Dataset Information:

Title	**Cultivated organic soils**
Abstract	Greenhouse gas (GHG) emissions data from cultivated organic soils are those associated with nitrous oxide gas from drained organic soils. Computed at Tier 1 and complemented by geo-spatial data, following the 2006 IPCC Guidelines for National GHG Inventories (IPCC, 2006). Available by country, with global coverage and relative to the period 1990-2010 with annual updates.
Supplemental	This domain contains data on GHG emissions, associated emission factors and underlying activity data. The FAOSTAT Emissions data are estimates by FAO and do not coincide with GHG data reported by member countries to UNFCCC. The database is intended primarily as a service to help member countries assess and report their emissions, as well as a useful international benchmark. The FAOSTAT Emissions data are disseminated publicly to facilitate continuous feedback from member countries.
Creation Date	2012
Last Update	2012
Data Type	Climate Change - Greenhouse Gases
Category	Environment
Time Period	1990 - 2010
Periodicity	Annual
Geographical Coverage	World
Spatial Unit	Country
Language	Multilingual (EN, FR, ES)

Methodology and Quality Information:

Methods and processing	GHG emissions data from cultivated organic soils are those associated with nitrous oxide gas from drained organic soils. The FAOSTAT data are computed at Tier 1 following IPCC, 2006, Vol. 4, Ch. 11. The emissions are estimated at pixel level, using the formula: *Emission = A * EF* where: *Emission* = Annual emissions, in units of kg N_2O–N yr^{-1}; *A* = Activity data, representing the annual area of cultivated organic soils, in hectares (1). *EF* = Tier 1, default IPCC emission factors, expressed in units of kg N_2O–N ha^{-1} (2). (1) Data are obtained through the stratification of different global datasets: - The area covered by organic soils have been defined by extracting the Histosols classes from the Harmonized World Soil Database (FAO *et al*., 2012). The data on soils have been produced in a large timespan, from 1971 to 2005. - The cultivated area has been identified from the global land cover dataset, GLC2000 (EU-JRC, 2003), using the three "cropland" classes. The mosaic classes have been reduced proportionally to the general share of the cropland per pixel per each class, according to the following values (You *et al*., 2008): • Cultivated and managed areas: 100% cropland • Mosaic: cropland/tree cover/Other natural vegetation: 50% cropland • Mosaic: cropland/Shrub and/or grass cover: 10% cropland (2) The EF values are those specified in IPCC, 2006: Vol. 4, Ch. 11, Tab. 11.1. The EF were assigned at pixel level to the relevant climate zone, as defined in IPCC, 2006: Vol. 4, Ch. 3,

	Annex 3A.5. The climatic zones map used has been developed by the Joint Research Centre of the European Commission (EC-JRC, 2010), following the IPCC prescriptions. The analysis was carried out is GIS, combining the above datasets, and the global emissions dataset was summarized by country. Dimensionless conversion factors used are: 44/28, to convert the emissions from kg N_2O-N to kg N_2O gas; 10^{-6}, to convert the emissions from kg N_2O to Gg N_2O; and GWP-N_2O = 310 (100-year time horizon global warming potential), to convert Gg N_2O to Gg CO_2eq (IPCC, 1996: Technical Summary, Tab. 4 page 22). The cultivated organic soils domain contains the following data categories available for download: country-level GHG emissions in both Gg N_2O and Gg CO_2eq; implied emission factors; and activity data. The analysis was performed worldwide. Cultivated organic soils are found in 96 countries and territories listed in FAOSTAT. The data are reported also following standard FAOSTAT regional aggregations, plus Annex I and non-Annex I groups. Uncertainties in estimates of GHG emissions are due to uncertainties in emission factors and activity data. They may be related to, inter alia, natural variability, partitioning fractions, lack of spatial or temporal coverage, spatial aggregation. In the case of cultivated organic soils, more detailed information are available in the guidelines (IPCC, 2006: Vol. 4, Ch. 11, Section 11.2.1.4). *References* EC-JRC. 2003. Global Land Cover 2000 database. Available at http://bioval.jrc.ec.europa.eu/products/glc2000/glc2000.php EC-JRC 2010. European Soil Portal. http://eusoils.jrc.ec.europa.eu/projects/RenewableEnergy FAO/IIASA/ISRIC/ISSCAS/JRC, 2012. Harmonized World Soil Database (version 1.2). FAO, Rome, Italy and IIASA, Laxenburg, Austria. Available at www.fao.org/nr/land/soils/harmonized-world-soil-database/en/ IPCC. 1996. Climate Change 1995 - The Science of Climate Change: Contribution of Working Group I to the Second Assessment Report of the Intergovernmental Panel on Climate Change. Cambridge University Press. IPCC. 2006. 2006 IPCC Guidelines for National Greenhouse Gas Inventories, Prepared by the National Greenhouse Gas Inventories Programme, Eggleston H.S., Buendia L., Miwa K., Ngara T. and Tanabe K. (Eds), IGES, Hayama, Japan. Liangzhi You, Stanley Wood, Kate Sebastian, 2008. Comparing and Synthesizing Different Global Agricultural Land Datasets for Crop Allocation Modeling. ISPRS – Proceedings of the 21st Congress, Beijing. http://www.isprs.org/proceedings/XXXVII/congress/7_pdf/9_ThS-17/06.pdf
Data Collection Method	Computed
Completeness	100%
Links	www.fao.org/climatechange/micca/ghg/ www.ipcc-nggip.iges.or.jp/public/

Distribution Information:

Owner	FAO
Provider	FAO
Source	FAO
Copyright Policy	All rights reserved. FAO encourages the reproduction and dissemination of material published on this Web site. Non-commercial uses will be authorized free of charge, upon request. Reproduction for resale or other commercial purposes, including

	educational purposes, may incur fees. Applications for permission to reproduce or disseminate FAO copyright material, and all queries concerning rights and licences, should be addressed by e-mail to copyright@fao.org or to the: *Chief, Publishing Policy and Support Branch,* *Office of Knowledge Exchange, Research and Extension* *FAO, Viale delle Terme di Caracalla* *00153 Rome, Italy* Note: Hyperlinks to non-FAO Internet sites do not imply any official endorsement of or responsibility for the opinions, ideas, data or products presented at these locations, or guarantee the validity of the information provided. The sole purpose of links to non-FAO sites is to indicate further information available on related topics.
Citation	FAOSTAT, 2012. FAOSTAT Emissions Database. www.faostat.fao.org
Acknowledgement	The FAOSTAT Emissions database was produced by the Monitoring and Assessment of Greenhouse Gas Emissions and Mitigation Potential in Agriculture project of the MICCA Programme, with generous funding from the Governments of Norway and Germany, trust funds GCP/GLO/286/GER and GCP/GLO/325/NOR.