



Developments in IPCC: 2013 SUPPLEMENT TO THE 2006 IPCC GUIDELINES FOR NATIONAL GREENHOUSE GAS INVENTORIES: WETLANDS

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UNFCCC Workshop on technical and scientific aspects of ecosystems with high-carbon reservoirs not covered by other agenda items under the Convention

24-25 October 2013

Bonn, Germany

Outline

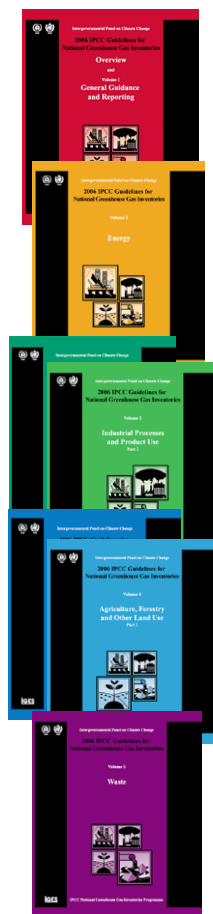
- Background
- Production of *Wetlands Supplement*
- Contents of *Wetlands Supplement*
- Summary

Background

IPCC Guidelines for National GHG Inventories

- IPCC Task Force on National Greenhouse Gas Inventories (TFI) produces guidelines on compiling estimates of national greenhouse gas emissions and removals in a standardized way to ensure transparency, accuracy, completeness, consistency and comparability between countries
- The IPCC Guidelines are intended to be used by all Parties to the UNFCCC
 - They provide default data and methods
 - They allow the use of more sophisticated methods if countries wish to use them and they are consistent with the guidelines
- Until now the Revised 1996 Guidelines and Good Practice Guidance (2000, 2003) have been used, for estimates for 2013 onwards the 2006 Guidelines should be used by Annex I Parties

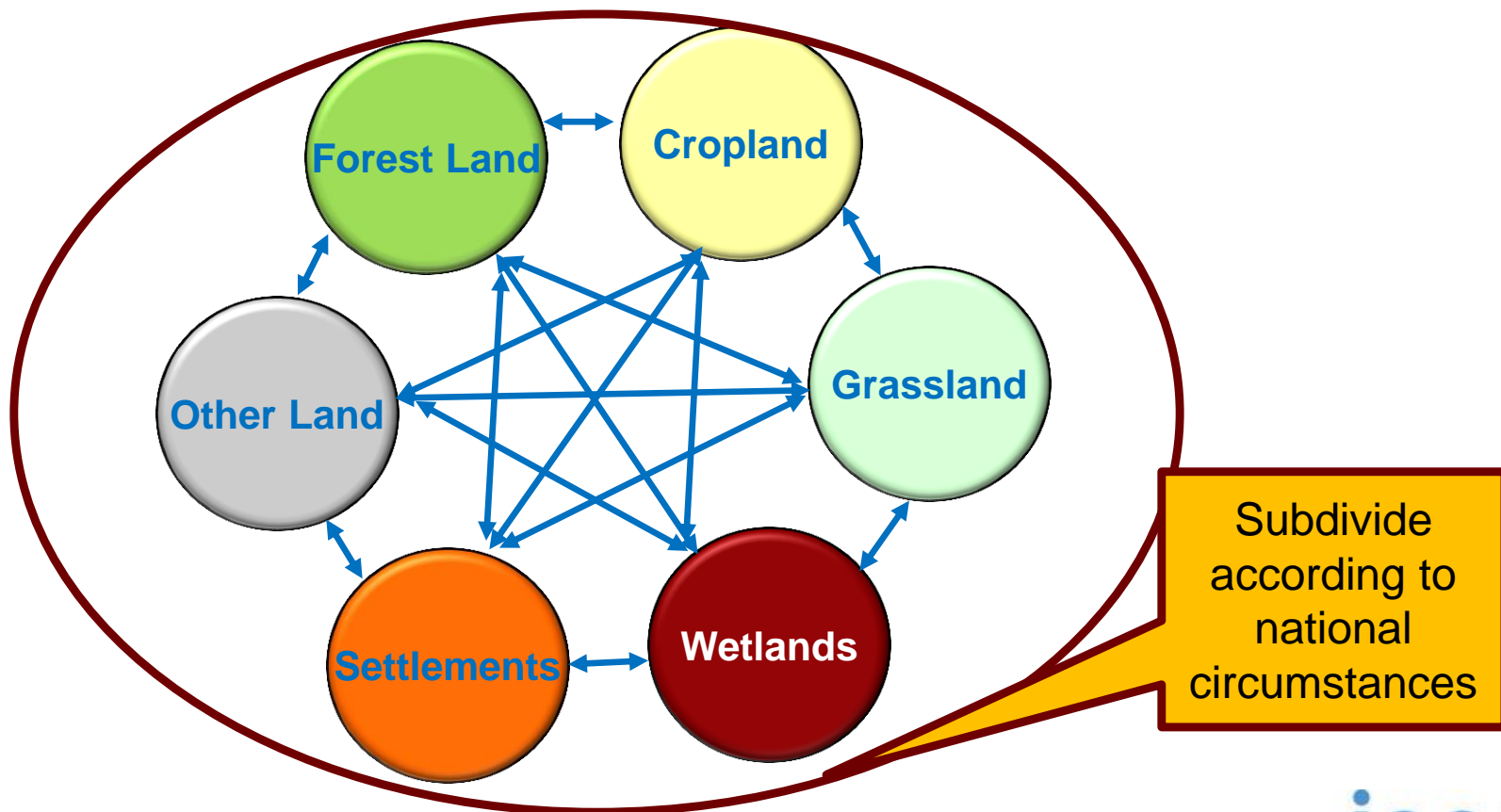
2006 IPCC Guidelines for National Greenhouse Gas Inventories



- Overview
- Vol 1: General Guidance and Reporting
- Vol 2: Energy
- Vol 3: Industrial Processes and Product Use (IPPU)
- Vol 4: Agriculture, Forestry and Other Land Use (AFOLU)
- Vol 5: Waste

Vol.4 AFOLU: Six land-use categories

Stock changes of C pools are estimated and reported for the six “**top-level**” land-use categories



Guidance on wetlands in 2006 Guidelines

Land-use category/GHG	Peatlands	Flooded Land
Wetlands Remaining Wetlands		
CO ₂	Section 7.2.1.1	No Guidance (Included Elsewhere)
CH ₄	No Guidance (Assumed Negligible)	Appendix 3
N ₂ O	Section 7.2.1.2	No Guidance (Included Elsewhere)
Lands Converted to Wetlands		
CO ₂	Section 7.2.2.1	Section 7.3.2.1 and Appendix 2
CH ₄	No Guidance (Assumed Negligible)	Appendix 3
N ₂ O	Section 7.2.2.2	No Guidance (Included Elsewhere)

Need for Additional Guidance

- When the TFI produced the *2006 IPCC Guidelines* it was only possible to provide guidance on a few wetland types: organic soils (mainly drained peatlands), peatlands managed for peat extraction, and limited guidance on flooded lands
- Since then scientific knowledge has increased and the IPCC has decided it is now time to cover these missing wetlands types
- In addition, the UNFCCC has decided to include **Wetlands Drainage and Rewetting** as a new elected activity in the second commitment period of the Kyoto Protocol

SBSTA Invitation and IPCC Decision

- At its 33rd Session (December 2010 in Cancun), SBSTA invited the IPCC:

To undertake further methodological work on wetlands, focusing on the rewetting and restoration of peatland, with a view to filling in the gaps in the 2006 IPCC Guidelines in these areas and to complete this work for the thirty-ninth session of the SBSTA.

- At its 33rd Session (May 2011 in Abu Dhabi), IPCC decided to produce the *2013 Supplement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories: Wetlands (Wetlands Supplement)*

Production of *Wetlands Supplement*

Procedures



Wetlands Supplement: Some Facts



Wetlands Supplement: Review Process

Expert Review

- Over **270** individuals registered
- **5053** comments from **128** Expert Reviewers on the First Order Draft (FOD)

Govt. & Expert Review

- Over **240** individuals registered
- **3740** comments from **112** Expert Reviewers and **14** Governments on the Second Order Draft (SOD)

Final Govt. Distribution

- **347** comments from **14** Governments on the Final Draft (FD)

Contents of *Wetlands Supplement*

Structure

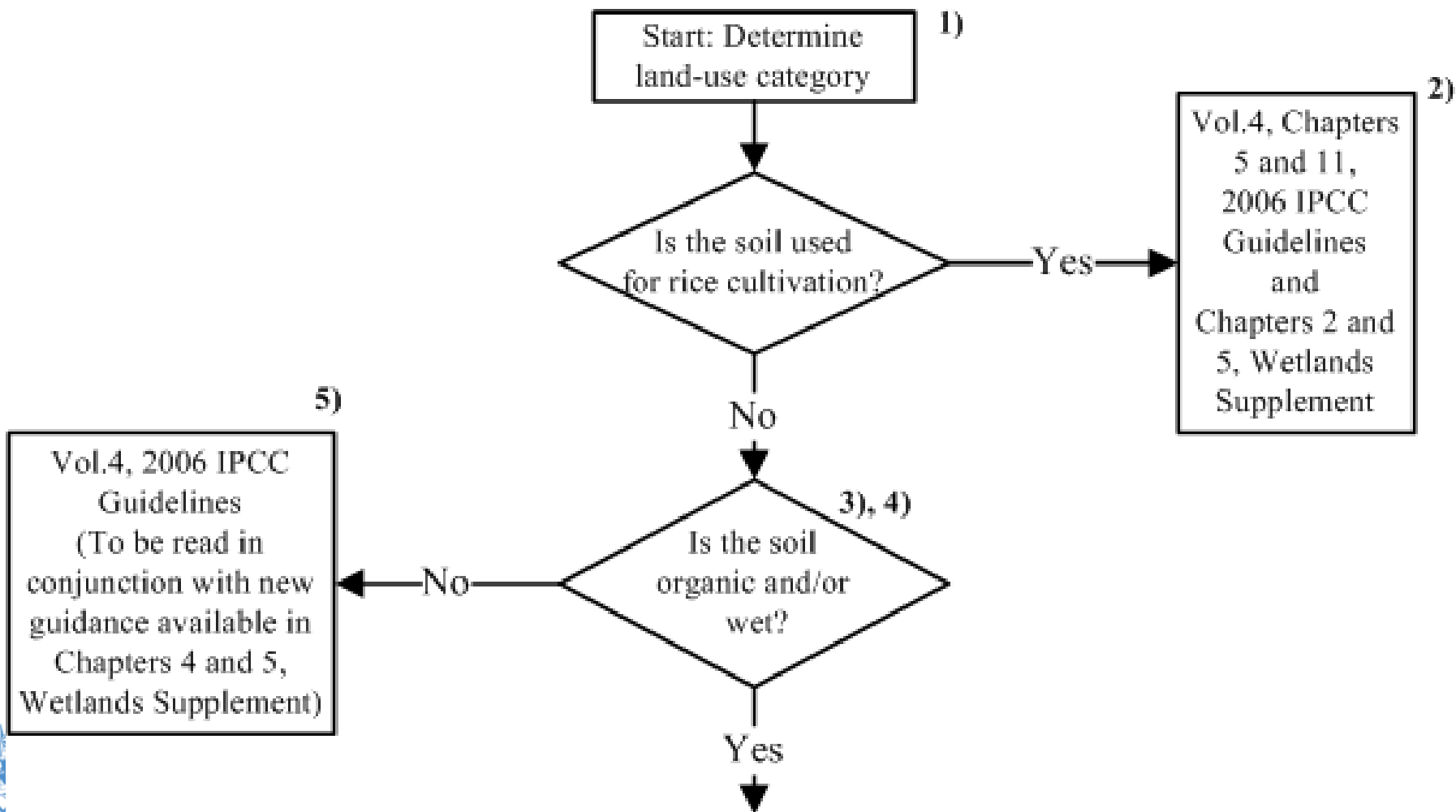
2013 Supplement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories: Wetlands

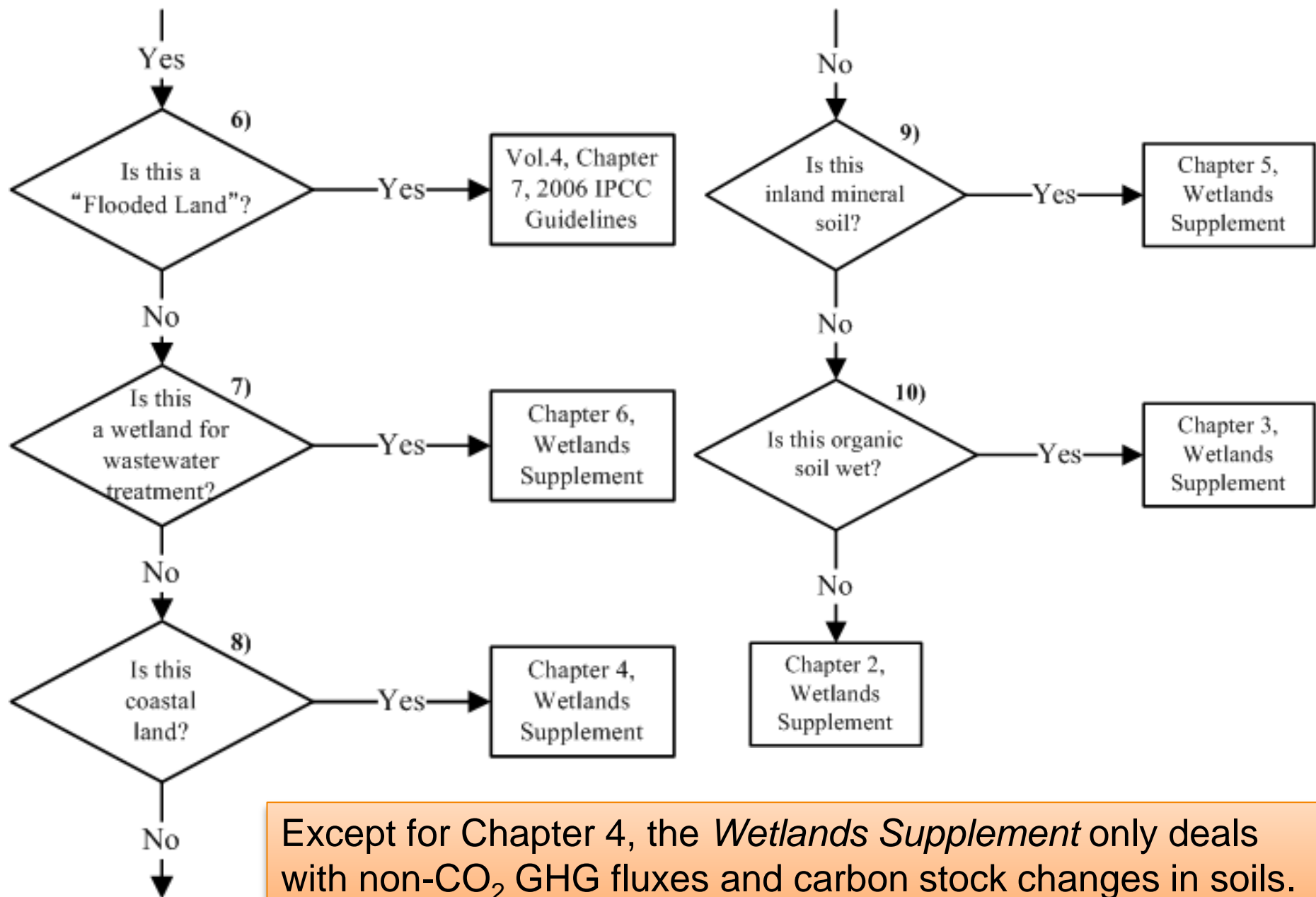
- Methodological Guidance on Lands with Wet and Drained Soils, and Constructed Wetlands for Wastewater Treatment

- Overview Chapter
- Glossary
- Chapter 1: Introduction
- Chapter 2: Drained Inland Organic Soils
- Chapter 3: Rewetted Organic Soils
- Chapter 4: Coastal Wetlands
- Chapter 5: Inland Wetland Mineral Soils
- Chapter 6: Constructed Wetlands for Wastewater Treatment
- Chapter 7: Cross-cutting Issues and Reporting
- List of CLAs, LAs, CAs, REs and reviewers

Chapter 1: Introduction

General guidance and information on the linkages between the *2006 IPCC Guidelines* and the *Wetlands Supplement*





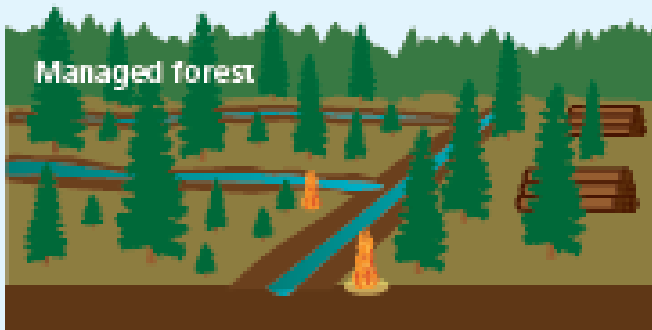
Except for Chapter 4, the *Wetlands Supplement* only deals with non-CO₂ GHG fluxes and carbon stock changes in soils. For guidance on other pools, refer to the 2006 Guidelines.

Managed Land Proxy

- The *Wetlands Supplement* continues to use the “managed land proxy” (MLP) to estimate anthropogenic emissions & removals.
 - Anthropogenic emissions & removals are those that occur on managed land – where managed land is defined broadly as covering production, ecological and social purposes.
- The *2006 IPCC Guidelines* restricted managed wetlands to those lands where the water table is artificially changed (e.g., drained or raised) or those created through human activity (e.g., damming a river).
- This *Wetlands Supplement* extends this coverage also to include wetlands constructed for wastewater treatment, or where emissions and removals from coastal wetlands are attributed to specified human activities.

Chapter 2: Drained Inland Organic Soils

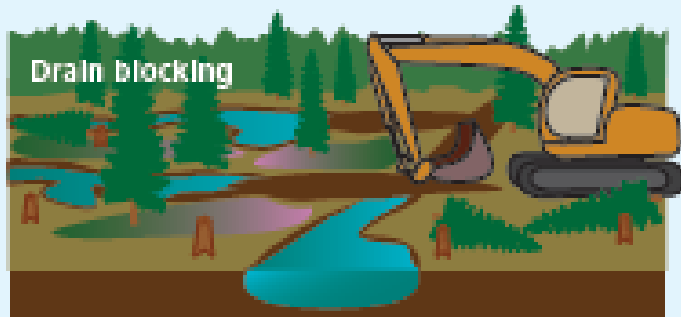
B Drained inland organic soils (Chapter 2)



- Provides updated guidance for managed inland organic soils including land drained for forestry, cropland, grassland, and settlements across climate zones.
 - *updated emission factors*
 - *new guidance on Dissolved Organic Carbon and CH₄ from ditches*
 - *new guidance on emissions from peat fires*

Chapter 3: Rewetted Organic Soils

C Rewetted organic soils (Chapter 3)



- Provides new guidance on GHG emissions from rewetted organic soils including boreal, temperate, and tropical wetlands occurring in any land-use category.
 - “Rewetting” is the deliberate action of raising the water table on drained soils to re-establish water saturated conditions, and can have several objectives, e.g. wetland restoration.

Chapter 4: Coastal Wetlands

- Provides new guidance for specified management activities in coastal areas of mangroves, tidal marshes and seagrass meadows.
 - *Details on methodology will be explained by a separate presentation later.*



Chapter 5: Inland Wetland Mineral Soils

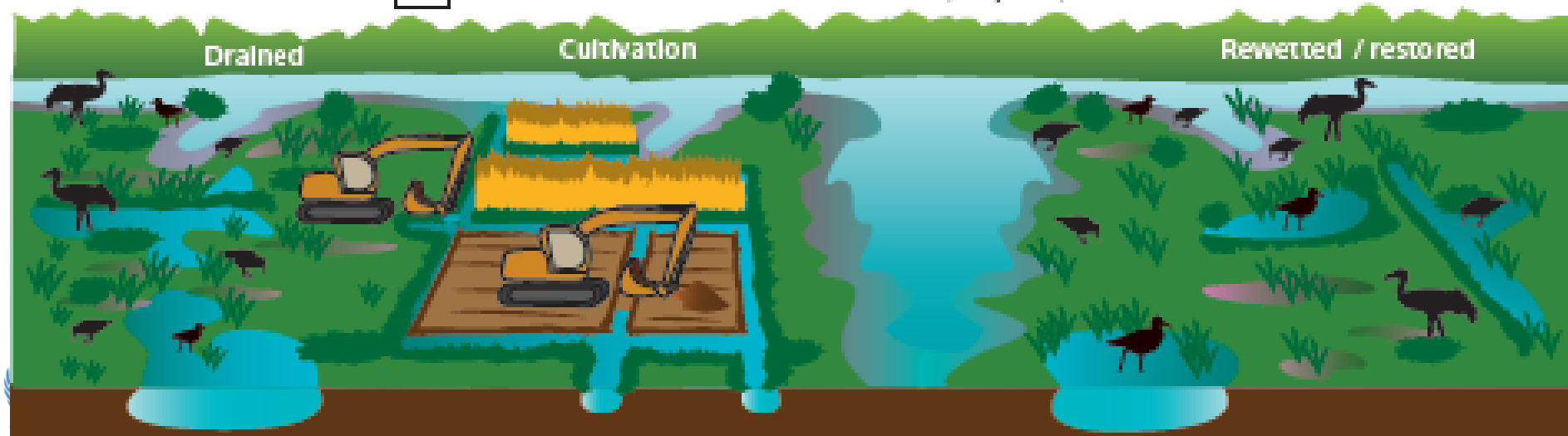
- Provides new guidance for managed inland wetland mineral soils, including lands used for forestry, cropland, grassland, and settlements, and rewetted mineral soils.
 - Includes riparian wetlands, forested swamps and marshes in all climate zones.

E Inland wetland mineral soils (Chapter 5)

Drained

Cultivation

Rewetted / restored

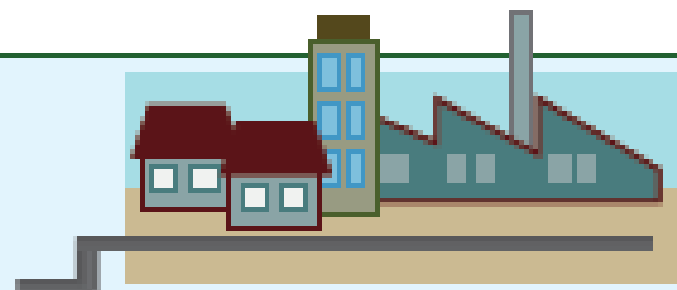
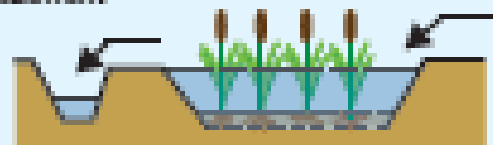


Chapter 6: Constructed Wetlands for Wastewater Treatment

- Provides new guidance on wetlands constructed for wastewater treatment.
 - Supplements Volume 5 (Waste Sector) of the *2006 IPCC Guidelines*, Chapter 6 on Wastewater Treatment
 - Covers wetlands that have been designed and constructed to use natural processes involving vegetation, soils, and associated microbial assemblages to treat wastewater.
 - New guidance is also provided on semi-natural treatment wetlands.

D Constructed wetlands for wastewater treatment (Chapter 6)

Wastewater treatment



Chapter 7: Cross-cutting Issues and Reporting

- Provides 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 analysis
 - Uncertainty analysis
 - Times series consistency
 - Quality Assurance and Quality Control
- Supplements the guidance given in Volume 1 of the *2006 IPCC Guidelines*.

Summary

Summary

- The *Wetlands Supplement* provides methodological guidance for estimating anthropogenic GHG emissions and removals from wetlands and drained soils.
- The scope of the *Wetlands Supplement* is broader than the coverage of “Wetlands” in the *2006 IPCC Guidelines*.
- The *Wetlands Supplement* provides, among others:
 - Updated guidance on ***inland drained organic soils***
 - New guidance on the ***rewetting of organic soils*** (including peatlands)
 - New guidance on ***coastal wetlands***
 - including mangroves, tidal marshes and seagrass meadows
 - New guidance on ***inland wetland mineral soils***
 - New guidance on ***constructed wetlands for wastewater treatment***

Thank you!

The adopted Overview Chapter and accepted Full Report (pre-copy edit version) can be found on the IPCC website:

http://www.ipcc.ch/scripts/_session_template.php?page=_37ipcc.htm

The *2013 Wetlands Supplement* will be published on the TFI website on 2 November. Please visit the TFI website for more information:

<http://www.ipcc-nggip.iges.or.jp/home/wetlands.html>