

The Intergovernmental Panel on Climate Change (IPCC)

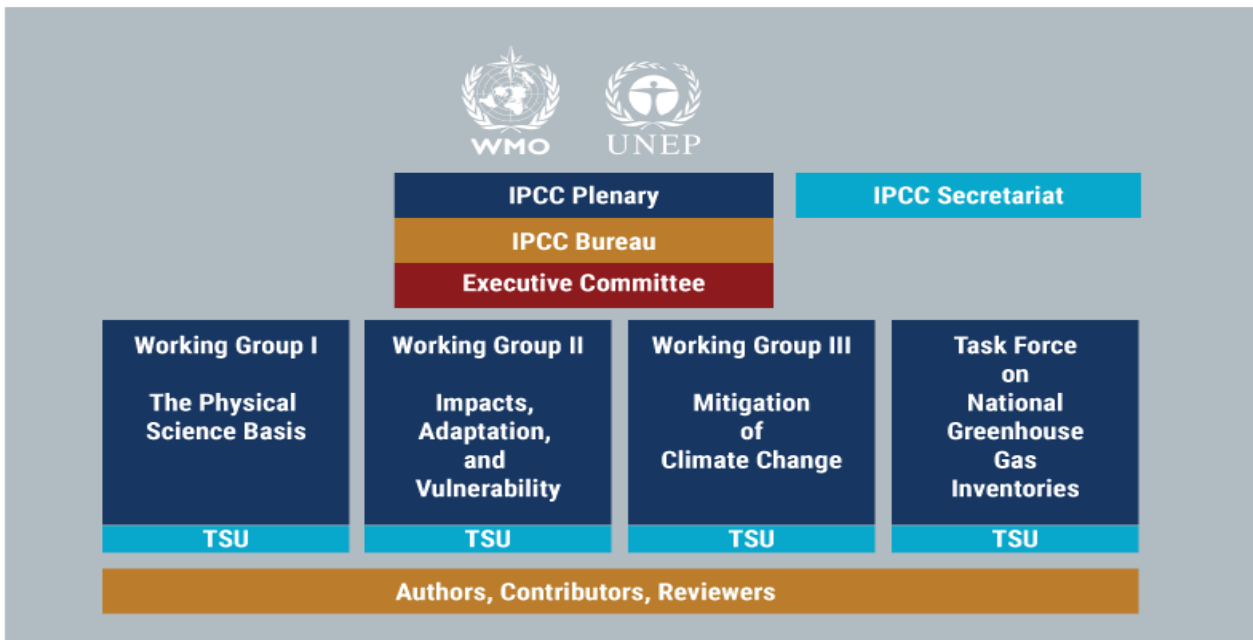
Prof. UZ Dr. Barbara Amon

FAO LEAP Conference for LAC, 5th and 6th Nov 2024

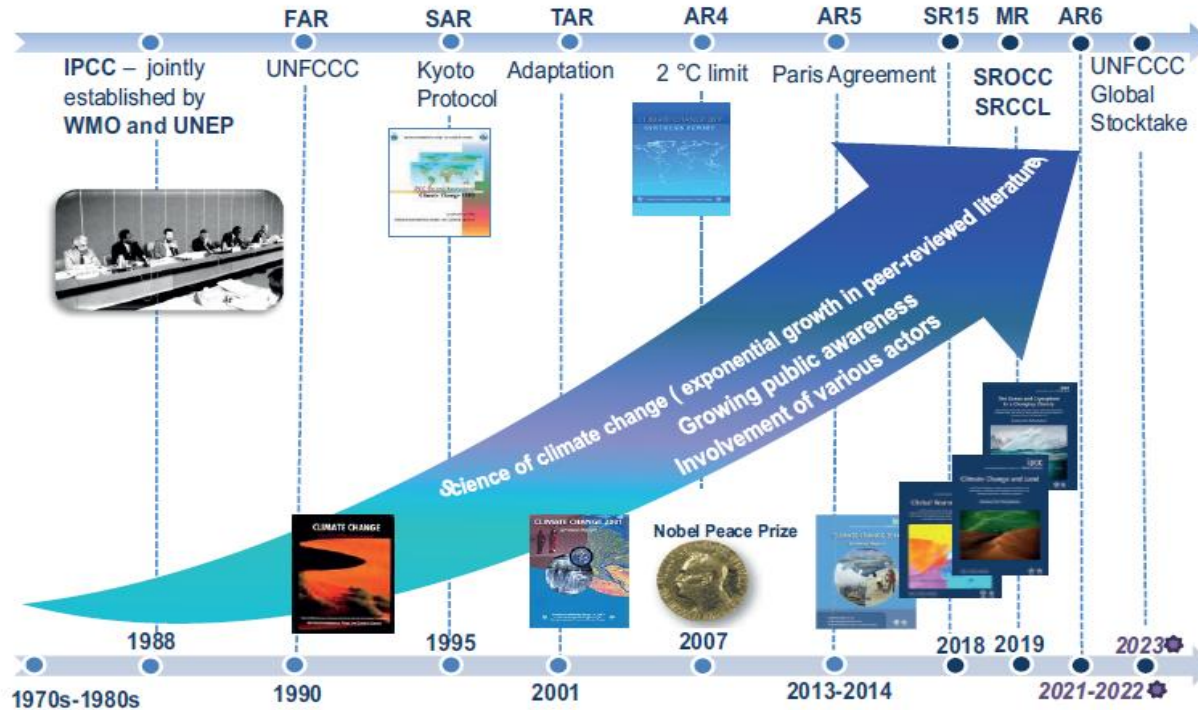
A brief insight into the work of the IPCC

Structure of IPCC

The following graphic depicts the structure of the IPCC:



IPCC contribution to climate science and policy making



⚙️ *These dates are subject to change.*

Preparation of Reports



Scoping

The outline is drafted and developed by experts nominated by governments and observer organizations



Approval of Outline

The Panel then approves the outline



Nomination of authors

Governments and observer organizations nominate experts as authors



Government and Expert Review - 2nd Order Draft



Expert Review - 1st Order Draft



Selection of authors

Preparation of Reports

The 2nd draft of the report and 1st draft of the Summary for Policymakers (SPM) is reviewed by governments and experts



Final draft report and SPM

Authors prepare a 1st draft which is reviewed by experts



Government review of final draft SPM

Bureaux select authors



Approval & acceptance of report

Authors prepare final drafts of the report and SPM which are sent to governments

Governments review the final draft SPM in preparation for its approval

Working Group/Panel approves SPMs and accepts reports



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Peer reviewed and internationally available scientific technical and socio-economic literature, manuscripts made available for IPCC review and selected non-peer reviewed literature produced by other relevant institutions including industry



Publication of report

2019 refinement of 2006 IPCC guidelines

- To provide an updated and sound scientific basis for the improvement of national GHG inventories
- Updated default values of emission factors
- Additional/updated information and guidance

2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories

Volume 4

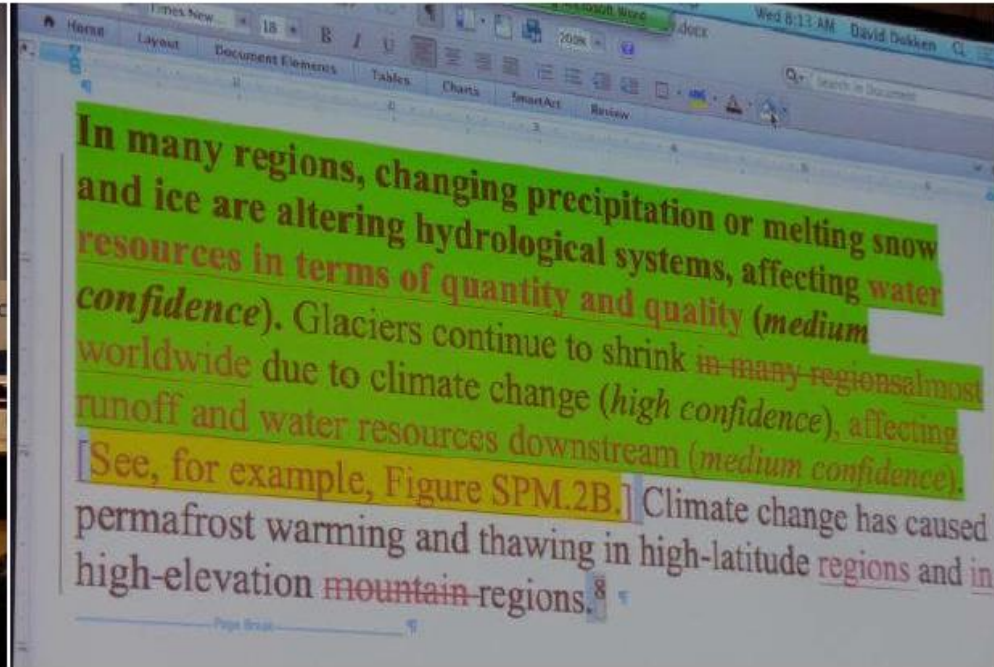
Agriculture, Forestry and Other Land Use

Edited by Calvo Baedín, E., Tanabe, K., Kranjc, A.,
Bhansuren, J., Fukuda, M., Ngazire S.,
Osako, A., Pyrozhenko, Y., Shermanau, P. and Federici, S.



Task Force on National Greenhouse Gas Inventories

IPCC 2019 refinement - adoption



IPCC 2019 refinement - adoption



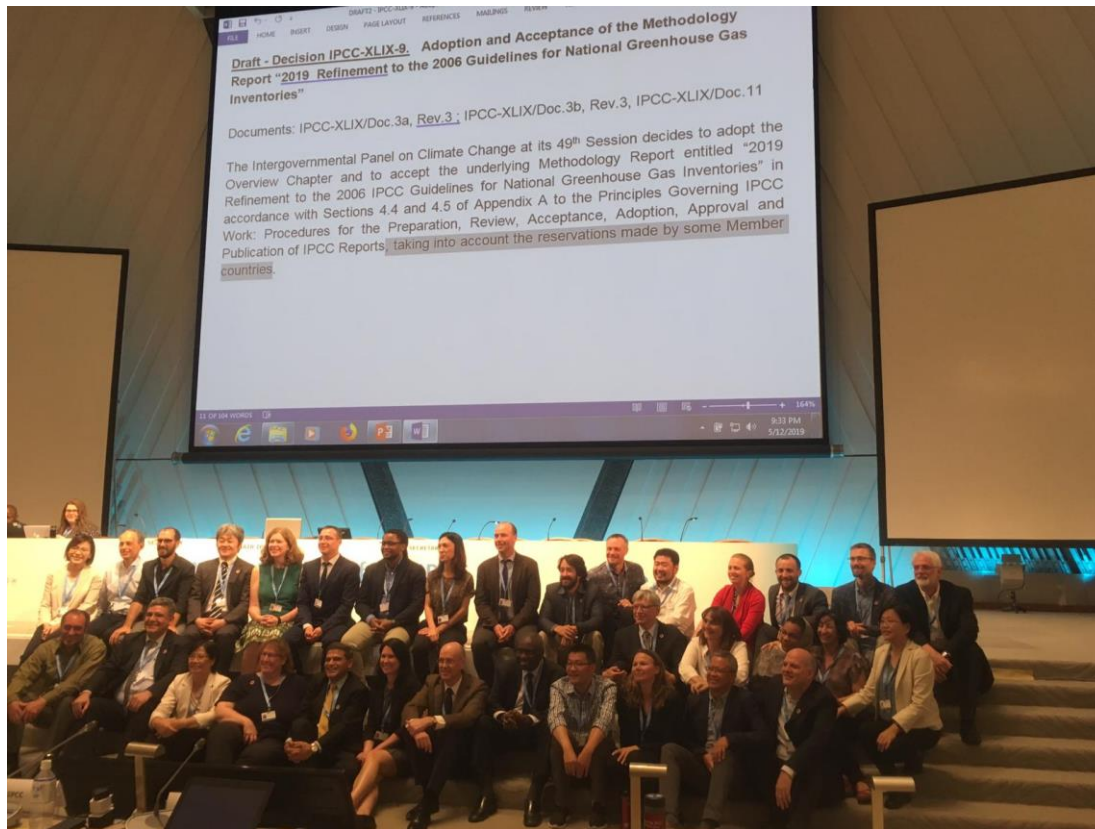
IPCC 2019 refinement - adoption



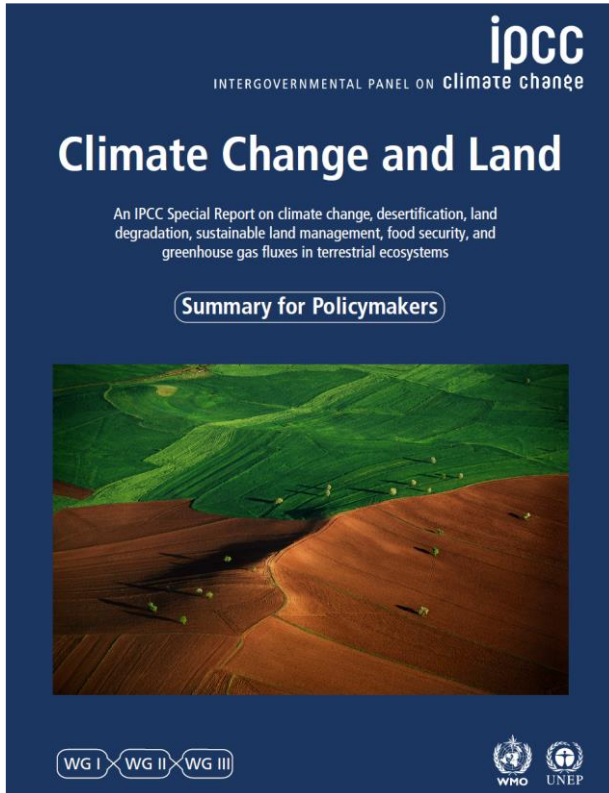
IPCC 2019 refinement - adoption



IPCC 2019 refinement - adoption

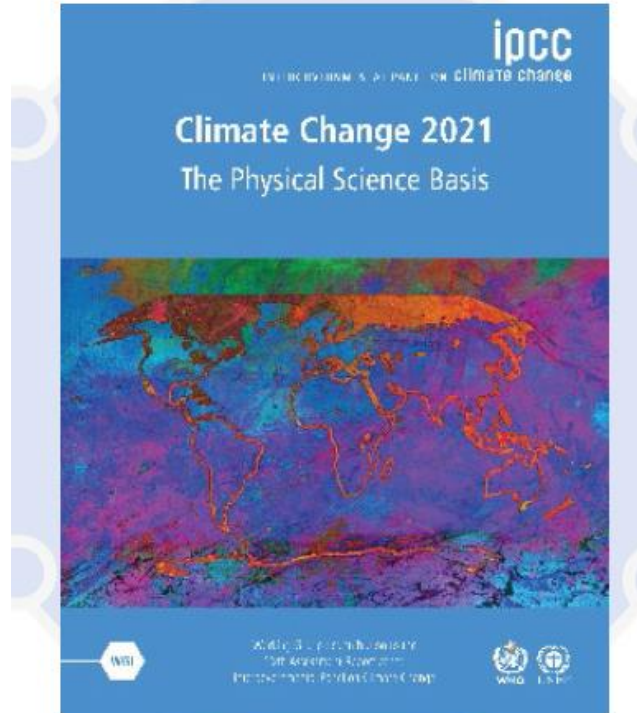


Relevance of Agriculture for GHG mitigation



„All assessed modelled pathways that limit warming to 1.5°C or well below 2°C require land-based mitigation and land-use change.“

IPCC - Sixth Assessment Report - WG I “The Physical Science Basis”



Published on 09.08.2021

IPCC - Sixth Assessment Report - WG I “The Physical Science Basis” - Key messages

Sixth Assessment Report

WORKING GROUP I

The Physical Science Basis

Scientists are observing changes in the Earth’s climate in every region and across the whole climate system.

#IPCC

#ClimateReport

ipcc
INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE



Sixth Assessment Report

WORKING GROUP I

The Physical Science Basis

Human actions still have the potential to determine the future course of climate.

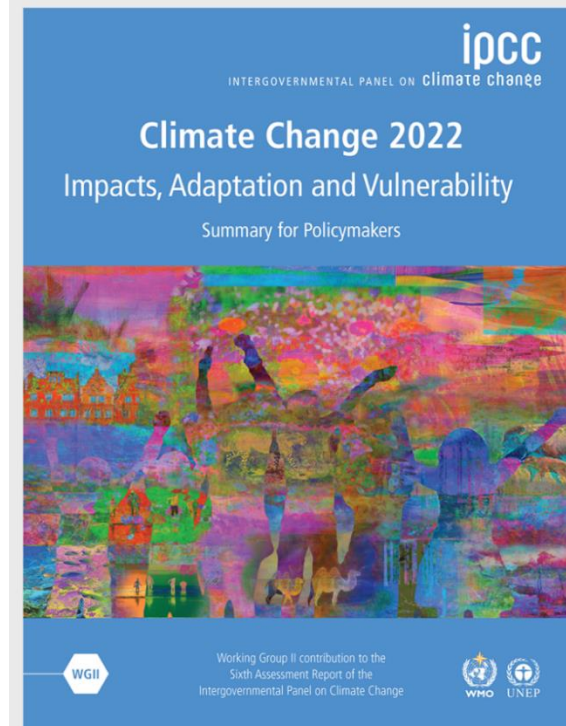
#IPCC

#ClimateReport

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INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE



IPCC - Sixth Assessment Report - WG II "Impacts, Adaptation and Vulnerability"



Published on 28.02.2022

IPCC - Sixth Assessment Report - WG II “Impacts, Adaptation and Vulnerability”



Sixth Assessment Report

WORKING GROUP II
Impacts, Adaptation and Vulnerability

ipcc
INTERGOVERNMENTAL PANEL ON climate change

WMO UNEP

**Safeguarding and
strengthening nature is key
to securing a liveable future**

#IPCC

#ClimateReport

IPCC - Sixth Assessment Report - WG III "Mitigation of Climate Change"



The image shows the cover of the IPCC Sixth Assessment Report, Working Group III - Mitigation of Climate Change. The cover features a photograph of a row of houses with solar panels on their roofs. The text on the cover includes the IPCC logo, the title 'Climate Change 2022 Mitigation of Climate Change', and the subtitle 'Sixth Assessment Report WORKING GROUP III - MITIGATION OF CLIMATE CHANGE'. A quote is displayed on the right side of the image: "Unless there are immediate and deep emissions reductions across all sectors, 1.5°C is beyond reach." The quote is attributed to the IPCC.

Climate Change 2022
Mitigation of Climate Change

2010-2019:
Average annual greenhouse gas emissions at highest levels in human history

“ Unless there are immediate and deep emissions reductions across all sectors, 1.5°C is beyond reach. ”

Published on 04.04.2022

IPCC - Sixth Assessment Report - WG III "Mitigation of Climate Change"

Sixth Assessment Report
WORKING GROUP III – MITIGATION OF CLIMATE CHANGE



Mitigation options in agriculture and forestry

Relation with Sustainable Development Goals

	1	2	3	4	5	6	7	8	9	10	11	12	14	15	16	17
Carbon sequestration in agriculture ¹	+	+	•			+		+				•	+	+	+	
Reduce CH ₄ and N ₂ O emission in agriculture		•	+			•			•			+	+	+		
Reduced conversion of forests and other ecosystems ²	•	-	+			+		•			•		+	+	•	•
Ecosystem restoration, reforestation, afforestation	+	•	+			•		-		•	+		+	+		
Improved sustainable forest management	+	•	•			+	•	+	+	•	•		+	+		
Reduce food loss and food waste	+	+	+			+	+			+	+	+	+	+	+	+
Shift to balanced, sustainable healthy diets	•	+	+			+	+		•	+	+	+	+	+		
Renewables supply ³	•	•	•			•	•	+	+				•	•		

Published on 04.04.2022



Why Emission Inventories are Important?

1. There is an urgent need for emission reductions
2. Mitigation measures must show up in the inventory

 Emission reductions must also be reflected in the inventories!

Inventory preparation

Emission = Emission Factor X Activity Data



New science



National activities
e.g. surveys

IPCC Tier 1, 2 and 3 methodology for emission estimations

● Tier 1

- Simple to use
- Default EFs and other parameters provided
- Less accurate

● Tier 2

- More complex
- More country specific activity data
- More accurate

● Tier 3

- More complex
- Detailed models and factors
- More accurate

Inventory preparation – activity data

- Detailed data on a wide range of activities are required: feed intake, animal diet, animal performance, manure production, housing systems, storage outside housing systems, grazing, manure processing, manure application, etc.
- Optimum: acquire data by regular national surveys

MELS – Mitigating Emissions from Livestock Systems



Enteric fermentation 15%
 Processing and transportation 5%
 Manure storage 15%
 Manure applied 15%

Farming for a Better Climate (FarmClim). Design of an Inter- and Transdisciplinary Research Project Aiming to Address the "Science-Policy Gap"

Editorial | Published: 13 October 2020

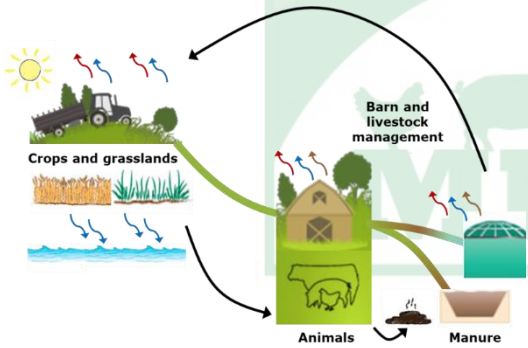
Evidence synthesis for sustainability

Nature Sustainability 3, 771(2020) |

Adapted from Gerber et al. (2013)

Data relationships

Stakeholder interaction



Farm-scale GHG DSS

United Nations Climate Change

IPCC
 INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE

Improved national inventories

LRTAP
 Long-range Transboundary Air Pollution



**2019 Refinement to the
2006 IPCC Guidelines for National
Greenhouse Gas Inventories**

Volume 4

**Agriculture, Forestry
and Other Land Use**

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**High quality inventories are an
essential instrument for
implementing emission mitigation
measures**

Task Force on National Greenhouse Gas Inventories