

A Summary of the Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories

Background

This report summarises additions and revisions to the *1995 IPCC Guidelines for National Greenhouse Gas Inventories (1995 IPCC Guidelines)*. It also describes efforts made by the IPCC to harmonise methods with others. The additions and revisions were accepted by the IPCC at its Twelfth Session held in Mexico City (11-13 September 1996) after acceptance by Working Group I at its Sixth Session held in Mexico City (10 September 1996) in accordance with IPCC procedures. They are called the *Revised 1996 IPCC Guidelines for National Greenhouse Gas Inventories*. Within this report, a revision of an existing methodology or default data is referred to as a 'revision', 'revised method' or 'revised data'. Additional methods and default data are defined as 'new' methods or 'new data'.

Land-use Change and Forestry Chapter

1. Several revisions to the methods for the Land-use Change and Forestry Chapter are provided. One such revision is to the method for estimating CO₂ fluxes from soils, as described below.
2. The *revisions* to the Land-use Change and Forestry Chapter greatly extend and improve the range and quality of default data, particularly for the tropics, where national forestry statistics are sometimes less accessible than in the temperate or boreal regions. The *revisions* can be summarised by changes in (a) default data and in (b) methods, as follows:

(a) Default data

Classification system for land cover types: A *revised* system more consistent with sources of national, regional and international data, such as forest conversion rates and forest inventories was developed. The *revised* classification system better reflects the diversity of forest types. For the tropics, three classes of forests have been replaced with six, based on differences in rainfall amount, seasonality, and altitude.

Rates of forest conversion: *New* FAO default data are provided for each country and forest type according to the proposed land-cover classification system. These data have been compiled for the tropics for the 1980-90 period. Such *revisions* were incorporated because country-level data are often difficult to obtain for many tropical countries; the *1995 IPCC Guidelines* contain no such data.

Aboveground biomass for native tropical forests: Emissions estimates from land-use change and forestry can be highly sensitive to such input data and therefore a priority was given to improving aboveground biomass data. Since publication of the *1995 IPCC Guidelines*, better datasets have become available drawing upon larger regional studies. The *revisions* now include a large database of default values for Africa, America, and Asia for the *revised* land-cover classification system. Additional data based on individual forest inventories (suitable for converting to biomass) for many tropical countries are also included. None of the default values are separated into primary and secondary forests (as in *1995 IPCC Guidelines*) because

it was felt by experts that this was not a practical classification, given the variability of definitions in different regions.

Rates of tropical forest regrowth: *Revised* default data are given for forest regrowth; the data are related to the biomass data and are reported for the three tropical regions by forest type, according to the *revised* classification system.

(b) Methods

Estimation of net CO₂ emissions from soil carbon: In the *1995 IPCC Guidelines*, CO₂ estimates are based upon the product of the rate of change in area of a given land-use and the rate of change of soil carbon. The *revised* method estimates changes in soil carbon pools associated with altered land-use or land management practices. Thus, all categories of agriculturally-impacted lands, including conversions of forest or other vegetation to agriculture, land abandonment, shifting cultivation and permanent agriculture, are included in the methodology. A default stock method is employed to estimate CO₂ fluxes associated with agricultural activities for a 20-year inventory period. This area of the IPCC Methodology has been much improved because better scientific data is now available. The *revised* method is more compatible with potential policy analysis.

References

Australian Methodology for the Estimation of Greenhouse Gas Emissions and Sinks (1996).

Joint EMEP/CORINAIR Atmospheric Emission Inventory Guidebook (1996), 1st Edition, European Environmental Agency.

1995 IPCC Guidelines for National Greenhouse Gas Inventories, Reporting Instructions (Volume 1); Workbook (Volume 2); Reference Manual (Volume 3).

LIST OF ABBREVIATIONS

CO ₂	Carbon dioxide
CH ₄	Methane
N ₂ O	Nitrous oxide
SO ₂	Sulphur dioxide
NO _x	Sum of nitrogen oxide and nitrogen dioxide
CO	Carbon monoxide
NH ₃	Ammonia
NMVOC	Non-methane volatile organic compounds

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