference to the box.		Accepted with modification - see new Section 5.2.1.2	
50137	PENMAN, Jim	5	296	302		Text has previously suggested that repeated inventories work at Tier 1		Accepted with modification - see new Section 5.2.1.2	
50138	PENMAN, Jim	5	304	308		This advice is very general.		Accepted with modification - see new Section 5.2.1.2	
50139	Freibauer, Annette	5	310	376	5	Please give guidance on how to identify the hydroperiods in activity data and give thresholds when the flooding has to be considered, e.g. only days above 5°C...		Accepted with modification - see new Section 5.2.2	
50140	Guendehou, Sabin	5	312	322	5	I am not sure that the term "ebullition" is correct. Please change or delete it. What about "microorganisms community", "availability of oxygen" as factors influencing the production of CH <sub>4</sub> in anaerobic conditions? Replace methane with CH <sub>4</sub> . How is the current understanding? I'd usggest to replace "current understanding" with "good scientific knowledge". Please explain why it is difficult to predict CH <sub>4</sub> emissions from IMS wetlands. How high is the spatial variability of CH <sub>4</sub> emissions across areas, please give figures together with references? For the last sentence, I'd say: "The application of default EF presented here to different conditions may result in high uncertainties".		Accepted with modification - see new Section 5.2.2	
50142	Lund, Herluf Gyde	5	319	320	5	Saarnio et al., 2009 not in references		Accepted with modification - see new Section 5.2.2	
50143	FAGGI, Ana	5	320			uncited reference		Accepted with modification - see new Section 5.2.2	
50144	FAGGI, Ana	5	321			uncited reference		Accepted with modification - see new Section 5.2.2	
50145	Lund, Herluf Gyde	5	321	321	5	Mitsch et al., 2010 - not in references but there is one for 1998. See lines 771 and 772.		Accepted with modification - see new Section 5.2.2	
50146	PENMAN, Jim	5	322			Consider inserting after last sentence to clarify intent: "These methods typically apply to IMS wetlands managed for (say what). They do not apply to unmanaged IMS wetlands (because these are not included in greenhouse gas inventories), or to estimation of methane emissions from rice paddies, which are covered in section ... of the 2006 GL."		Accepted with modification - see new Section 5.2.2	
50147	Guendehou, Sabin	5	324	328	5	Further information would be needed on fractional period of inundation. It may be helpful to include a box after the equation 5.2 on how to derive the fractional period of inundation depending on available information. For e.g. if a IMS Wetland is inundated during 3 months, or 45 days in a year, explain how T can be derived.		Accepted with modification - see new Section 5.2.2	
50148	LANE, Charles R	5	328	328		why is a default fraction of 1 used if otherwise unknown? How does this affect the outcomes?		Accepted with modification - see new Section 5.2.2	
50149	Guendehou, Sabin	5	329	339	5	Please check whether the EF is CH <sub>4</sub> -C or C-CH <sub>4</sub> . Since the EF is CH <sub>4</sub> -C, the C emissions calculated using the equation 5.2 should be converted into CH <sub>4</sub> by multiplying with 16/12. The order of terms in equation 5.2 should be A x T x E f x 10 <sup>-3</sup> . Replace also in the equation MIMS with CH <sub>4</sub> -C.		Accepted with modification - see new Section 5.2.2	
50150	FEDERICI, Sandro	5	330	333		the annual fractional period of inundation is an interesting concept that should be extended to methods provided in the other chapters		Accepted with modification - see new Section 5.2.2	

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ID	Government	Chapter/Section	Start Line	End Line	Sub-section	Comment	Supplementary documents	Authors' action	Authors' note
50151	PENMAN, Jim	5	330			Equation 5.2 - Equation is incomplete		Accepted with modification - see new Section 5.2.2	
50152	LANE, Charles R	5	331	331		provide explanation in text for the $10^{-3}$ value in equation 5.2		Accepted with modification - see new Section 5.2.2	
50153	LANE, Charles R	5	336	336		Mims appears to have an areal value in the equation, but it is given as kg/yr		Accepted with modification - see new Section 5.2.2	
50154	Eve, Marlen D	5	337	337	5	check nomenclature - C-CH <sub>4</sub> . I think it should read CH <sub>4</sub> -C.		Accepted with modification - see new Section 5.2.2	
50155	Garcia-Apaza, Emilio	5	345	353	5	The table 5.2 and 5.3. show data for the tropical region that apparently is the same. Please make the review because supposed the ones that have more time inundated have higher value.		Accepted with modification - see new Section 5.2.2	
50156	Guendehou, Sabin	5	345	352	5	In Table 5.2 and Table 5.3, add the uncertainty associated with EFs.		Accepted with modification - see new Section 5.2.2	
50157	Lund, Herluf Gyde	5	345	346	5	Kim et al., 1998; Devol et al., 1990; Smith et al., 2000; all not listed in references		Accepted with modification - see new Section 5.2.2	
50158	Rock, Joachim	5	347	352	5	Season and duration of inundation influence decomposition of organic matter and thus emission of C and N <sub>2</sub> O. Please make sure the studies cited here are representative in this regard, too.		Accepted with modification - see new Section 5.2.2	
50159	Lund, Herluf Gyde	5	351	352	5	Table 5.3 Altor and Mitsch, 2005; Song et al., 2003; Bartlett et al., 1993 and Nahlik and Mitsch, 2010; - all not in references.		Accepted with modification - see new Section 5.2.2	
50163	Guendehou, Sabin	5	354	364	5	I would suggest: step 1: distribute IMS wetlands areas between permanently inundated and seasonally inundated. For seasonally inundated, distribute according to period of inundation. Step 2: For permanently inundated wetlands use eq. 5.2 and EF in Table 5.2 to estimate CH <sub>4</sub> emissions. For seasonally inundated wetlands, use eq. 5.2 and EF in Table 5.3. Step 3: sum emissions.		Accepted with modification - see new Section 5.2.2	
50164	FEDERICI, Sandro	5	357	359		delete the following text: "If a wetland is known to be seasonally inundated, an alternative is to apply the appropriate EFCH <sub>4</sub> (Table 5.3), setting Tinundation=1" ; it is meaningless		Accepted with modification - see new Section 5.2.2	
50166	FAGGI, Ana	5	372	376		includes uncited references		Accepted with modification - see new Section 5.2.2	
50167	Guendehou, Sabin	5	378	381	5	Delete the first sentence.		Accepted with modification - Text on N <sub>2</sub> O removed from Chapter	
50168	Bedard-Haughn, Angela	5	379	380	5	Nitrous oxide emissions as a by-product of nitrification are not synonymous with nitrifier denitrification. Refer to Wragg et al (2001) Soil Biol Biochem 33: 1723-1732 for more information.		Accepted with modification - Text on N <sub>2</sub> O removed from Chapter	
50169	LANE, Charles R	5	381	381		awkwardly written		Accepted with modification - Text on N <sub>2</sub> O removed from Chapter	
50170	Guendehou, Sabin	5	383	383	5	Explain by which processes IMS wetlands can be sinks? Include references. In equation 5.3, replace NIMS with N <sub>2</sub> O.		Accepted with modification - Text on N <sub>2</sub> O removed from Chapter	
50171	LANE, Charles R	5	383	383		ecological conditions		Accepted with modification - Text on N <sub>2</sub> O removed from Chapter	
50172	PENMAN, Jim	5	383			add "managed"		Accepted with modification - Text on N <sub>2</sub> O removed from Chapter	

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ID	Government	Chapter/Section	Start Line	End Line	Sub-section	Comment	Supplementary documents	Authors' action	Authors' note
50173	PENMAN, Jim	5	386	391		Do we need to mention the risk of double-counting?		Accepted with modification - Text on N2O removed from Chapter	
50175	LANE, Charles R	5	393	393		need to add area to the Nims component		Accepted with modification - Text on N2O removed from Chapter	
50176	Bedard-Haughn, Angela	5	402	403	5	For boreal emission example, see Matson et al (2009) Forest Ecol Manage 258: 1073-1083		Accepted with modification - Text on N2O removed from Chapter	
50177	Evrendilek, Faith	5	402	402	5	TABLE 5.4: ha-1 yr-1; m-2 h-1 - correct superscripts		Accepted with modification - Text on N2O removed from Chapter	
50178	Lund, Herluf Gyde	5	402	403	5	Table 5.4 - Vilain et al., 2010 not listed in References		Accepted with modification - Text on N2O removed from Chapter	
50179	Lund, Herluf Gyde	5	402	493	5	Wang et al.,2006. add space between et al. and 2006.		Accepted with modification - Text on N2O removed from Chapter	
50180	Guendehou, Sabin	5	404		5	The section 5.3 is well organised in subsections. I would suggest that the previous section 5.2 follows the same structure, that would make the whole chapter more coherent and consistent.		Accepted with modification - see new rewritten Section 5.3	
50181	LANE, Charles R	5	409	410		management used a few too many times in this sentence		Accepted with modification - see new rewritten Section 5.3	
50182	LANE, Charles R	5	415	415		do water levels equal water tables? Or are water tables a reflection of ground water and water level can be any type of water (e.g., surficial, near-surface ground water, or reflections of the ground water table?)		Accepted with modification - see new rewritten Section 5.3	
50183	LANE, Charles R	5	419	421		this information should go in the intro to the section		Accepted with modification - see new rewritten Section 5.3	
50184	FAGGI, Ana	5	424			uncited reference		Accepted with modification - see new rewritten Section 5.3	
50185	Nakatsubo, Takayuki	5	433		5	The meaning of "the reference carbon stock" is not clear.		Accepted with modification - see new rewritten Section 5.3	
50186	Evrendilek, Faith	5	434	434	5	a 55-year chronosequence - insert hyphen		Accepted with modification - see new rewritten Section 5.3	
50187	Evrendilek, Faith	5	444	444	5	peatlands occupy 32% more land "than" mineral		Accepted with modification - see new rewritten Section 5.3	
50188	LANE, Charles R	5	444	444		than not then		Accepted with modification - see new rewritten Section 5.3	
50189	Nakatsubo, Takayuki	5	444		5	then → than		Accepted with modification - see new rewritten Section 5.3	

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ID	Government	Chapter/Section	Start Line	End Line	Sub-section	Comment	Supplementary documents	Authors' action	Authors' note
50190	LANE, Charles R	5	446	447		briefly define what is meant by substrate quality and quantity here		Accepted with modification - see new rewritten Section 5.3	
50191	Evrendilek, Faith	5	452	452	5	Data "are" still sparse		Accepted with modification - see new rewritten Section 5.3	
50192	Craft, Christopher Bruce	5	461	462	5	Page 5.12, line 461-462: The development of hydric soils also is a challenge.		Accepted with modification - see new rewritten Section 5.3	
50193	Guendehou, Sabin	5	461	464	5	This text should go to the introduction section. Add in the section on "Methodological issues" that "this section provides guidance for estimating changes in C stocks and CO <sub>2</sub> , CH <sub>4</sub> , and N <sub>2</sub> O emissions from drainage, creation, and restoration of IMS Wetlands". Also in section on "Methodological issues" include a diagram or table showing the different possible conversions of land-use categories for each practice i.e. drainage, creation, restoration of IMS wetlands. For e.g. a drainage maybe conversion of wetlands to forest land or cropland, or it may remain wetland.		Accepted with modification - see new rewritten Section 5.3	
50194	Craft, Christopher Bruce	5	462		5	Page 5.12, line 462: U.S. EPA (2003) is not included in the References section.		Accepted with modification - see new rewritten Section 5.3	
50195	Lund, Herluf Gyde	5	462	462	5	US EPA, 2003 not listed in References.		Accepted with modification - see new rewritten Section 5.3	
50196	Bedard-Haughn, Angela	5	479	484	5	I find this idea of a 10-year transition period interesting and appropriate (although labour intensive). I wonder why this transition period is not included for LUC in organic soils (Ch. 2.3)? There, they refer to immediately switching accounting to the new land use (i.e., Cropland remaining Cropland, etc.). I would think the approach re: transition periods should be consistent across wetland types. NOTE: I have included a similar comment for Ch. 2.		Accepted with modification - see new rewritten Section 5.3	
50197	LANE, Charles R	5	479	480		provide a reference regarding transitional stages and steady states		Accepted with modification - see new rewritten Section 5.3	
50198	PENMAN, Jim	5	480	483		Need to consider the issue of default transition periods; 20 years should be used unless there is very good reason not to.		Accepted with modification - see new rewritten Section 5.3	
50199	Rock, Joachim	5	487	488	5	The sentence is incomplete.		Accepted with modification - see new rewritten Section 5.3	
50200	LANE, Charles R	5	490	490		steady state or steady-state?		Accepted with modification - see new rewritten Section 5.3	
50201	FEDERICI, Sandro	5	493	495		this transition period here proposed (10-years) for tier 1 is inconsistent with what you said in the previous sentence i.e. "with the ecosystem reaching a new steady-state immediately after the conversion"		Accepted with modification - see new rewritten Section 5.3	
50202	PENMAN, Jim	5	493			same point with regard to transition period; 20 years should be used unless there is very good reason not to.		Accepted with modification - see new rewritten Section 5.3	
50203	Nakatsubo, Takayuki	5	499	500	5	the ecosystem achieves a new steady-state in the year of conversion.: This assumption is probably not true for most of the cases. Are there any data which support this assumption?		Accepted with modification - see new rewritten Section 5.3	
50204	Evrendilek, Faith	5	504	504	5	If data "are"		Accepted with modification - see new rewritten Section 5.3	

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50205	Nakatsubo, Takayuki	5	508		5	Land conversion to Wetland → land conversion to wetland		Accepted with modification - see new rewritten Section 5.3	
50206	PENMAN, Jim	5	513	520		If countries use global data sets for both area and carbon density, are we not back to Tier 1?		Accepted with modification - see new rewritten Section 5.3	
50207	Evrendilek, Faith	5	515	515	5	"biomass carbon densities substantially different from terrestrial vegetation"		Accepted with modification - see new rewritten Section 5.3	
50208	LANE, Charles R	5	515	515		perhaps provide a note stating that the assumption here (e.g., peat = swampy woodland = graminoid marsh) is likely incorrect		Accepted with modification - see new rewritten Section 5.3	
50210	Evrendilek, Faith	5	523	523	5	Under a Tier 2 approach, empirical data "are"		Accepted with modification - see new rewritten Section 5.3	
50211	LANE, Charles R	5	531	532		seems like a sentence is missing here		Accepted with modification - see new rewritten Section 5.3	
50213	FEDERICI, Sandro	5	535	535		replace "dead organic matter and litter" with "dead mass and litter"		Accepted with modification - see new rewritten Section 5.3	
50214	KIM, Raehyun	5	536	536		(Forest, Crop, Grassland or Other Uses) => (Forest land, Cropland, Grassland or Other land uses)		Accepted with modification - see new rewritten Section 5.3	
50216	FEDERICI, Sandro	5	549	550		If countries choose to use Tier 1 method after the first year this land should be classified as Wetland Remaining Wetland. what about other pools? All pools should be considered at equilibrium? Or the same land should be reported under different land categories for different carbon pools?		Accepted with modification - see new rewritten Section 5.3	
50217	PENMAN, Jim	5	549	550		Now we have yet another assumption about transition period.		Accepted with modification - see new rewritten Section 5.3	
50218	Nakatsubo, Takayuki	5	553		5	The meaning of the word "carbon implications" is not clear.		Accepted with modification - see new rewritten Section 5.3	
50220	Evrendilek, Faith	5	556	556	5	with only "a few studies"		Accepted with modification - see new rewritten Section 5.3	
50221	Evrendilek, Faith	5	561	561	5	soil "C" stocks		Accepted with modification - see new rewritten Section 5.3	
50222	Xie, Yonghong	5	561	561	5	"soil c stocks" should be changed to "soil C stocks"		Accepted with modification - see new rewritten Section 5.3	
50223	Evrendilek, Faith	5	568	568	5	non-CO <sub>2</sub> - correct superscript		Accepted with modification - see new rewritten Section 5.3	
50224	Xie, Yonghong	5	568	568	5	change "non-CO <sub>2</sub> " to "non-CO <sub>2</sub> "		Accepted with modification - see new rewritten Section 5.3	

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ID	Government	Chapter/Section	Start Line	End Line	Sub-section	Comment	Supplementary documents	Authors' action	Authors' note
50225	Evrendilek, Faith	5	570	570	5	an adjustment factor (AF) - insert parentheses		Accepted with modification - see new rewritten Section 5.3	
50226	Evrendilek, Faith	5	571	571	5	"Table 5.5"		Accepted with modification - see new rewritten Section 5.3	
50227	Evrendilek, Faith	5	571	571	5	"Tables 5.2 and 5.3"		Accepted with modification - see new rewritten Section 5.3	
50228	Evrendilek, Faith	5	572	572	5	Table 5.4 with emission rates for CO2 listed in "Table 5.6 below"		Accepted with modification - see new rewritten Section 5.3	
50229	PENMAN, Jim	5	574			Equation 5.4 incomplete		Accepted with modification - see new rewritten Section 5.3	
50230	LANE, Charles R	5	578	578		in tonnes/ha?		Accepted with modification - see new rewritten Section 5.3	
50231	Rock, Joachim	5	594	595	5	Table 5.4: The default value is "+1", else equation 5.4 would erroneous. Thus, the row "global" could be deleted and the row "temperate" referring to Gleason et al. results in zero emissions. Please check. The reference "Bridgham et al." is commented on as having estimated soil emission based on area losses - how can this be transferred to emissions from soil "left in place"? This is comparing apples and oranges. Please clarify.		Accepted with modification - see new rewritten Section 5.3	
50232	Kabo-Bah, Amos Tiereyangn	5	598		5	Carefully take note of the incomplete table and ensure that it is worked on.		Accepted with modification - see new rewritten Section 5.3	
50233	PENMAN, Jim	5	600	616		This is a scientific discussion, not a description of a Tier 2 methodology		Accepted with modification - see new rewritten Section 5.3	
50234	PENMAN, Jim	5	616	621		This is a description of a methodology, but apparently it doesn't apply to the stock changes just discussed. In neither case are non-CO2 GHG mentioned.		Accepted with modification - see new rewritten Section 5.3	
50235	Guendehou, Sabin	5	622	622	5	The section 5.4 should be elaborated further and make reference to the 2006 IPCC Guidelines. Include also uncertainty assessment.		Accepted with modification - see new Section 5.4	
50236	Evrendilek, Faith	5	628	628	5	non-CO2 - correct subscript		Accepted with modification - see new Section 5.4	
50237	Xie, Yonghong	5	628	628	5	change "non-CO2 " to "non-CO2"; change "Wetlands Converted to Other land " to "wetlands converted to other land"		Accepted with modification - see new Section 5.4	
50238	PENMAN, Jim	5	637	640		I think that this is the first time this point has been mentioned. If it is important it should have been covered earlier		Accepted with modification - see new Section 5.4	
50239	Bedard-Haughn, Angela	5	646	646	5	The seasonality of the water table is one aspect, but we should also recognize that multi-year drought/deluge cycles contribute to the complexity of accounting for IMS wetlands.		Accepted with modification - see new Section 5.4	
50240	Evrendilek, Faith	5	650	650	5	like should be replaced with "such as"		Accepted with modification - see new Section 5.4	
50241	Evrendilek, Faith	5	650	650	5	harvesting, "and" grazing		Accepted with modification - see new Section 5.4	

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ID	Government	Chapter/Section	Start Line	End Line	Sub-section	Comment	Supplementary documents	Authors' action	Authors' note
50242	Evrendilek, Faith	5	651	651	5	"C stocks or fluxes differently from upland conditions"		Accepted with modification - see new Section 5.4	
50243	PENMAN, Jim	5	651			scientific effort?		Accepted with modification - see new Section 5.4	
50244	Lund, Herluf Gyde	5	674	674	5	Replace ; after ; 'system' with period		Does not apply in the new redaction	
50245	Lund, Herluf Gyde	5	680	680	5	Consider adding URL <a href="http://www.fs.fed.us/rm/pubs_other/rmrs_2009_bradford_j001.pdf">http://www.fs.fed.us/rm/pubs_other/rmrs_2009_bradford_j001.pdf</a>		Does not apply in the new redaction	
50246	Lund, Herluf Gyde	5	683	683	5	Consider adding URL <a href="https://profile.usgs.gov/myscience/upload_folder/ci2011Mar1715181871597Bradford_eta1_2010_FEM.pdf">https://profile.usgs.gov/myscience/upload_folder/ci2011Mar1715181871597Bradford_eta1_2010_FEM.pdf</a>		Does not apply in the new redaction	
50247	Lund, Herluf Gyde	5	685	685	5	Consider adding URL <a href="http://www.srs.fs.usda.gov/pubs/ja/ja_bridgham001.pdf">http://www.srs.fs.usda.gov/pubs/ja/ja_bridgham001.pdf</a>		Does not apply in the new redaction	
50248	Lund, Herluf Gyde	5	688	689	5	Not cited in text.		Does not apply in the new redaction	
50249	Lund, Herluf Gyde	5	689	689	5	Consider adding URL <a href="http://ntur.lib.ntu.edu.tw/bitstream/246246/162776/1/37.pdf">http://ntur.lib.ntu.edu.tw/bitstream/246246/162776/1/37.pdf</a>		Does not apply in the new redaction	
50250	Lund, Herluf Gyde	5	694	694	5	Change citation to Cowardin, L.M., Carter, V., Golet, F.C., LaRoe, E.T. 1979. Classification of Wetlands and Deepwater Habitats of the United States. FWS/OBS-79/31. USDI Fish and Wildlife Service. 131pp. Online at <a href="http://www.npwrc.usgs.gov/resource/wetlands/classwet/index.htm">http://www.npwrc.usgs.gov/resource/wetlands/classwet/index.htm</a> . (May need to change text)		Does not apply in the new redaction	
50251	Lund, Herluf Gyde	5	698	698	5	Consider adding URL <a href="http://www.iu.edu/~spea/pubs/faculty/EcolAppl2.pdf">http://www.iu.edu/~spea/pubs/faculty/EcolAppl2.pdf</a>		Does not apply in the new redaction	
50252	Lund, Herluf Gyde	5	700	700	5	Consider adding URL <a href="http://harvardforest.fas.harvard.edu/sites/harvardforest.fas.harvard.edu/files/publications/pdfs/Currie_Ecosystems_2002.pdf">http://harvardforest.fas.harvard.edu/sites/harvardforest.fas.harvard.edu/files/publications/pdfs/Currie_Ecosystems_2002.pdf</a>		Does not apply in the new redaction	
50253	Lund, Herluf Gyde	5	702	702	5	Consider adding URL <a href="http://www.ecs.umass.edu/cee/reckhow/courses/697w/papers/Houbao2.pdf">http://www.ecs.umass.edu/cee/reckhow/courses/697w/papers/Houbao2.pdf</a>		Does not apply in the new redaction	
50254	Lund, Herluf Gyde	5	709	709	5	Consider adding URL <a href="http://144.206.159.178/ft/166/86000/1453650.pdf">http://144.206.159.178/ft/166/86000/1453650.pdf</a>		Does not apply in the new redaction	
50255	Lund, Herluf Gyde	5	716	716	5	Consider adding URL <a href="http://digitalcommons.unl.edu/cgi/viewcontent.cgi?article=1018&amp;context=usgsnpwrc&amp;seiredi=1&amp;referer=http%3A%2F%2Fwww.google.com%2Furl%3Fsa%3D%26rct%3D%26q%3Dnorth%2520american%2520prairie%2520wetlands%2520are%2520important%2520nonforested%2520land-based%2520carbon%2520storage%2520715%2520sites.%26source%3Dweb%26cd%3D1%26ved%3D0CCQFjAA%26url%3Dhttp%253A%252F%252Fdigitalcommons.unl.edu%252Fcgi%252Fviewcontent.cgi%253Farticle%253D1018%2526context%253Dusgsnpwrc%26ei%3DYLSht6qgNYnEgAfN8s39CA%26usg%3DAFQjCNEEvQ914zc31mpqr3U7jpCNEXB2mQ#search=%22north%20american%20prairie%20wetlands%20important%20nonforested%20land-based%20carbon%20storage%20715%20sites.%22">http://digitalcommons.unl.edu/cgi/viewcontent.cgi?article=1018&amp;context=usgsnpwrc&amp;seiredi=1&amp;referer=http%3A%2F%2Fwww.google.com%2Furl%3Fsa%3D%26rct%3D%26q%3Dnorth%2520american%2520prairie%2520wetlands%2520are%2520important%2520nonforested%2520land-based%2520carbon%2520storage%2520715%2520sites.%26source%3Dweb%26cd%3D1%26ved%3D0CCQFjAA%26url%3Dhttp%253A%252F%252Fdigitalcommons.unl.edu%252Fcgi%252Fviewcontent.cgi%253Farticle%253D1018%2526context%253Dusgsnpwrc%26ei%3DYLSht6qgNYnEgAfN8s39CA%26usg%3DAFQjCNEEvQ914zc31mpqr3U7jpCNEXB2mQ#search=%22north%20american%20prairie%20wetlands%20important%20nonforested%20land-based%20carbon%20storage%20715%20sites.%22</a>		Does not apply in the new redaction	
50256	Lund, Herluf Gyde	5	724	725	5	Not cited in text.		Does not apply in the new redaction	
50257	Lund, Herluf Gyde	5	727	727	5	Consider adding URL <a href="http://www.youtube.com/">http://www.youtube.com/</a>		Does not apply in the new redaction	
50258	Lund, Herluf Gyde	5	729	729	5	Total pages =831		Does not apply in the new redaction	
50259	Lund, Herluf Gyde	5	743	743	5	Consider adding URL <a href="http://nature.berkeley.edu/allen-diazlab/publications/Jackson%20et%20al%202006%20Ecosystems.pdf">http://nature.berkeley.edu/allen-diazlab/publications/Jackson%20et%20al%202006%20Ecosystems.pdf</a>		Does not apply in the new redaction	
50260	Lund, Herluf Gyde	5	746	746	5	Change Jobbagy to Jobbágy		Does not apply in the new redaction	

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ID	Government	Chapter/Section	Start Line	End Line	Sub-section	Comment	Supplementary documents	Authors' action	Authors' note
50261	Lund, Herluf Gyde	5	747	747	5	Consider adding URL <a href="http://biology.duke.edu/jackson/appl002.pdf">http://biology.duke.edu/jackson/appl002.pdf</a>		Does not apply in the new redaction	
50262	Lund, Herluf Gyde	5	748	749	5	Not cited in text.		Does not apply in the new redaction	
50263	Lund, Herluf Gyde	5	748	749	5	Consider removing hyperlink from title.		Does not apply in the new redaction	
50264	Lund, Herluf Gyde	5	751	751	5	Consider adding URL <a href="http://www.srs.fs.usda.gov/pubs/ja/ja_li009.pdf">http://www.srs.fs.usda.gov/pubs/ja/ja_li009.pdf</a>		Does not apply in the new redaction	
50265	Lund, Herluf Gyde	5	759	760	5	Not cited in text.		Does not apply in the new redaction	
50266	Lund, Herluf Gyde	5	761	761	5	Consider removing doi line or adding it to all the other references where available.		Does not apply in the new redaction	
50267	Lund, Herluf Gyde	5	770	770	5	Consider removing doi line or adding it to all the other references where available.		Does not apply in the new redaction	
50268	Lund, Herluf Gyde	5	775	775	5	Incomplete and not cited in text		Does not apply in the new redaction	
50269	Lund, Herluf Gyde	5	785	785	5	Total pages = 166. Consider adding URL <a href="https://scholarsbank.uoregon.edu/jspui/bitstream/1794/9497/1/Pfeifer-Meister_Laurel_PhD_Fall2008.pdf">https://scholarsbank.uoregon.edu/jspui/bitstream/1794/9497/1/Pfeifer-Meister_Laurel_PhD_Fall2008.pdf</a>		Does not apply in the new redaction	
50270	Lund, Herluf Gyde	5	787	787	5	Consider adding URL <a href="http://nalcd.nal.usda.gov/download/37544/PDF">http://nalcd.nal.usda.gov/download/37544/PDF</a>		Does not apply in the new redaction	
50271	Lund, Herluf Gyde	5	790	792	5	Not cited in text.		Does not apply in the new redaction	
50272	Lund, Herluf Gyde	5	790	791	5	Consider removing hyperlink from title.		Does not apply in the new redaction	
50273	Lund, Herluf Gyde	5	793	793	5	Incomplete		Does not apply in the new redaction	
50274	Lund, Herluf Gyde	5	808	808	5	Consider adding URL <a href="http://robert-bryant.staff.shef.ac.uk/Chap15_all_ver6_rgb.pdf">http://robert-bryant.staff.shef.ac.uk/Chap15_all_ver6_rgb.pdf</a>		Does not apply in the new redaction	
50275	Lund, Herluf Gyde	5	809	811	5	Not cited in text.		Does not apply in the new redaction	
50276	Lund, Herluf Gyde	5	810	810	5	Consider removing hyperlink from title.		Does not apply in the new redaction	
50277	Lund, Herluf Gyde	5	816	816	5	Change source to Ecosystems 3(5): 472-483.		Does not apply in the new redaction	
50278	Lund, Herluf Gyde	5	820	820	5	Consider adding URL <a href="http://research.iae.ac.cn/web/UploadFiles_6498/201107/2011071116575639.pdf">http://research.iae.ac.cn/web/UploadFiles_6498/201107/2011071116575639.pdf</a>		Does not apply in the new redaction	
50279	Lund, Herluf Gyde	5	823	823	5	Remove 'a' after 1991.		Does not apply in the new redaction	
50280	Lund, Herluf Gyde	5	830	830	5	Consider adding URL <a href="http://www.srs.fs.usda.gov/pubs/ja/ja_wigginton001.pdf">http://www.srs.fs.usda.gov/pubs/ja/ja_wigginton001.pdf</a>		Does not apply in the new redaction	
50281	Lund, Herluf Gyde	5	832	832	5	Consider adding URL <a href="https://profile.usgs.gov/myscience/upload_folder/ci2011Aug1615511246588Wolf%20etal.%202011%20created%20wetland%20N%20cycle.pdf">https://profile.usgs.gov/myscience/upload_folder/ci2011Aug1615511246588Wolf%20etal.%202011%20created%20wetland%20N%20cycle.pdf</a>		Does not apply in the new redaction	
50282	Evrendilek, Faith	5	36 (all)	36 (all)	5	soils; however, they		Does not apply in the new redaction	
50283	Freibauer, Annette	5	Figure 5.1	Figure 5.1	5	Inland mineral wetlands do not fit into the key category analysis of chapter 7 and the existing guidelines. Adapt the decision tree to make it consistent with the key category analysis level.		Accepted with modification - Figure removed	
50284	Freibauer, Annette	5	General		5	The Guidelines have a clear hierarchy that wetlands are lands which are not forest, cropland, grassland, settlement. Therefore, I find the title misleading because the chapter covers wet mineral soils under all types of land uses. I suggest to change the title and the wording in this chapter to "inland wet mineral soils".		Accepted with modification - Chapter now is about Wetland Mineral Soils (WMS)	



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ID	Government	Chapter/Section	Start Line	End Line	Sub-section	Comment	Supplementary documents	Authors' action	Authors' note
50285	Segarra, Dr. Katherine E. A.	5	general			Overall, I found chapter 5 to be very well written and generally much stronger than chapter 4 (I reviewed chapters 1, 4, and 5).		Noted	
50307	Pipatti, Riitta	5	general			General - the guidance should be part of an appendix for future development (not mature for use in inventories, also duplicates guidance given in other parts).		Rejected - new redaction provided	
50286	Freibauer, Annette	5	Table 5.1	Table 5.1		5 It seems that the defaults are the same as for upland mineral soils in the 2006 GL. If so there is no need for additional guidance here. However, the C stocks are often much higher in wet soils than in upland soils so that the table would need to be updated by choosing specific soil types (gleysoils...) only. Footnote b supports my concern that all soil profiles, not only the wet ones, have been used as basis for table 5.1.		Accepted with modification - see new Table 5.2	
50287	PENMAN, Jim	5	Table 5.1		note 2	This Appendix to contain the material presently given above (see previous footnote)		Accepted with modification - see new Table 5.2	
50288	PENMAN, Jim	5	Table 5.1			Are the data in this Table in fact generally applicable, not just to IMS wetlands? In which case we need to decide how to relate them to 2006 Guidelines methods in general		Accepted with modification - see new Table 5.2	
50289	PENMAN, Jim	5	Table 5.1			*SOC stock estimates from IPCC 2006 that were not based on expert estimates (Batjes, 2011). --> so what are they based on?		Accepted with modification - see new Table 5.2	
50290	FAGGI, Ana	5	Table 5.1			uncited reference Bernoux		Accepted with modification - see new Table 5.2	
50291	Freibauer, Annette	5	Table 5.2	Table 5.2		5 kg CH4-C ha-1 yr-1 would be a more typical unit		Accepted with modification - Table removed and replaced by Table 5.4	
50292	FAGGI, Ana	5	Table 5.2			includes uncited references		Accepted with modification - Table removed and replaced by Table 5.4	
50293	Freibauer, Annette	5	Table 5.3	Table 5.3		5 kg CH4-C ha-1 yr-1 would be a more typical unit		Accepted with modification - Table removed and replaced by Table 5.4	
50294	FAGGI, Ana	5	Table 5.3			includes uncited references		Accepted with modification - Table removed and replaced by Table 5.4	
50295	Xie, Yonghong	5	table 5.4			5 ha-1yr-1 should be changed to ha-1yr-1		Accepted with modification - Table removed and replaced by Table 5.4	
50296	FAGGI, Ana	5	Table 5.4			uncited reference Vilain		Accepted with modification - Table removed and replaced by Table 5.4	
50297	Bedard-Haughn, Angela	5				5 There are a number of different acronyms used to refer to the wetlands in this chapter (I noted at least three: IMS, FWMS wetlands, and FWMW). A single acronym should be used for consistency.		Accepted with modifications - acronym is now WMS throughout the chapter	
50298	Bedard-Haughn, Angela	5				5 My compliments and thanks to the authors of Ch. 5 who have done a particularly good job of crafting a well-researched and well-written supplement!		Noted	
50300	Craft, Christopher Bruce	5				5 Page 5.4, Table 5.1: Inland saline wetlands are a large and important group of inland mineral soils wetlands and some discussion and consideration should be given to them. I agree that there is little information available for this type of wetland. The authors should look to published work on prairie potholes, many of which are somewhat saline (see Gleason et al. paper cited in this chapter along with papers published by Euliss, a co-author on this paper). Also, there have been some published studies of playa wetlands of the U.S. southern plains that should be reviewed for inclusion in this chapter.		Accepted with modification - See new Table 5.1	

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ID	Government	Chapter/Section	Start Line	End Line	Sub-section	Comment	Supplementary documents	Authors' action	Authors' note
50301	Craft, Christopher Bruce	5			5	Page 5.7, Table 5.1 (This table should be re-numbered): Craft and Casey (2000) report C stock and accumulation data for depressional and floodplain mineral wetland soils of the SE U.S. that should be added to this table. Craft, C.B. and W.P. Casey. 2000. Sediment and nutrient accumulation in floodplain and depressional freshwater wetlands of Georgia, USA. Wetlands 20:323-332.		Accepted with modification - See new Table 5.2	
50302	Craft, Christopher Bruce	5			5	Page 5.8: For Tier 2 assessments, why not include measurements of C accumulation based on radiometric dating ( <sup>137</sup> Cs, <sup>210</sup> Pb) methods? There is a fair amount of data based on these techniques (e.g. Craft and Casey 2000) that could help reduce the uncertainty associated with estimating C accumulation/sequestration. Craft, C.B. and W.P. Casey. 2000. Sediment and nutrient accumulation in floodplain and depressional freshwater wetlands of Georgia, USA. Wetlands 20:323-332.		Rejected because of lack of data	
50303	Craft, Christopher Bruce	5			5	Page 5.9, Table 5.3: Nahlík and Mitsch (2010) is not included in the References section.		Accepted with modification - Table removed and replaced by Table 5.4	
50304	Guendehou, Sabin	5			5	For each subsection 5.3.2.1 Biomass, 5.3.2.2 Dead organic matter, 5.3.2.3 Soil (it should be soil and not soil C), guidance should be provided for each activity (drainage, creation, restoration) for the estimation of changes in C stocks and emissions of CO <sub>2</sub> , CH <sub>4</sub> , and N <sub>2</sub> O. Guidance can make reference to the 2006 IPCC Guidelines.		Accepted with modification - Chapter has a complete new structure	
50305	Sistani, Karamat	5			5	This chapter is well written and nicely organized. I tried to provide important suggestions, however any information that I needed was already in there. I admire the hard work of the authors, job well done.		Noted	
50309	Joosten, Hans	5	60					Does not apply - Saline Wetlands not covered in the Chapter	
50310	Joosten, Hans	5	64	64			64	Does not apply in the new redaction	
50311	Joosten, Hans	5	67	67			67	Does not apply in the new redaction	
50312	Joosten, Hans	5	70	70			70	Does not apply in the new redaction	
50313	WINDHAM-MYERS, Lisamarie	5	76					Does not apply in the new redaction	
50314	Joosten, Hans	5	135	135			135	Does not apply in the new redaction	
50315	Joosten, Hans	5	140	140			140	Does not apply in the new redaction	
50316	Joosten, Hans	5	179	179			179	Does not apply in the new redaction	
50317	Joosten, Hans	5	185	186			186	Figure 1 was removed	
50318	Jamsranjav, Baasansuren	5	185	186			186	Does not apply in the new redaction	
50319	Jamsranjav, Baasansuren	5	185	186			186	Accepted with modification - Figure removed	
50320	Srivastava, Nalin	5	198	199			199	Accepted with modification - see new Section 5.2.1	
50321	Joosten, Hans	5	199	201			201	Accepted with modification - see new Section 5.2.1	
50322	Joosten, Hans	5	253	253			253	Accepted with modification - see new Section 5.2.1	

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ID	Government	Chapter/Section	Start Line	End Line	Sub-section	Comment	Supplementary documents	Authors' action	Authors' note
50323	Joosten, Hans	5	254	254			254	Accepted with modification - see new Section 5.2.1	
50324	Srivastava, Nalin	5	257	275			275	Accepted with modification - see new Section 5.2.1	
50325	Joosten, Hans	5	262	262			262	Accepted with modification - see new Section 5.2.1	
50326	Joosten, Hans	5	270	270			270	Accepted with modification - see new Section 5.2.1	
50327	Joosten, Hans	5	317	317			317	Does not apply in the new redaction	
50328	Srivastava, Nalin	5	336	336			336	Accepted	
50329	Srivastava, Nalin	5	337	337			337	Same as above	
50330	Srivastava, Nalin	5	345	345			345	Accepted with modification. See Table 5.4	
50331	Srivastava, Nalin	5	355	355			355	Accepted with modifications. See Section 5.2.2	
50332	Jamsranjav, Baasansuren	5	402	403			403	Does not apply in the new redaction	
50333	Joosten, Hans	5	453	453			453	Does not apply in the new redaction	
50334	Joosten, Hans	5	469	469			469	Does not apply in the new redaction	
50335	Srivastava, Nalin	5	469	469			469	Does not apply in the new redaction	
50336	Srivastava, Nalin	5	481	482			482	Does not apply in the new redaction	
50337	Srivastava, Nalin	5	487	495			495	Does not apply in the new redaction	
50338	Jamsranjav, Baasansuren	5	487	495			495	Does not apply in the new redaction	
50339	Srivastava, Nalin	5	547	550			550	Does not apply in the new redaction	
50340	Srivastava, Nalin	5	574	574			574	Accepted with modification. Equation removed	
50341	Joosten, Hans	5	594	595			595	Accepted with modification. Table removed	
50342	Joosten, Hans	5	594	595			595	Accepted with modification. Table removed	
50343	Joosten, Hans	5	Figure 1					Accepted with modification. Figure removed	

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ID	Government	Chapter/Section	Start Line	End Line	Sub-section	Comment	Supplementary documents	Authors' action	Authors' note
50344	Joosten, Hans	5	Figure 1					Accepted with modification. Figure removed	
50345	Hunt, Patrick G	5	general					Noted	
50346	Tanabe, Kiyoto	5	general					Accepted with modification	
50347	Jamsranjav, Baasansuren	5	General					Accepted with modification. See Table 5.4	
50348	Jamsranjav, Baasansuren	5	General					Accepted and provided a whole new redaction to the Chapter.	