2013 Wetlands Supplements

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Outline

- Background
- The relationship between the 2006GL and the WLSL
- Methodologies
- Inclusion of the methods in WLSL into the inventory

Background

- During the negotiation under the UNFCCC for accounting Land use, land use change and forestry activities under the Kyoto Protocol for the second commitment period, some parties and international NGO noted that rewetting or recovery of drained organic soil land have a huge mitigation potential.
- Generally speaking, drainage activity cause rapid oxidation of organic materials contained in organic soil and generate more CO_2 and N_2O, and less CH_4. While, rewetting is able to stop oxidation and generates less CO_2 and N_2O, and more CH_4.
- However, there was no guidance to estimate whole effects of such activities in the 2006 GL. Therefore, SBSTA requested to the IPCC to prepare a supplemental methodological guidance relating to wetlands.
- After the discussion held in the scoping meeting by IPCC, the scope of the wetlands supplement was expanded from the original idea which were relating to drainage / rewetting of organic soil only to some additional fields including coastal wetlands, inland mineral soil wetlands and constructed wetland using for wastewater management.

Background

- “2013 Supplement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories: Wetlands” (WLSL) was adopted and accepted by the IPCC panel in October, 2013.
- SBSTA39 held in November 2013 (in Warsaw) discussed the treatment of the WLSL for the reporting of GHG inventory for Annex I countries and agreed “encouraging” to use this supplement. The reason behind this agreement was that the structure and methodologies in the WLSL were a little challenging at the moment and many of AI countries (US, Canada, NZ, Australia, Japan and EU) found difficulty to apply full set of methodologies in the WLSL as mandatory nature. SBSTA46 (May 2017) will discuss this issue again.
- Flooded land methodologies which provided in the appendix of the 2006 GL (= optional application) are not covered in the WLSL. The improvement of methodologies about flooded land is under consideration in the context of the upcoming work of refinement about the IPCC guideline by 2019.

The relationship between the 2006GL and the WLSL

- Wetlands Supplement follows the basic principle of the Land Use sector that estimations are based on five carbon pools and three gases.
- In the WLSL, supplemental information is provided in the area where the 2006 GL did not provide enough methodologies and/or data (especially about soil non-CO2 gases emission). This means on the other hand, the methodologies already explained in the 2006 GL are not repeated in the WLSL

The three basic equations contained in the 2006GL and referred in Wetlands Supplement

Emissions = Activity Area (A) * Emissions /Removals Factor (EF/RF)

$$\Delta C = (C_2 - C_1) / (t_2 - t_1)$$

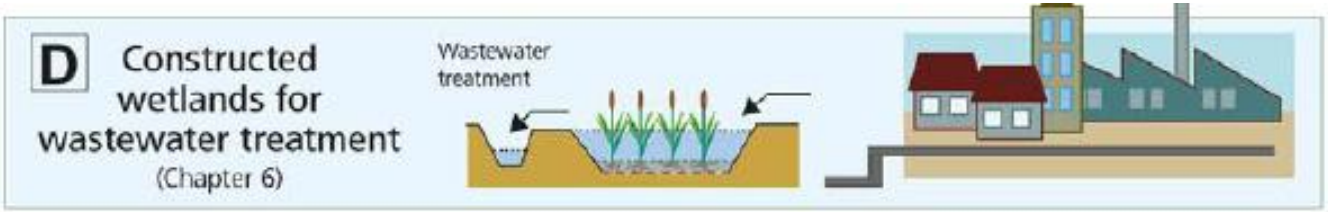
$$SOC = SOC_0 \times F_{LU} \times F_{MG} \times F_I$$

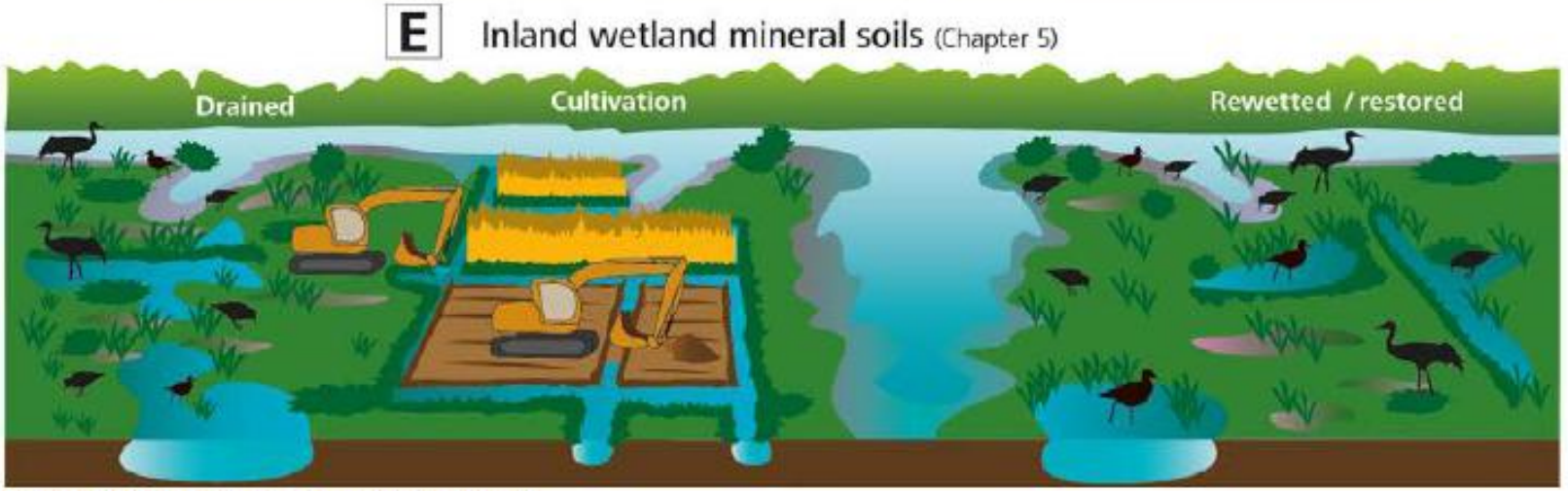
Contents of the WLSL

TABLE 1
COVERAGE OF THE *WETLANDS SUPPLEMENT*

Chapter	Coverage
1. Introduction	Guidance on the use of the report and generic information on the linkages between the *2006 IPCC Guidelines* and the supplementary guidance that it presents.
2. Drained Inland Organic Soils	Guidance on managed inland organic soils including land drained for forestry, croplands, grazing, and settlements across climate zones.
3. Rewetted Organic Soils	Guidance on rewetted organic soils including boreal, temperate, and tropical wetlands occurring in any land-use category.
4. Coastal Wetlands	Guidance on specified management activities in coastal areas of mangroves, tidal marshes and seagrass meadows.
5. Inland Wetland Mineral Soils	Guidance on managed inland wetland mineral soils, including lands used for forestry, cropland, grazing, and settlements, and rewetted mineral soils.
6. Constructed Wetlands for Wastewater Treatment	Guidance on wetlands constructed for wastewater treatment.
7. Cross-cutting Issues and Reporting	Overall guidance on how to report anthropogenic emissions and removals from wetlands in the framework of the *2006 IPCC Guidelines*. Also gives general *good practice* guidance on cross-cutting issues (*key category* and uncertainty analysis, times series consistency and quality assurance/quality control) to supplement that given in Volume 1 of the *2006 IPCC Guidelines*.

Image of activities (excepted for organic soil)





(Figure by Riikka Turunen, Statistics Finland)

P1.10, WLSL

Methodologies (Chapter 2 and 3)

Chapter 2: Drained inland organic soil

methodologies	What's new in the WLSL
On-site CO_2 emissions from drained organic soil	Update EFs
Off-site CO_2 emissions through waterborne carbon from drained organic soil	New methodologies
CH_4 emissions from drainage of organic soil	New methodologies
N_2O emissions from drainage of organic soil	Update EFs
GHG emissions from peat fire	Update Parameters

Chapter 3: Rewetting organic soil

methodologies	What's new in the WLSL
On-site CO_2 emissions/removals due to rewetting of drained organic soil	Update EFs
Off-site CO_2 emissions through waterborne carbon from drained organic soil	New methodologies
CH_4 emissions due to rewetting of organic soil	New methodologies
New methodologies	New methodologies

Methodologies (chapter 4, chapter 5)

Chapter 4: Coastal wetlands

Methodologies		What's new in the WLSL
CSC of biomass (Forest management activities in Mangroves)		Provide parameters
CSC of biomass (Tidal marsh and seagrass meadow)		Provide parameters
CSC of DOM in coastal wetlands		Provide parameters
Soil CO_2 emissions	Aquaculture, Salt production, Excavation, etc.	New methodologies Provide parameters
Soil non-CO_2 emissions	Aquaculture, Rewetted soil, others	New methodologies Provide parameters

Chapter 5 Inland wetlands mineral soil

Methodologies	What's new in the WLSL
CSC of biomass, DOM	Provide guidance
CSC of soil	Provide parameters
CH4 emissions	New methodologies

Inclusion of the methods in WLSL into the inventory

- Drainage /rewetting of organic soil: Not relevant to Moldova
- Coastal wetland: Seems not relevant to Moldova
- Inland mineral soil wetlands: May exist such activities if rewetting activities are implemented. But collecting activity data is quite difficult and assumed very low priority to implement.
- Constructed wetlands: This source is relating to the waste sector.