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Sistema Nazionale per la Protezione dell'Ambiente

"GLI ACCORDI ONU E UE PER LA PROTEZIONE, L'USO SOSTENIBILE E IL RIPRISTINO DELLA NATURA ENTRO IL 2030"

Lorenzo Ciccarese
ISPRA
NFP IPBES

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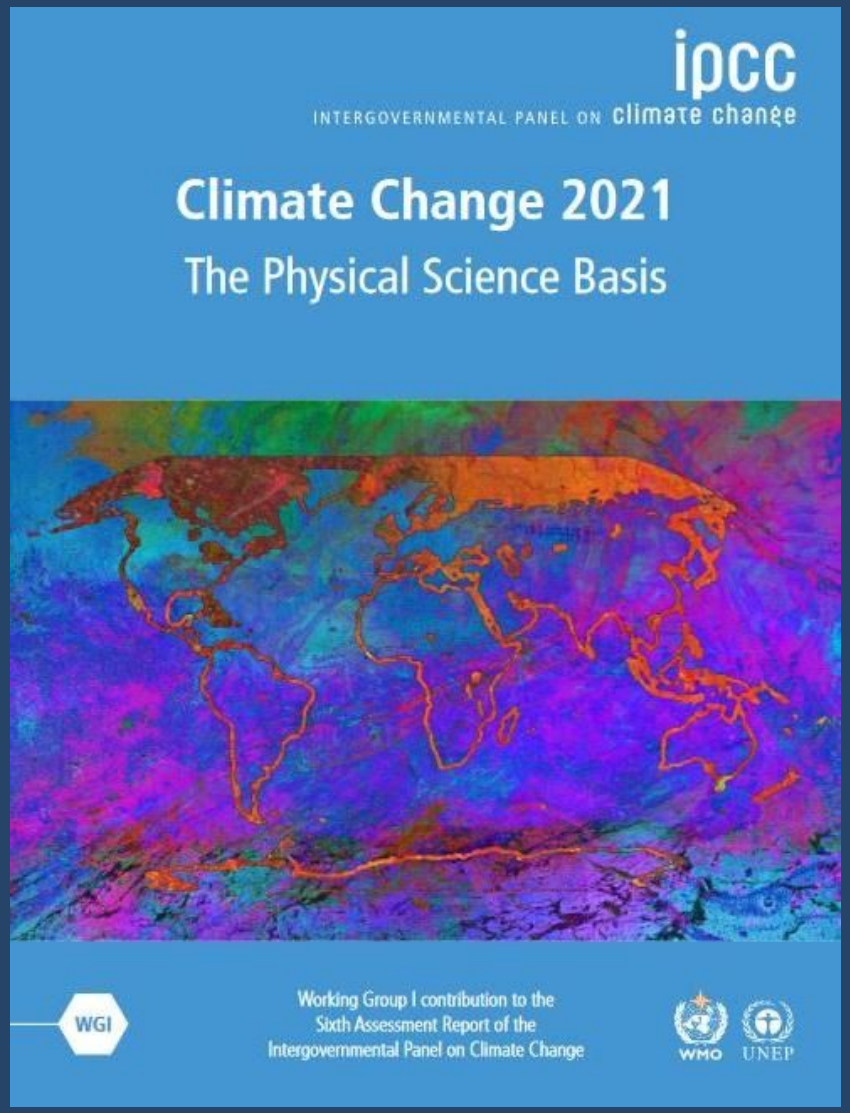
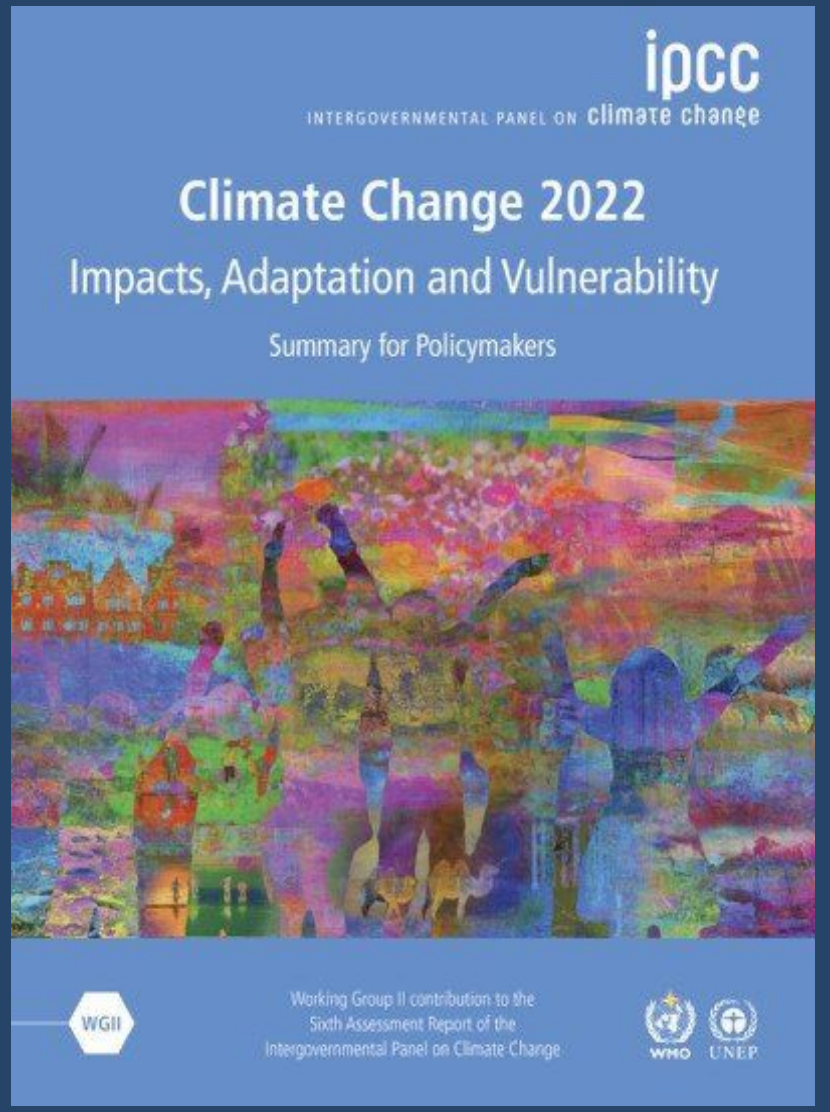
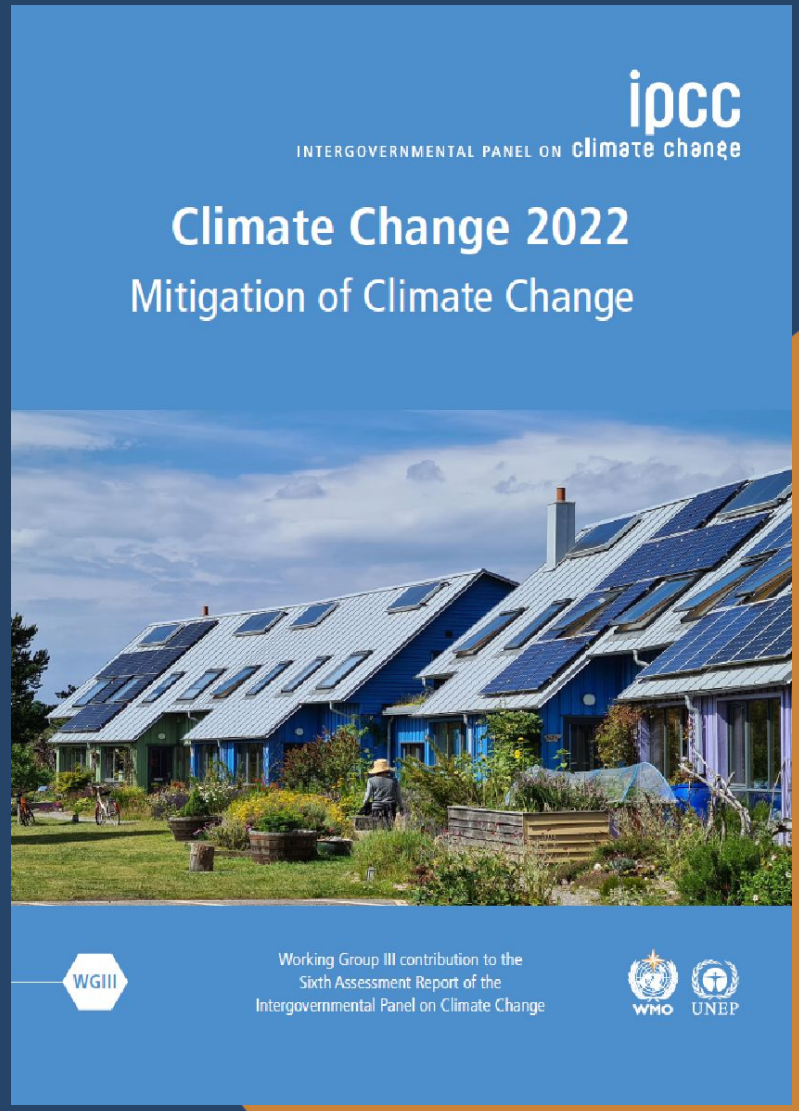






Earth's CO2 Home Page

Atmospheric CO_2
November 2023

420.46

parts per million (ppm)

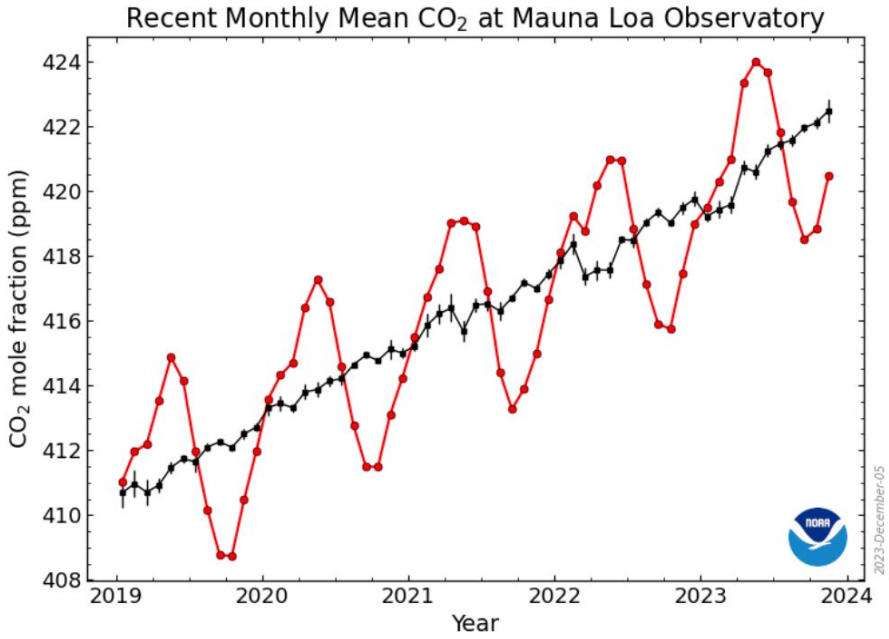
Mauna Loa Observatory, Hawaii (NOAA)

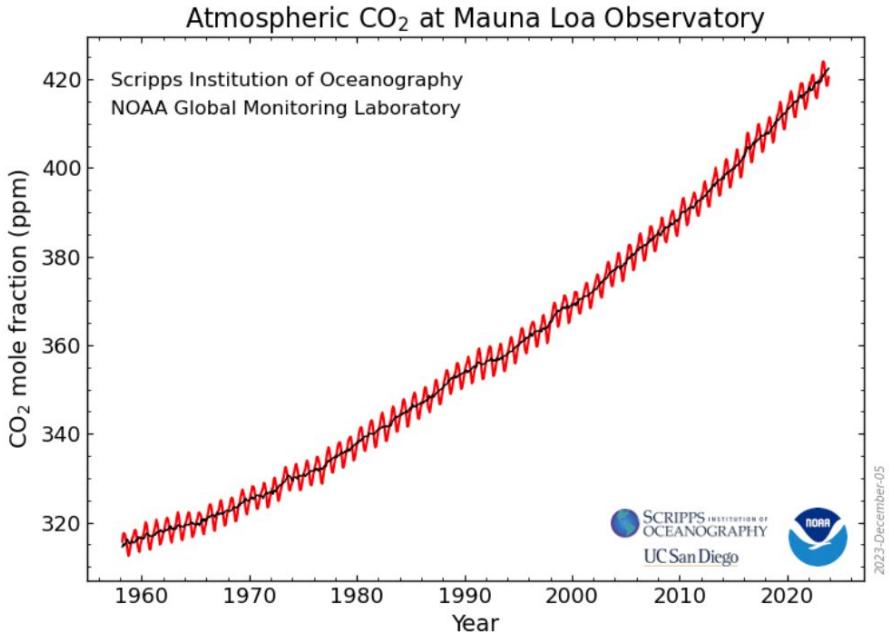
Preliminary data released December 5, 2023

November 2023: 420.46 ppm

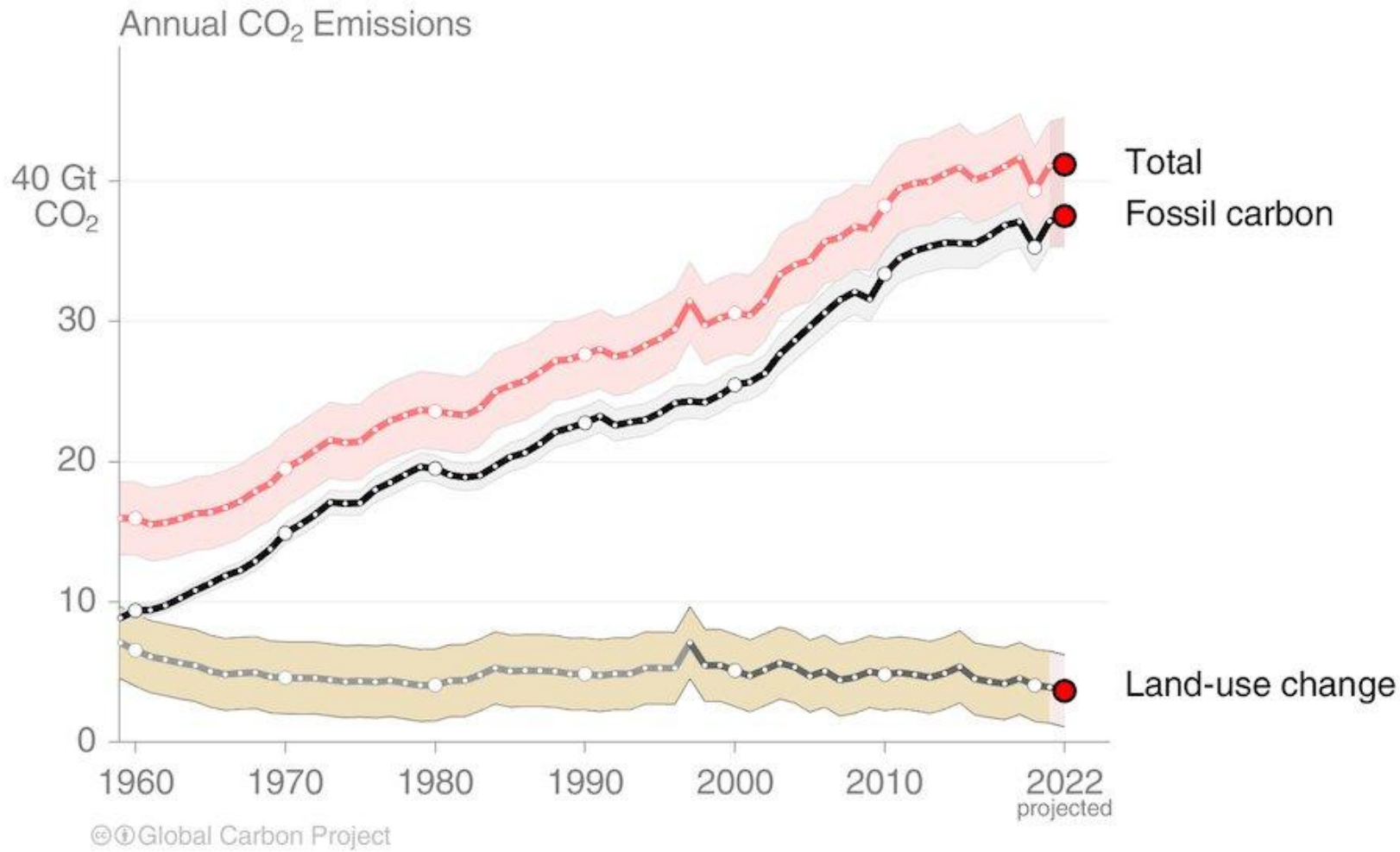
November 2022: 417.47 ppm

Last updated: Dec 05, 2023





Evoluzione delle emissioni globali di gas-serra: 43,0 ± 3,3 GtCO2 nel 2022, 56% in più rispetto a quelle emesse nel 1990. Le emissioni di gas-serra dal settore Land-Use Change: 39% del totale dei gas-serra da fonti fossili nel 1960, 14% nel 2022 (3,9 ± 2.6 GtCO2, circa un decimo del totale delle emissioni legate alla combustione delle fonti fossili



La deforestazione è uno dei principali fattori dell’accumulo di gas-serra in atmosfera e di declino della biodiversità

Negli ultimi 30 anni la superficie forestale mondiale è diminuita di 420 milioni di ettari

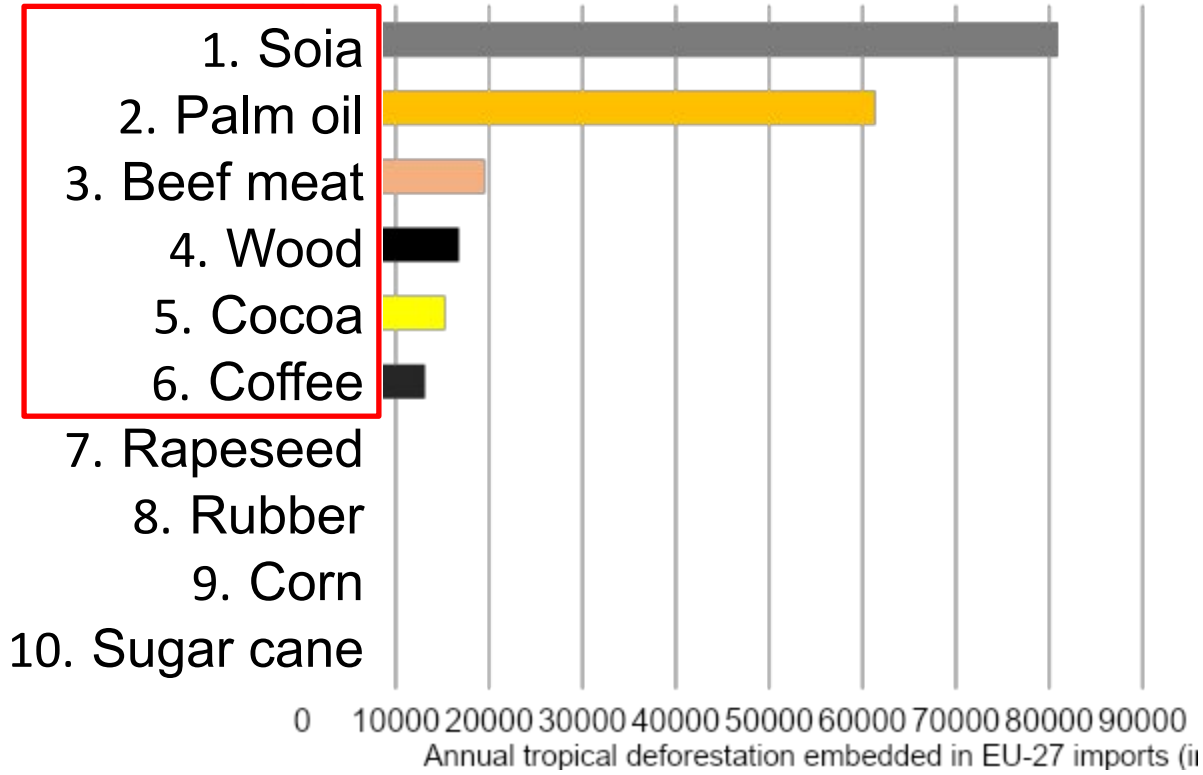
Di questi, almeno 80 milioni sono rappresentate da foreste primarie, naturali e finora indisturbate dall’uomo.

Nel decennio 2011-2020, la deforestazione associata al consumo nell’UE di carne, legname e altri prodotti è stata stimata in circa 2,3-2,6 Mha

L’impatto dei consumo nell’UE sulla deforestazione

Il 90% della deforestazione causata dalle importazioni dell’EU-27 è dovuta aalla produzione di 1(commodities

New EU Regulation Zero deforestation and forest degradation (EUDR)



Our elaboration on the database provided by Pendrill et al.(2020)

Table 1. Food system emissions (Mt yr^{-1}) generated on agricultural land, defined as the sum of emissions within the farm gate (on-farm production) and from land use change processes linked to conversion to agriculture. Results for IPCC categories used in NGHGI are also provided, for years 1990 and 2018, single gases and CO_2eq, world-totals and by AI and NAI country grouping. Note that non-CO_2 emissions from net forest conversion were those associated to fires in humid tropical forests, and thus are present only within NAI country totals.

	1990				2018			
	CH_4	N_2O	CO_2	CO_2eq	CH_4	N_2O	CO_2	CO_2eq
Farm gate	**2675**	**2066**	**1336**	**6077**	**2978**	**2560**	**1607**	**7145**
On-farm energy use	16	42	701	759	23	38	885	946
Land use	0	118	635	753	0	129	722	852
Crop and Livestock	2659	1788	0	4447	2955	2264	0	5218
Land use change	**109**	**57**	**4482**	**4648**	**80**	**51**	**3107**	**3238**
Net forest conversion	54	57	4271	4382	38	51	2945	3034
Peat fires	54	0	211	265	42	0	162	204
Agricultural land	**2784**	**2123**	**5818**	**10 725**	**3058**	**2611**	**4714**	**10 383**
NGHGI reporting								
Agriculture	2659	1906	0	4565	2955	2393	0	5347
LULUCF	128	76	1668	1873	100	78	1193	1372
AFOLU	2787	1982	1668	6438	3055	2471	1193	6719

Tubiello F. et al., 2021, Greenhouse gas emissions from food systems: building the evidence base. Research Ecology Letters

nature food

Article | Published: 08 March 2021

Food systems are responsible for a third of global anthropogenic GHG emissions

M. Crippa ✉, E. Solazzo, D. Guizzardi, F. Monforti-Ferrario, F. N. Tubiello & A. Leip ✉

Nature Food **2**, 198–209 (2021) | Cite this article

ipcc

INTERGOVERNMENTAL PANEL ON Climate change

Climate Change and Land

An IPCC Special Report on climate change, desertification, land degradation, sustainable land management, food security, and greenhouse gas fluxes in terrestrial ecosystems

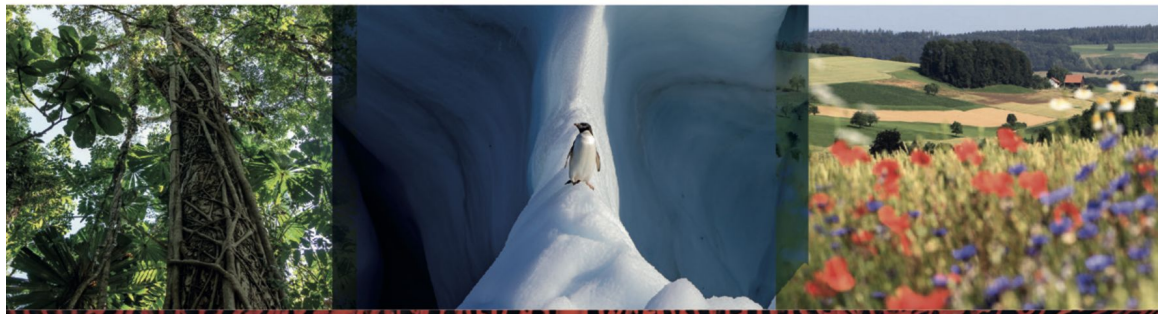
Summary for Policymakers

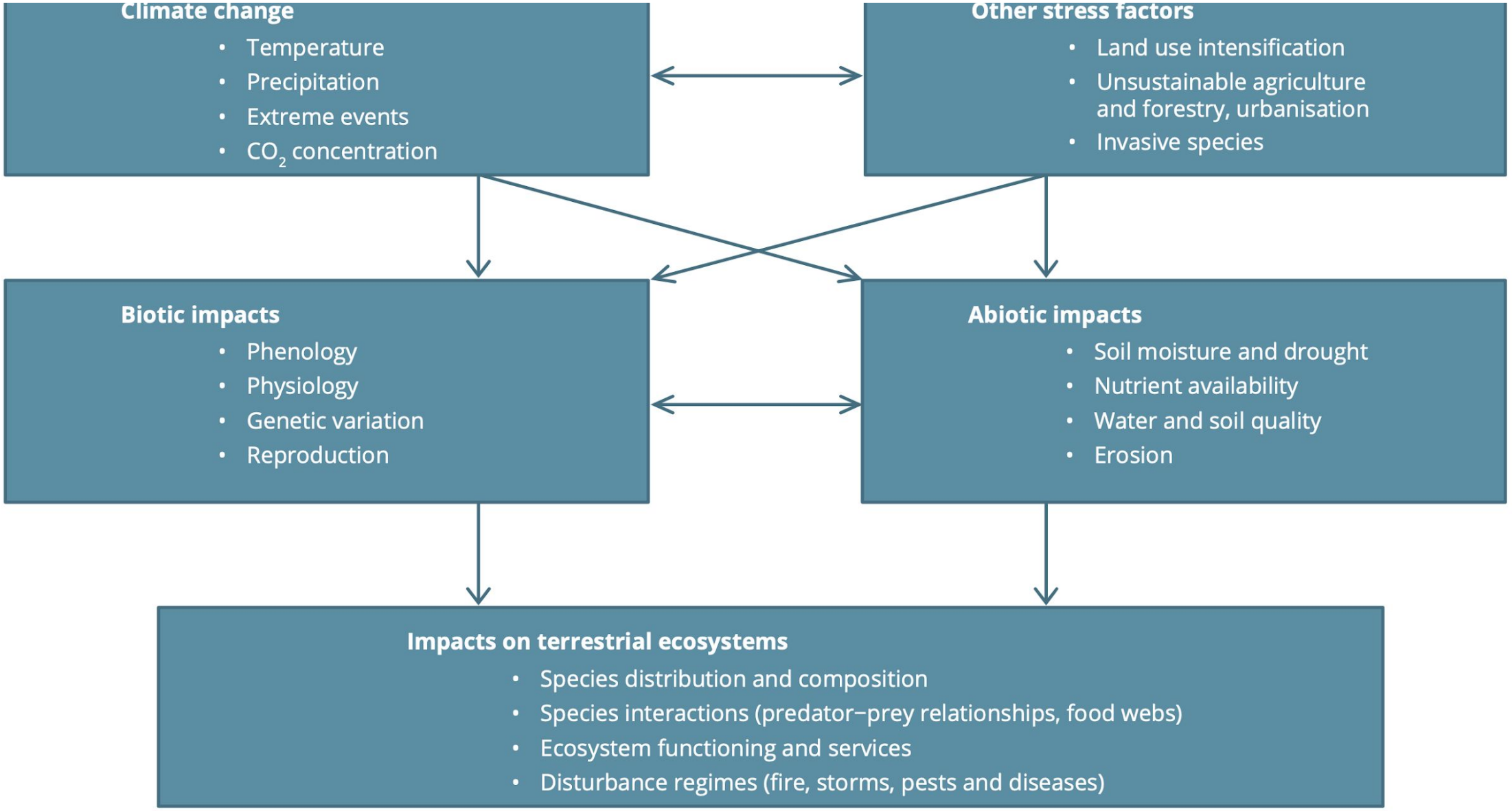
WG I WG II WG III

IPBES-IPCC CO-SPONSORED WORKSHOP

BIODIVERSITY AND CLIMATE CHANGE

Scientific outcome




Climate change
Temperature
Precipitation
Extreme events
CO_2 concentration
Other stress factors
Land use intensification
Unsustainable agriculture and forestry, urbanisation
Invasive species
Biotic impacts
Phenology
Physiology
Genetic variation
Reproduction
Abiotic impacts
Soil moisture and drought
Nutrient availability
Water and soil quality
Erosion
Impacts on terrestrial ecosystems
Species distribution and composition
Species interactions (predator–prey relationships, food webs)
Ecosystem functioning and services
Disturbance regimes (fire, storms, pests and diseases)

nature climate change

Article | Published: 01 April 2021

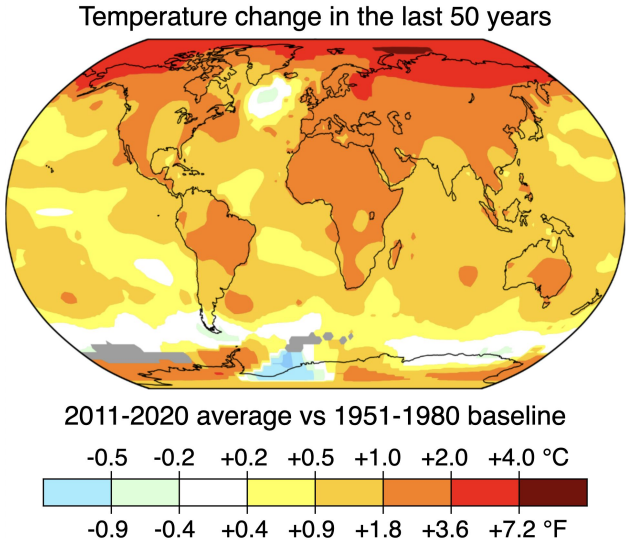
Anthropogenic climate change has slowed global agricultural productivity growth

Ariel Ortiz-Bobea ✉, Toby R. Ault, Carlos M. Carrillo, Robert G. Chambers & David B. Lobell

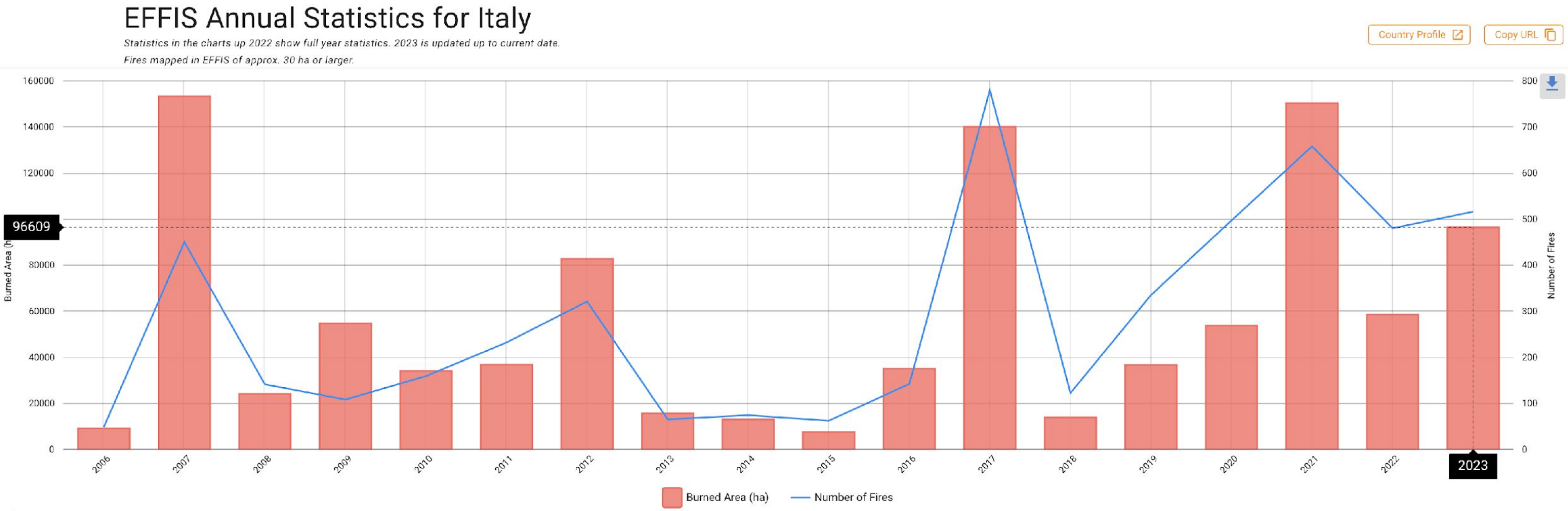
Nature Climate Change **11**, 306–312(2021) | Cite this article

Abstract

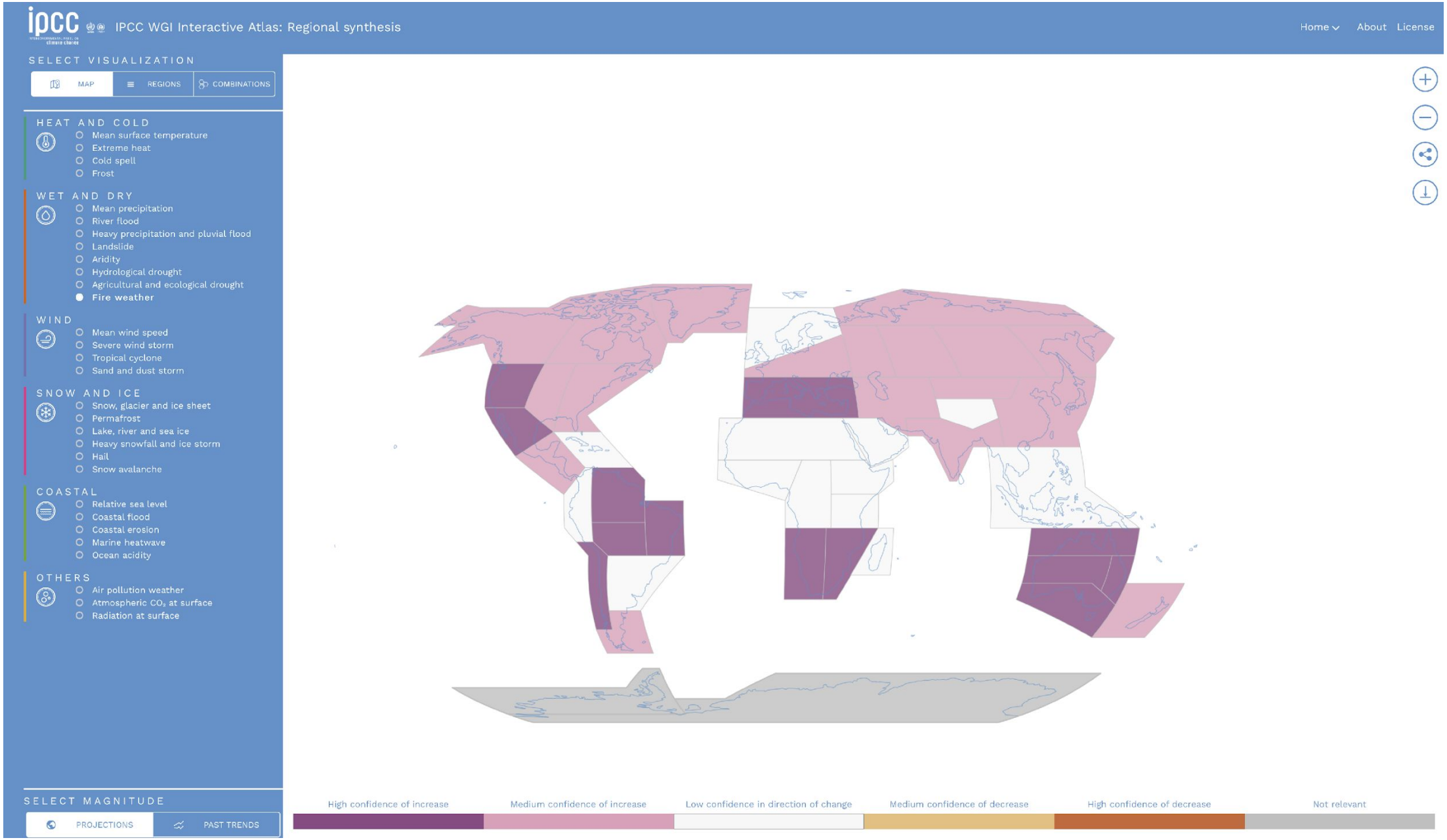
Agricultural research has fostered productivity growth, but the historical influence of anthropogenic climate change (ACC) on that growth has not been quantified. We develop a robust econometric model of weather effects on global agricultural total factor productivity (TFP) and combine this model with counterfactual climate scenarios to evaluate impacts of past climate trends on TFP. Our baseline model indicates that ACC has reduced global agricultural TFP by about 21% since 1961, a slowdown that is equivalent to losing the last 7 years of productivity growth. The effect is substantially more severe (a reduction of ~26–34%) in warmer regions such as Africa and Latin America and the Caribbean. We also find that global agriculture has grown more vulnerable to ongoing climate change.



Incendi forestali in Italia (2006-2023)



https://effis.jrc.ec.europa.eu/apps/effis.statistics/estimates/ITA


IPCC WGI Interactive Atlas: Regional synthesis
Home
About
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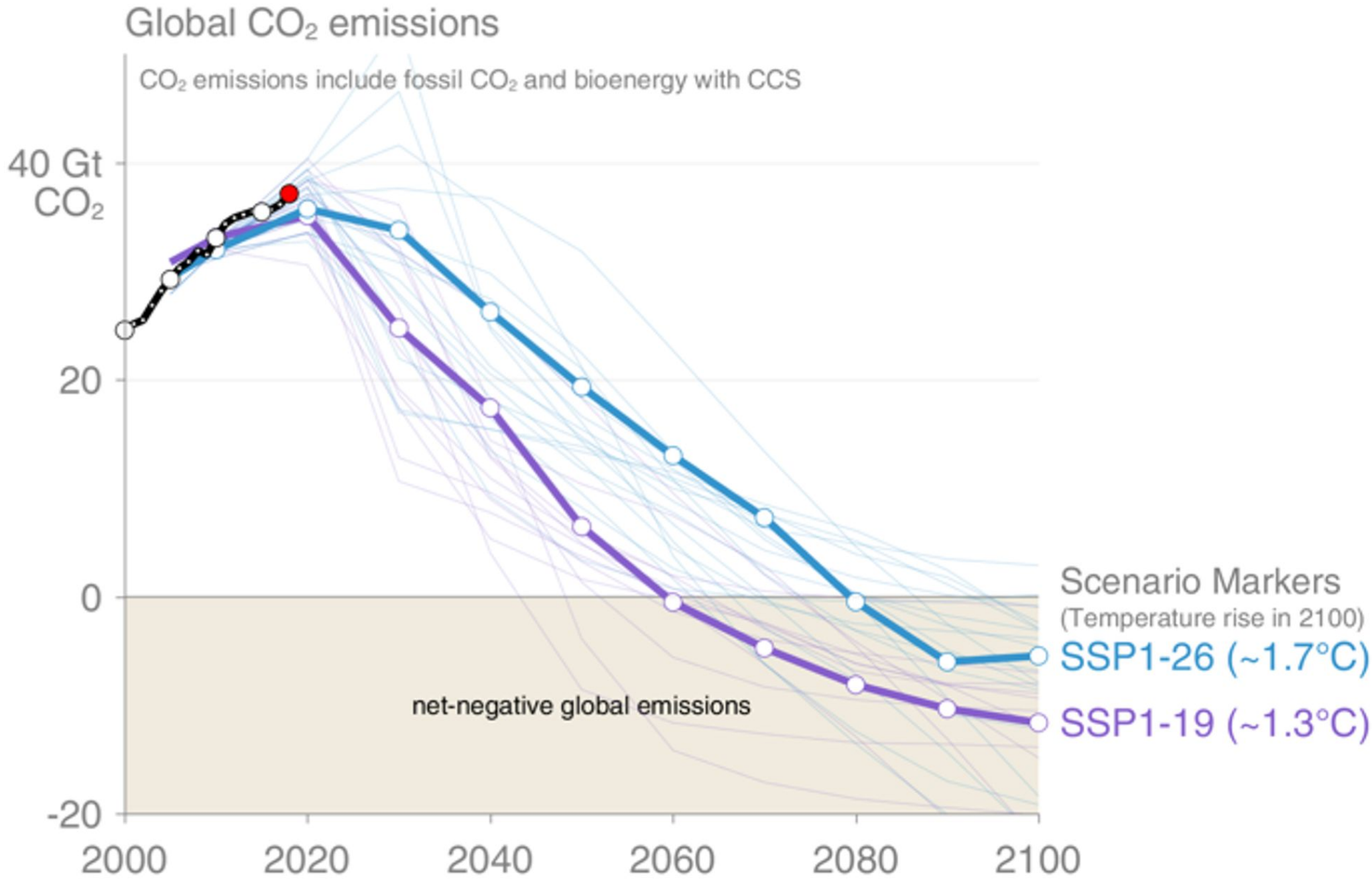
SELECT VISUALIZATION
MAP
REGIONS
COMBINATIONS
HEAT AND COLD
Mean surface temperature
Extreme heat
Cold spell
Frost
WET AND DRY
Mean precipitation
River flood
Heavy precipitation and pluvial flood
Landslide
Aridity
Hydrological drought
Agricultural and ecological drought
Fire weather
WIND
Mean wind speed
Severe wind storm
Tropical cyclone
Sand and dust storm
SNOW AND ICE
Snow, glacier and ice sheet
Permafrost
Lake, river and sea ice
Heavy snowfall and ice storm
Hail
Snow avalanche
COASTAL
Relative sea level
Coastal flood
Coastal erosion
Marine heatwave
Ocean acidity
OTHERS
Air pollution weather
Atmospheric CO_2 at surface
Radiation at surface
SELECT MAGNITUDE
PROJECTIONS
PAST TRENDS
High confidence of increase
Medium confidence of increase
Low confidence in direction of change
Medium confidence of decrease
High confidence of decrease
Not relevant

Table 1 – Summary of LULUCF activities in the first Commitment Period of the Kyoto Protocol

Initial land use	Final land use		
	Forest	Cropland	Grazing land
Forest	FM	D	D
Cropland	*AR*	CM	GM
Grazing land	*AR*	CM	GM

The activities shown in italics in the table are also eligible as CDM projects, undertaken in developing countries. For reasons discussed below, the most significant omission in the CDM is the ineligibility of a reduction in deforestation, which could be quantitatively more important than the activities that are eligible.

Source: Schlamadinger et al., 2007


Global CO_2 emissions
CO_2 emissions include fossil CO_2 and bioenergy with CCS
40 Gt CO_2
20
0
-20
2000
2020
2040
2060
2080
2100
net-negative global emissions
Scenario Markers
(Temperature rise in 2100)
SSP1-26 (~1.7°C)
SSP1-19 (~1.3°C)
Global Carbon Project • Data: IAMC 1.5°C Scenario Explorer (hosted by IIASA)

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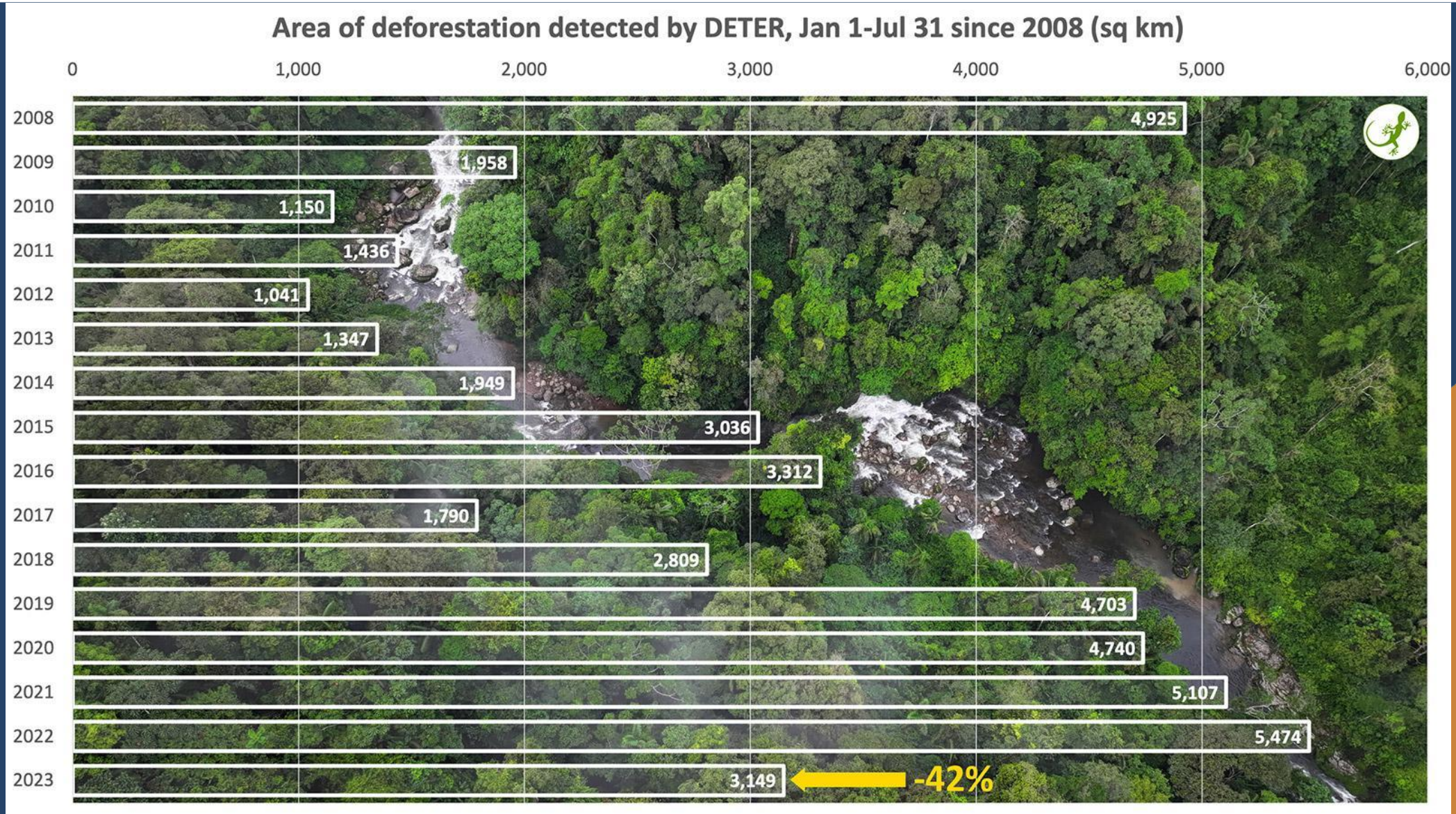


Annual CO_2 emissions

Carbon dioxide (CO_2) emissions from fossil fuels and industry. Land use change is not included.

Our World in Data

Table | Map | Chart

Edit countries and regions | Settings

1860 — 2021

Data source: Global Carbon Budget (2022) - Learn more about this data

OurWorldInData.org/co2-and-greenhouse-gas-emissions | CC BY

Related: CO_2 data: sources, methods and FAQs

Tabella 3.5 - Emissioni di gas serra delle categorie del settore Agricoltura (Mt CO_2 eq.)

	1990	1995	2000	2005	2010	2015	2017	2018	2019	2020	2021
	Mt CO_2 equivalente										
Fermentazione enterica	17.1	16.7	16.5	14.5	14.1	14.3	14.7	14.6	14.6	14.8	14.7
Gestione delle deiezioni	7.9	7.6	7.5	7.4	7.2	6.9	6.8	6.7	6.7	6.7	6.6
Coltivazione di riso	2.1	2.2	1.9	2.0	2.0	1.9	1.8	1.8	1.8	1.8	1.8
Suoli agricoli	10.0	11.0	10.8	10.2	8.5	8.6	8.7	8.7	8.7	9.6	9.2
Combustione dei residui agricoli, emissioni di CO2 da applicazione di urea e carbonati	0.5	0.6	0.6	0.6	0.4	0.5	0.5	0.5	0.4	0.5	0.5
Totale settore Agricoltura	**37.7**	**38.1**	**37.2**	**34.6**	**32.2**	**32.1**	**32.6**	**32.3**	**32.2**	**33.4**	**32.7**

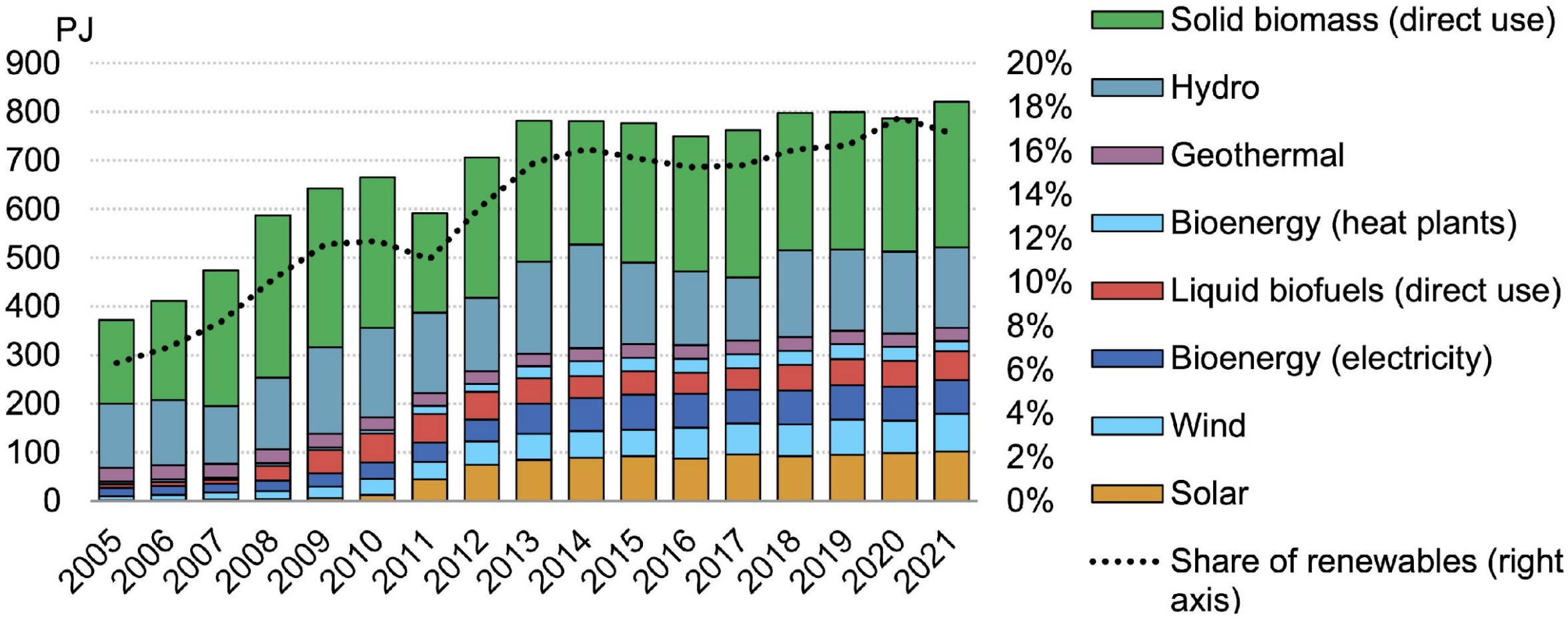
Tabella 3.6 - Assorbimenti ed emissioni di gas serra delle categorie del settore LULUCF (Mt CO_2 eq.)

	1990	1995	2000	2005	2010	2015	2017	2018	2019	2020	2021
	Mt CO_2 equivalente										
Foreste	-17.2	-31.0	-26.2	-34.9	-36.4	-40.2	-23.0	-40.6	-35.4	-29.8	-27.8
Terre agricole	1.8	0.8	-0.5	-1.8	-0.8	0.7	-0.9	-0.5	-0.5	1.1	1.1
Prati e pascoli, altre terre boscate	5.2	-1.9	-1.4	-6.1	-9.2	-9.3	-4.0	-8.9	-8.1	-7.3	-3.6
Zone umide	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	NO,NE
Insediamenti urbani	7.1	8.9	6.9	7.7	4.7	4.7	5.5	5.5	5.5	5.5	4.7
Prodotti legnosi (HWP)	-0.4	-0.7	-0.5	-0.5	-0.1	0.1	-1.0	-0.8	-3.5	-2.2	-2.0
Totale settore LULUCF	**-3.5**	**-23.9**	**-21.6**	**-35.6**	**-41.7**	**-44.0**	**-23.3**	**-45.2**	**-41.8**	**-32.5**	**-27.5**

33 Mt CO2 contribuiscono per circa il 7,8% alle emissioni totali nazionali (2021)

Nel 2021 foreste, prati, pascoli ed altre terre boscate hanno generato un C sink di circa 28 Mt di di CO2

Energia rinnovabile sul consumo totale di energia in Italia e ripartizione tra le diverse fonti, 2005-2021 (IEA, 2023)



https://iea.blob.core.windows.net/assets/71b328b3-3e5b-4c04-8a22-3ead575b3a9a/Italy_2023_EnergyPolicyReview.pdf

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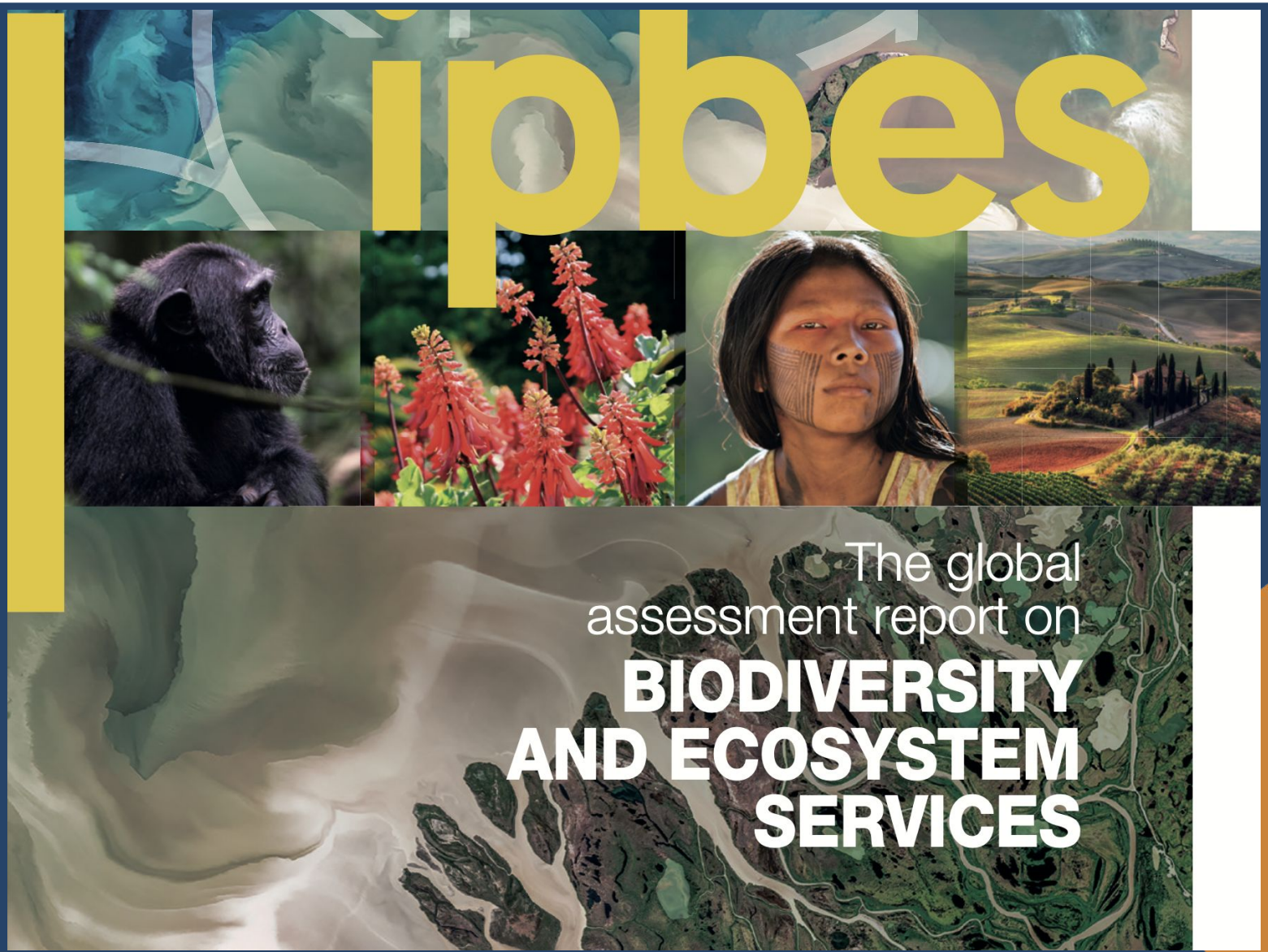
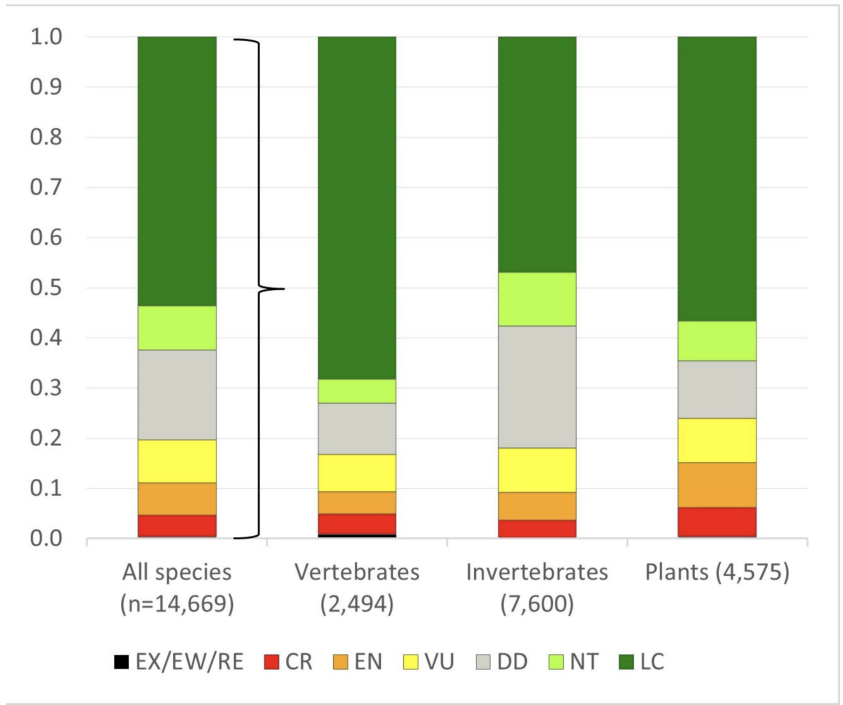


status of 14,669 European species.

EX: Extinct, EW: Extinct in the Wild, RE: Regionally Extinct, CR: Critically Endangered, EN: Endangered, VU: Vulnerable, DD: Data Deficient, NT: Near
C: Least Concern.



org/10.1371/journal.pone.0293083.g001

PLOS ONE

OPEN ACCESS PEER-REVIEWED

RESEARCH ARTICLE

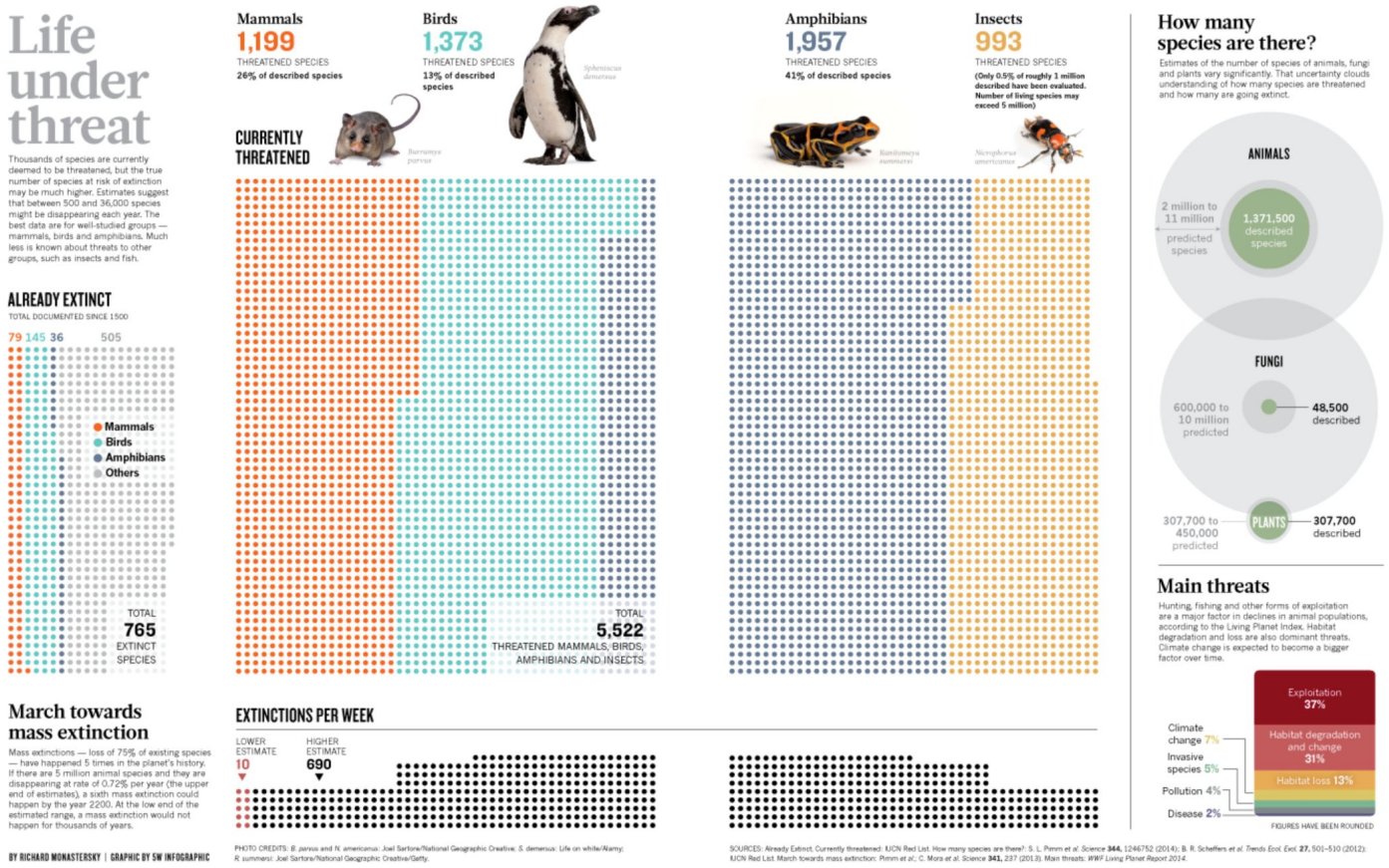
A multi-taxon analysis of European Red Lists reveals majo threats to biodiversity

Axel Hochkirch, Melanie Bilz, Catarina C. Ferreira, Anja Danielczak, David Allen, Ana Nieto, Carlo Rondinini, Kate Harc Craig Hilton-Taylor, Caroline M. Pollock, Mary Seddon, Jean-Christophe Vié, Keith N.A. Alexander, [···], Thomas Zuna-Kra [view all]

Published: November 8, 2023 • https://doi.org/10.1371/journal.pone.0293083

Abstract

Biodiversity loss is a major global challenge and minimizing extinction rates is the goal o several multilateral environmental agreements. Policy decisions require comprehensive, spatially explicit information on species' distributions and threats. We present an analysis conservation status of 14,669 European terrestrial, freshwater and marine species (ca. 1 the continental fauna and flora), including all vertebrates and selected groups of inverteb and plants. Our results reveal that 19% of European species are threatened with extincti with higher extinction risks for plants (27%) and invertebrates (24%) compared to verteb (18%). These numbers exceed recent IPBES (Intergovernmental Platform on Biodiversit Ecosystem Services) assumptions of extinction risk. Changes in agricultural practices ar associated habitat loss, overharvesting, pollution and development are major threats to biodiversity. Maintaining and restoring sustainable land and water use practices is crucia minimize future biodiversity declines.



More than 40,000 species
are threatened with extinction

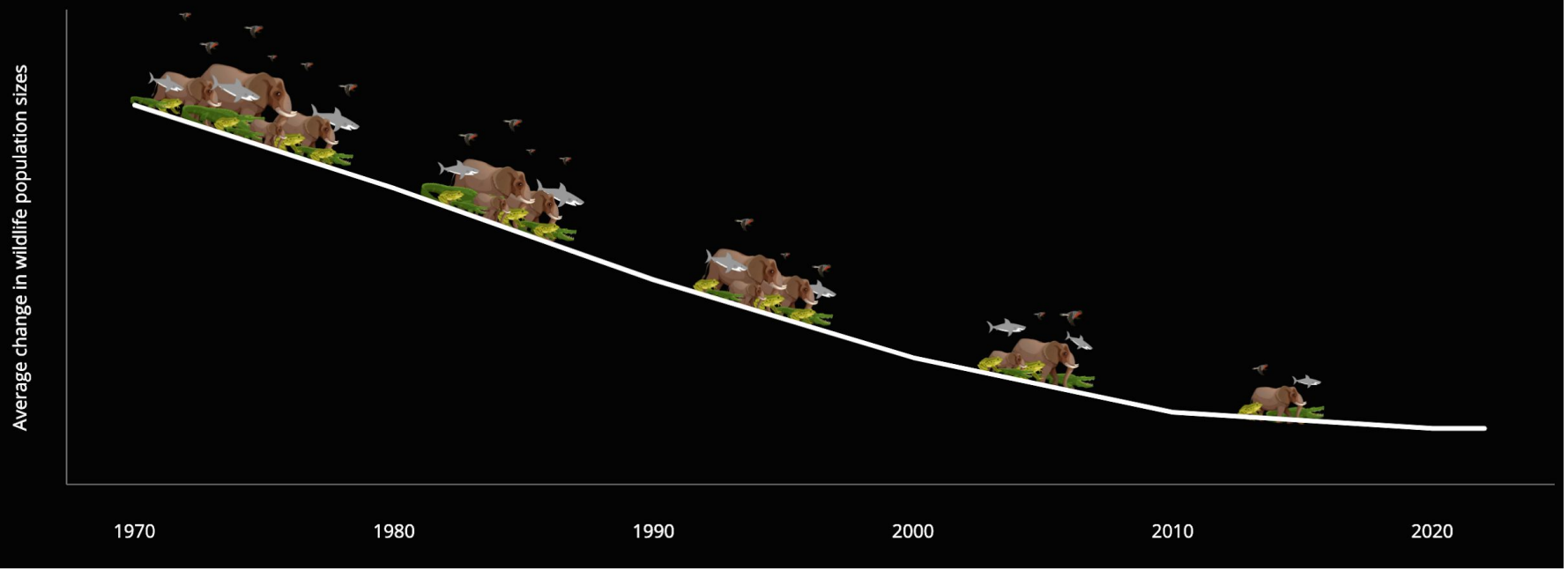
That is still 28% of all assessed species.

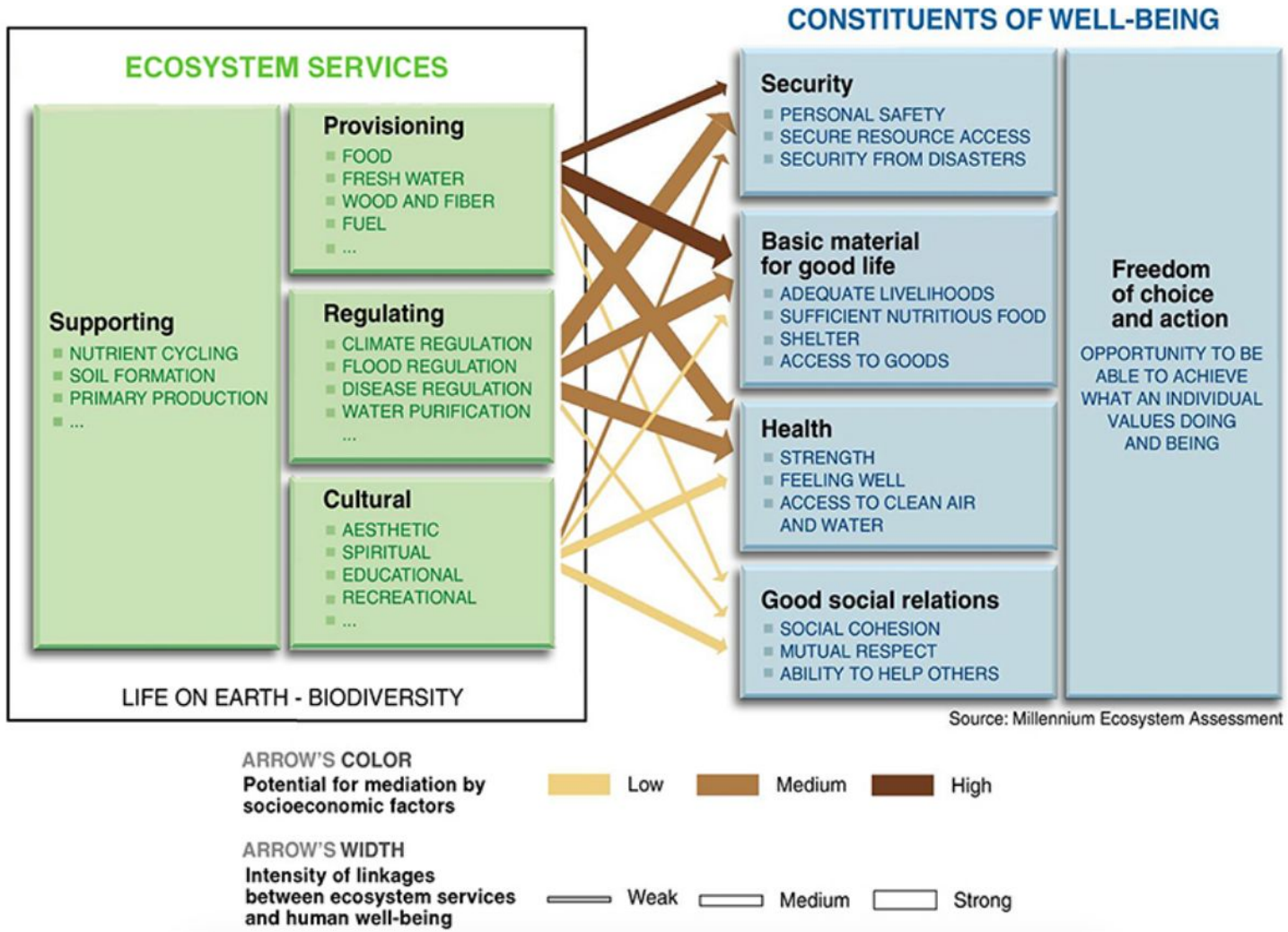
AMPHIBIANS	MAMMALS	CONIFERS	BIRDS	SHARKS & RAYS	REEF CORALS	SELECTED CRUSTACEANS	REPTILES	CYCADS
41%	26%	34%	13%	37%	33%	28%	21%	63%

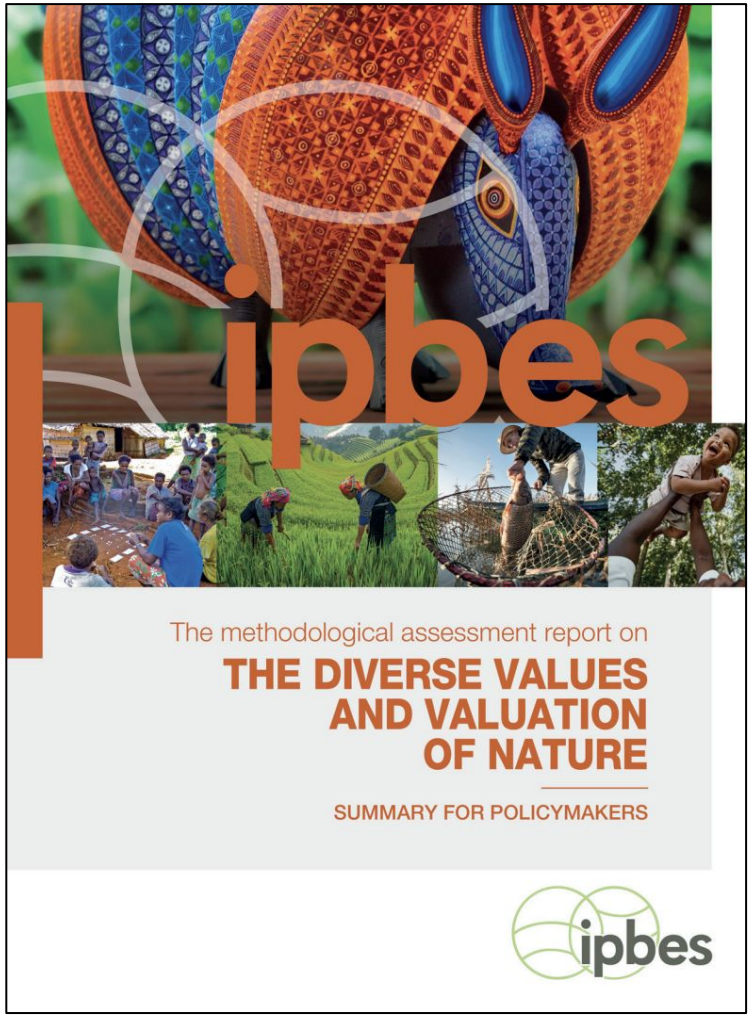
Living Planet Index

TRACKING THE HEALTH OF NATURE OVER 50 YEARS

The Living Planet Index (LPI) - which tracks populations of mammals, birds, fish, reptiles and amphibians - reveals an average 69% decrease in monitored wildlife populations since 1970. The 2022 LPI analysed almost 32,000 species populations. It provides the most comprehensive measure of how they are responding to pressures in their environment.

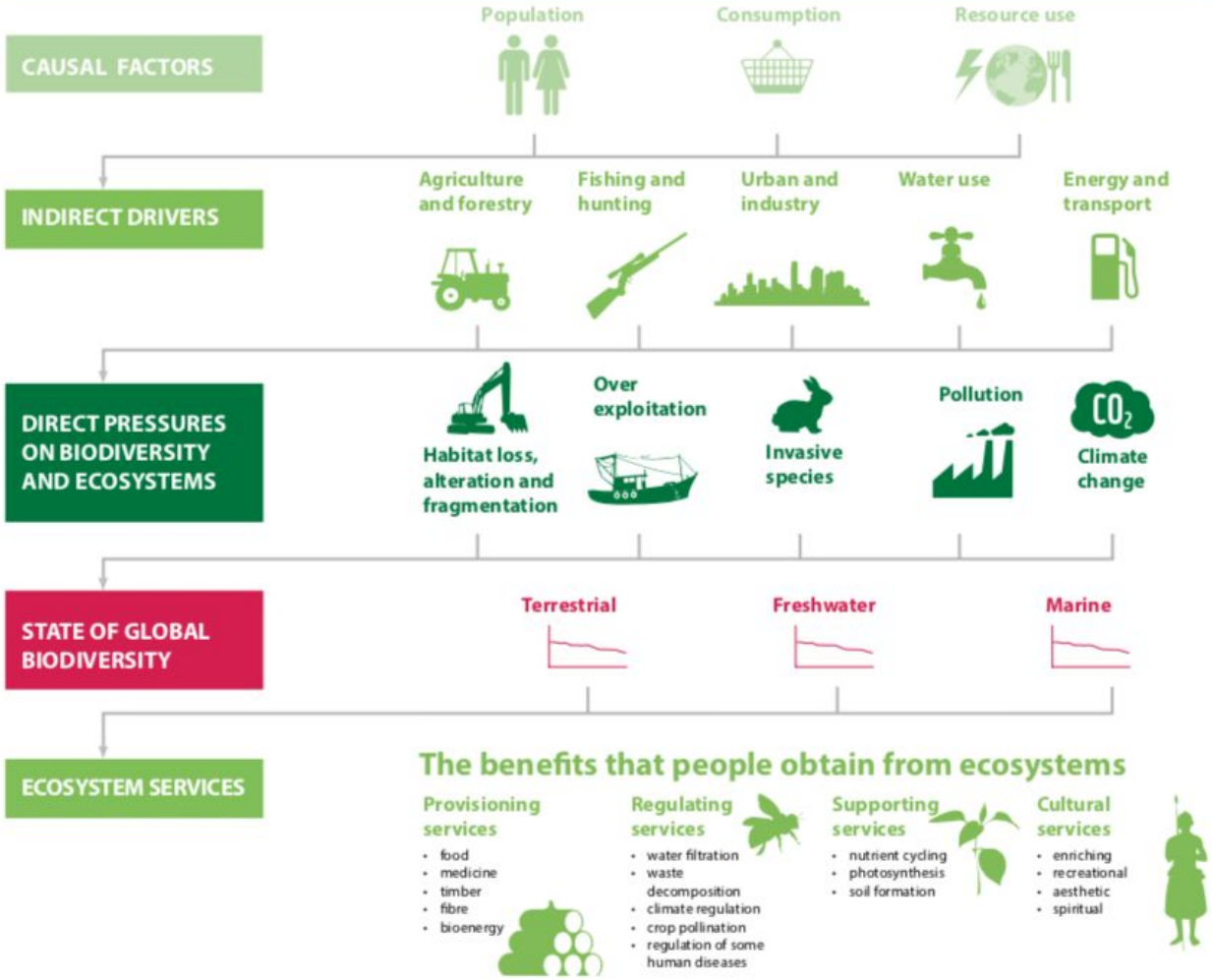



ECOSYSTEM SERVICES
Supporting
NUTRIENT CYCLING
SOIL FORMATION
PRIMARY PRODUCTION
...
Provisioning
FOOD
FRESH WATER
WOOD AND FIBER
FUEL
...
Regulating
CLIMATE REGULATION
FLOOD REGULATION
DISEASE REGULATION
WATER PURIFICATION
...
Cultural
AESTHETIC
SPIRITUAL
EDUCATIONAL
RECREATIONAL
...
LIFE ON EARTH - BIODIVERSITY
CONSTITUENTS OF WELL-BEING
Security
PERSONAL SAFETY
SECURE RESOURCE ACCESS
SECURITY FROM DISASTERS
Basic material for good life
ADEQUATE LIVELIHOODS
SUFFICIENT NUTRITIOUS FOOD
SHELTER
ACCESS TO GOODS
Health
STRENGTH
FEELING WELL
ACCESS TO CLEAN AIR AND WATER
Good social relations
SOCIAL COHESION
MUTUAL RESPECT
ABILITY TO HELP OTHERS
Freedom of choice and action
OPPORTUNITY TO BE ABLE TO ACHIEVE WHAT AN INDIVIDUAL VALUES DOING AND BEING
Source: Millennium Ecosystem Assessment
ARROW'S COLOR
Potential for mediation by socioeconomic factors
Low
Medium
High
ARROW'S WIDTH
Intensity of linkages between ecosystem services and human well-being
Weak
Medium
Strong


ipbes
The methodological assessment report on
THE DIVERSE VALUES AND VALUATION OF NATURE
SUMMARY FOR POLICYMAKERS
ipbes


Nature's contribution to people
50-year global trend
Directional trend across regions
Selected indicator
REGULATION OF ENVIRONMENTAL PROCESSES
NON-MATERIAL MATERIALS AND ASSISTANCE
1 Habitat creation and maintenance
• Extent of suitable habitat
• Biodiversity intactness
2 Pollination and dispersal of seeds and other propagules
• Pollinator diversity
• Extent of natural habitat in agricultural areas
3 Regulation of air quality
• Retention and prevented emissions of air pollutants by ecosystems
4 Regulation of climate
• Prevented emissions and uptake of greenhouse gases by ecosystems
5 Regulation of ocean acidification
• Capacity to sequester carbon by marine and terrestrial environments
6 Regulation of freshwater quantity, location and timing
• Ecosystem impact on air-surface-ground water partitioning
7 Regulation of freshwater and coastal water quality
• Extent of ecosystems that filter or add constituent components to water
8 Formation, protection and decontamination of soils and sediments
• Soil organic carbon
9 Regulation of hazards and extreme events
• Ability of ecosystems to absorb and buffer hazards
10 Regulation of detrimental organisms and biological processes
• Extent of natural habitat in agricultural areas
• Diversity of competent hosts of vector-borne diseases
11 Energy
• Extent of agricultural land—potential land for bioenergy production
• Extent of forested land
12 Food and feed
• Extent of agricultural land—potential land for food and feed
• Abundance of marine fish stocks
13 Materials and assistance
• Extent of agricultural land—potential land for material production
• Extent of forested land
14 Medicinal, biochemical and genetic resources
• Fraction of species locally known and used medicinally
• Phylogenetic diversity
15 Learning and inspiration
• Number of people in close proximity to nature
• Diversity of life from which to learn
16 Physical and psychological experiences
• Area of natural and traditional landscapes and seascapes
17 Supporting identities
• Stability of land use and land cover
18 Maintenance of options
• Species' survival probability
• Phylogenetic diversity
Decrease
Increase
Gloal trends
DIRECTIONAL TREND
Across regions
Consistent
Variable
LEVELS OF CERTAINTY
Well established
Established but incomplete
Unresolved

Figure 6.2: Interconnections between people, biodiversity, ecosystem health and provision of ecosystem services showing drivers and pressures



Source: World Wide Fund for Nature (WWF) *et al.* (2012).

A scala globale, nessuno dei 20 Aichi Biodiversity Targets è stato pienamente raggiunto.

Dei 60 elementi specifici in cui si articolavano i 20 ABT:

- 7 sono stati parzialmente raggiunti, tra cui il target sulle aree protette terrestri
- 38 hanno mostrato qualche progresso
- 13 non hanno mostrato alcun progresso verso il target
- 2, non vi sono informazioni.

44 trilioni di dollari di generazione di valore economico - oltre la metà del PIL totale mondiale - sono potenzialmente a rischio a causa della dipendenza delle imprese dalla natura e dai relativi servizi.
Fonte: WEF, 2021

La perdita di biodiversità e il collasso degli ecosistemi sono stati classificati come una delle cinque principali minacce che l'umanità dovrà

Il fallimento del piano per la natura delle Nazioni Unite per il periodo 2011-2020 (Aichi Targets)

EDITORIAL | 18 February 2020

The United Nations must get its new biodiversity targets right

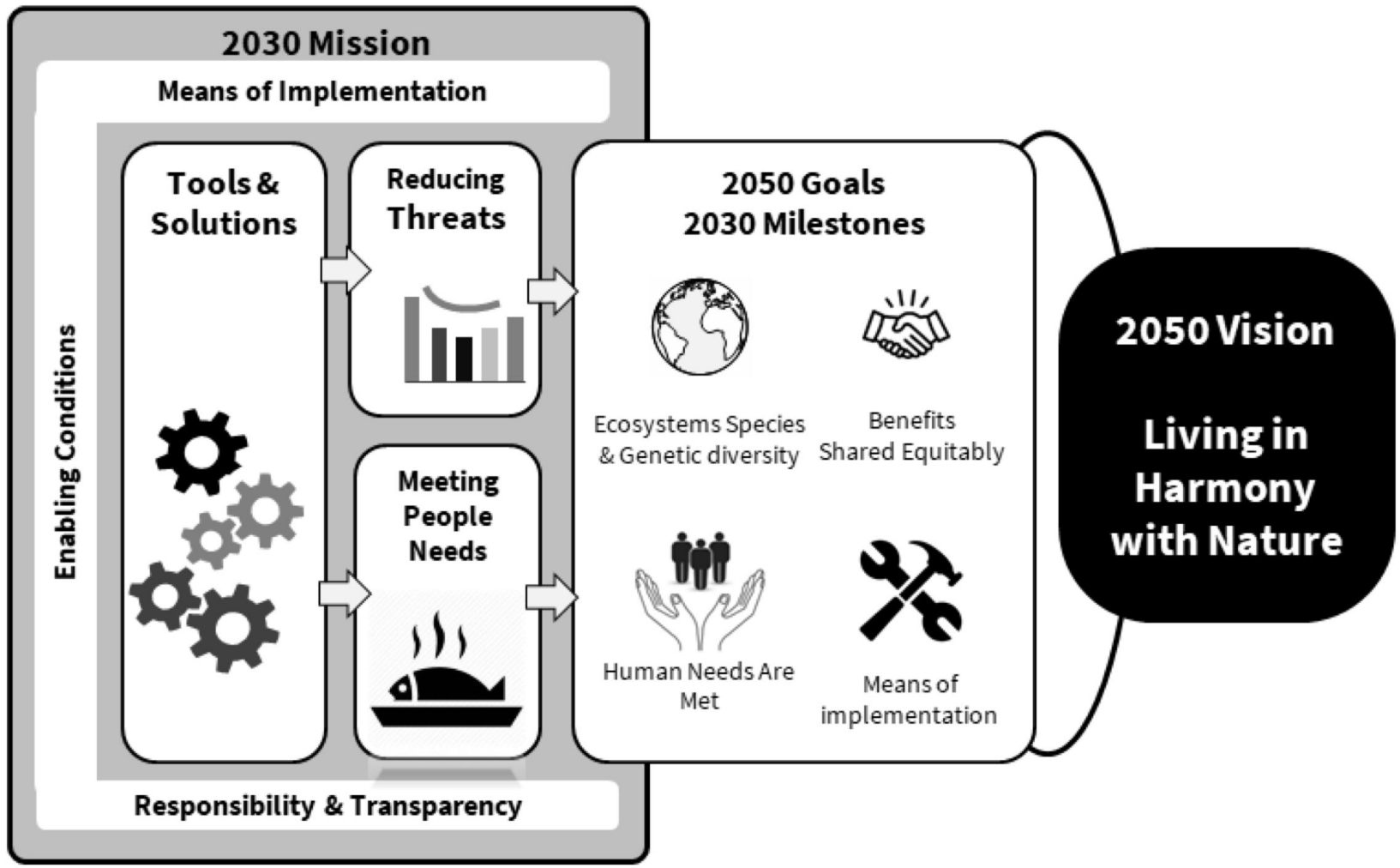
Global goals to reduce biodiversity loss will be revised this year. All eyes are on China, which must ensure the new targets are measurable and meaningful.

Gli obiettivi di Aichi sono falliti, in parte, poiché:

- non hanno stabilito cosa era necessario e sufficiente per prevenire il continuo declino della biodiversità;
- il loro formato ha reso i progressi difficili da misurare;
- la mancanza (i) di un framework per un monitoraggio regolare e (ii) di revisione degli impegni.
- Obiettivi ambigui, insufficienti, non quantificabili, complessi e ridondanti, mancanza di linee di base e indicatori;
- Le strategie nazionali per raggiungere questi obiettivi si sono rivelate inefficienti nell'allocazione delle risorse (limitate).

Per arrestare e invertire il declino della biodiversità entro il 2030 » colmare un *funding gap* per la protezione e il restauro della natura di 824 miliardi di US$ l'anno, da una spesa attuale di 124-134 miliardi attuali a 722-824 US$ (eliminare i sussidi '*harmful*' e aumentare politiche fiscali, green finance, investimenti in infrastture verdi come *Nature-based Solutions*, …)

**Fonte: *The Nature*


2030 Mission
Means of Implementation
Enabling Conditions
Tools & Solutions
Reducing Threats
Meeting People Needs
Responsibility & Transparency
2050 Goals
2030 Milestones
Ecosystems Species & Genetic diversity
Benefits Shared Equitably
Human Needs Are Met
Means of implementation
2050 Vision
Living in Harmony with Nature

Drama, dismay, triumph: nailbiting climax to the world's biodiversity deal

Long years of complex negotiations led up to one critical moment for the planet at Cop15 in Montreal this week. For a time, it seemed all was lost. Here's what happened next...

Sealing the deal: an all-important handshake between Cop15 president Huang Runqiu and the DRC's Ève Bazaiba in Montreal on Monday. Photograph: Lars Hagberg/AFP/Getty Images

Sezione H. 23 Target for 2030, Kunmimg Montreal Global Biodiversity Framework to the UN Convention on Biological Diversity, https://www.cbd.int/gbf/targets

1. Ridurre le minacce alla biodiversità (1-8)

2. Far fronte alle necessità delle persone attraverso l'uso sostenibile e una giusta condivisione dei benefici (9-13)

3. Strumenti e soluzioni per l'attuazione e il mainstreaming (14-23)

Target 1

Image credits: Unsplash

‘Crucial’ Cop15 deal includes target to protect 30% of nature on Earth by 2030

Environmental groups and ministers have praised the ambition of the agreement, which also places emphasis on Indigenous rights

TARGET 2

Ensure that by 2030 at least 30 per cent of areas of degraded terrestrial, inland water, and coastal and marine ecosystems are under effective restoration, in order to enhance biodiversity and ecosystem functions and services, ecological integrity and connectivity.

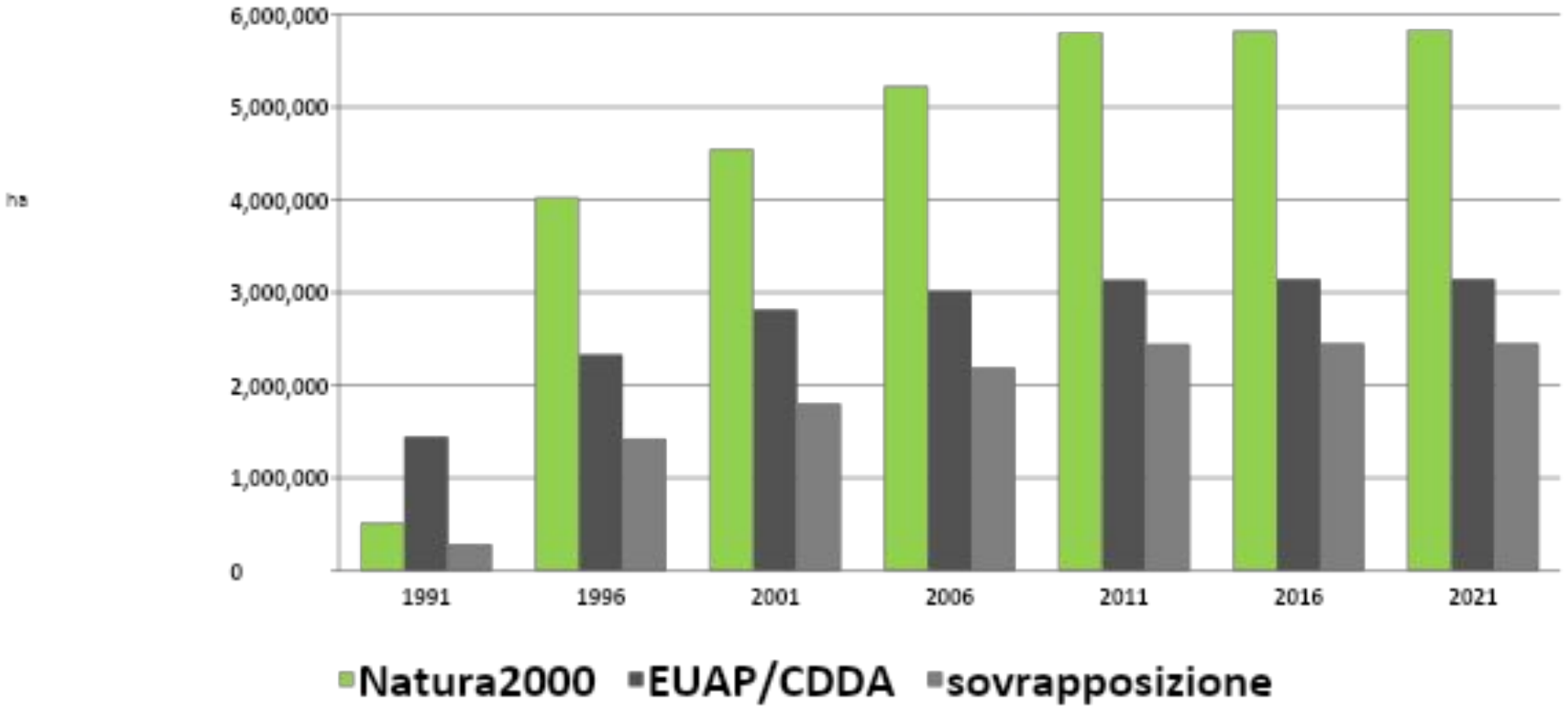
TARGET 3

Ensure and enable that by 2030 at least 30 per cent of terrestrial and inland water, and of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem functions and services, are effectively conserved and managed through ecologically representative, well-connected and equitably governed systems of protected areas and other effective area-based conservation measures, recognizing indigenous and traditional territories, where applicable, and integrated into wider landscapes, seascapes and the ocean, while ensuring that any sustainable use, where appropriate in such areas, is fully consistent with conservation outcomes, recognizing and respecting the rights of indigenous peoples and local communities, including over their traditional territories

ISPRA
Istituto Superiore per la Protezione e la Ricerca Ambientale

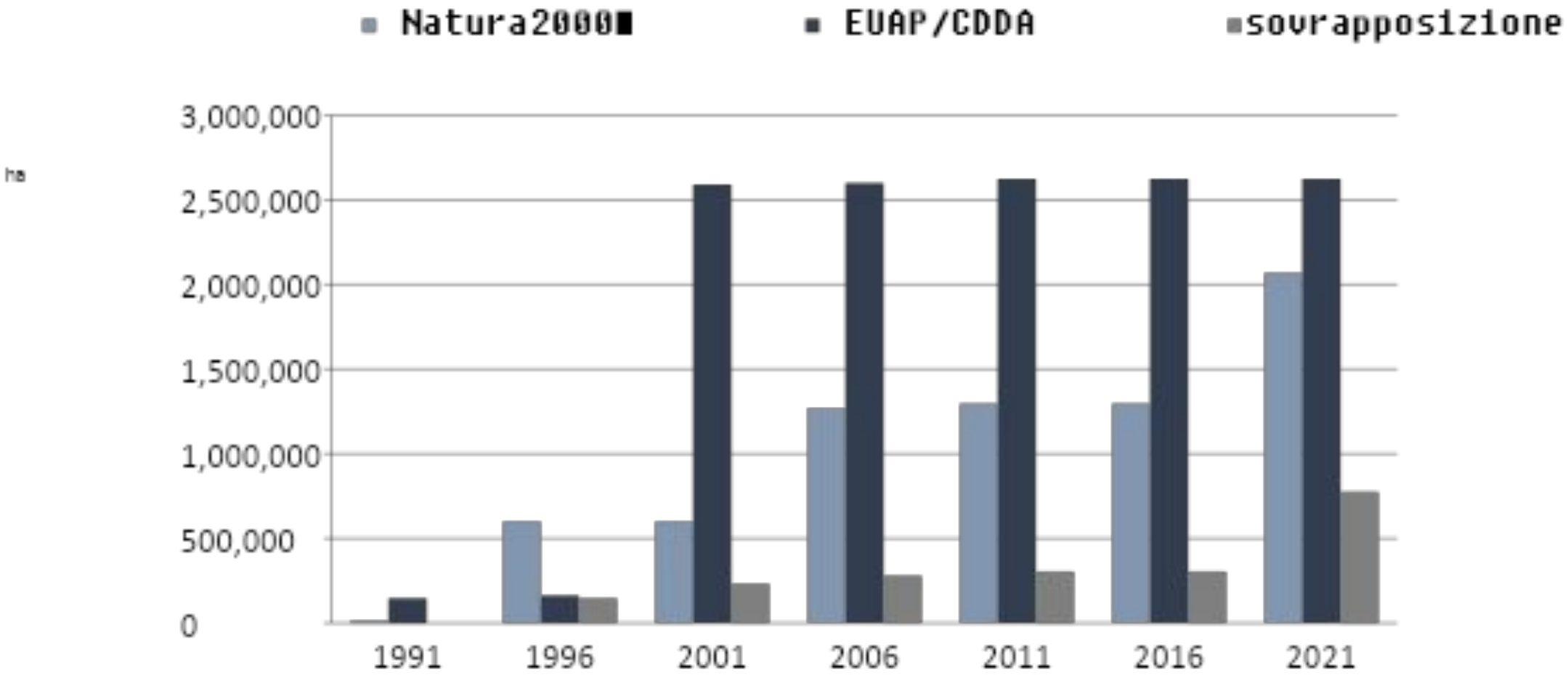
Sistema Nazionale per la Protezione dell'Ambiente

Superfici terrestri protette dai Siti Natura 2000 (agg. 2021) e dalle aree protette incluse nel CDDA (2022) e loro sovrapposizione



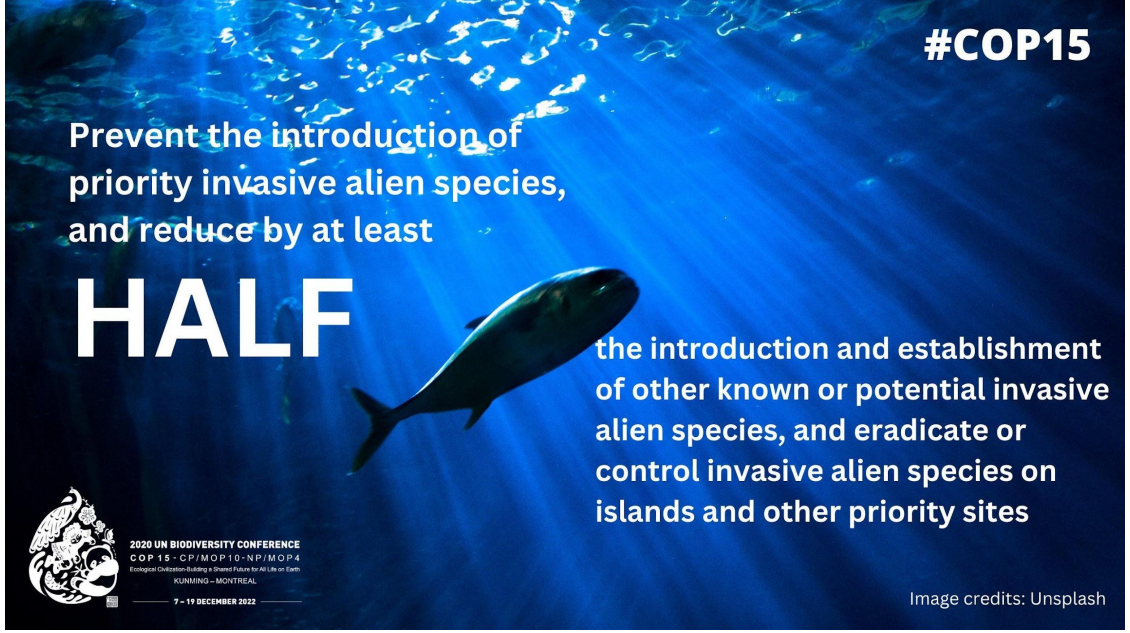
Fonte: Elaborazione ISPRA su dati MiTE

Superfici marine all'interno delle Acque Territoriali e della ZPE: siti Natura2000 (agg. 2021) e aree protette incluse nel CDDA (agg. 2022) e loro sovrapposizione

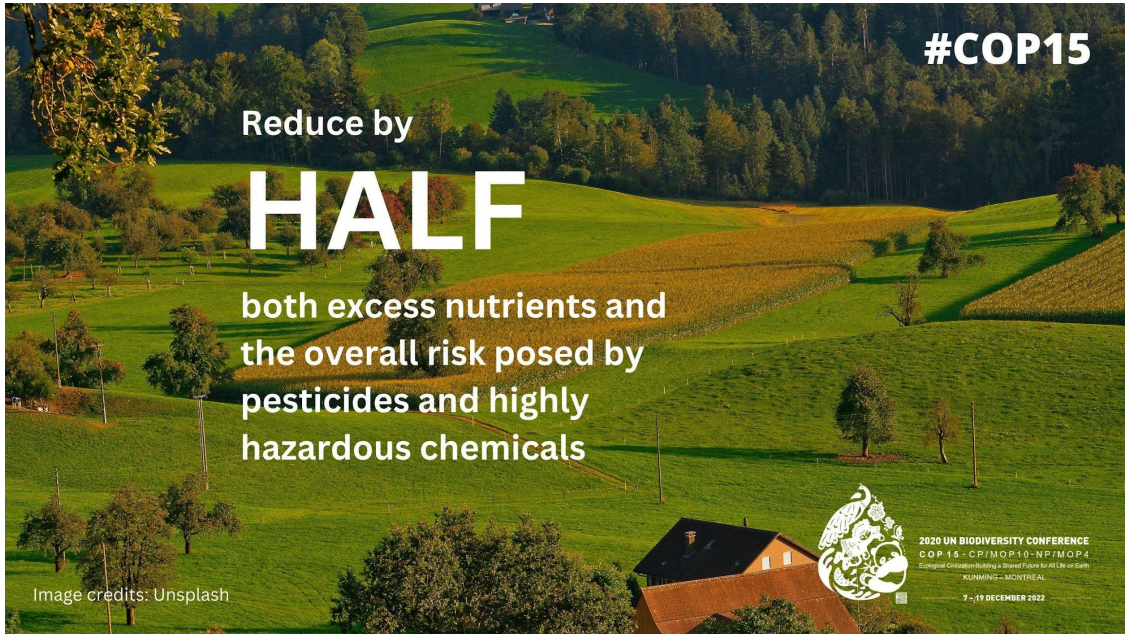


Fonte: EISPRA su dati MiTE

Target 6

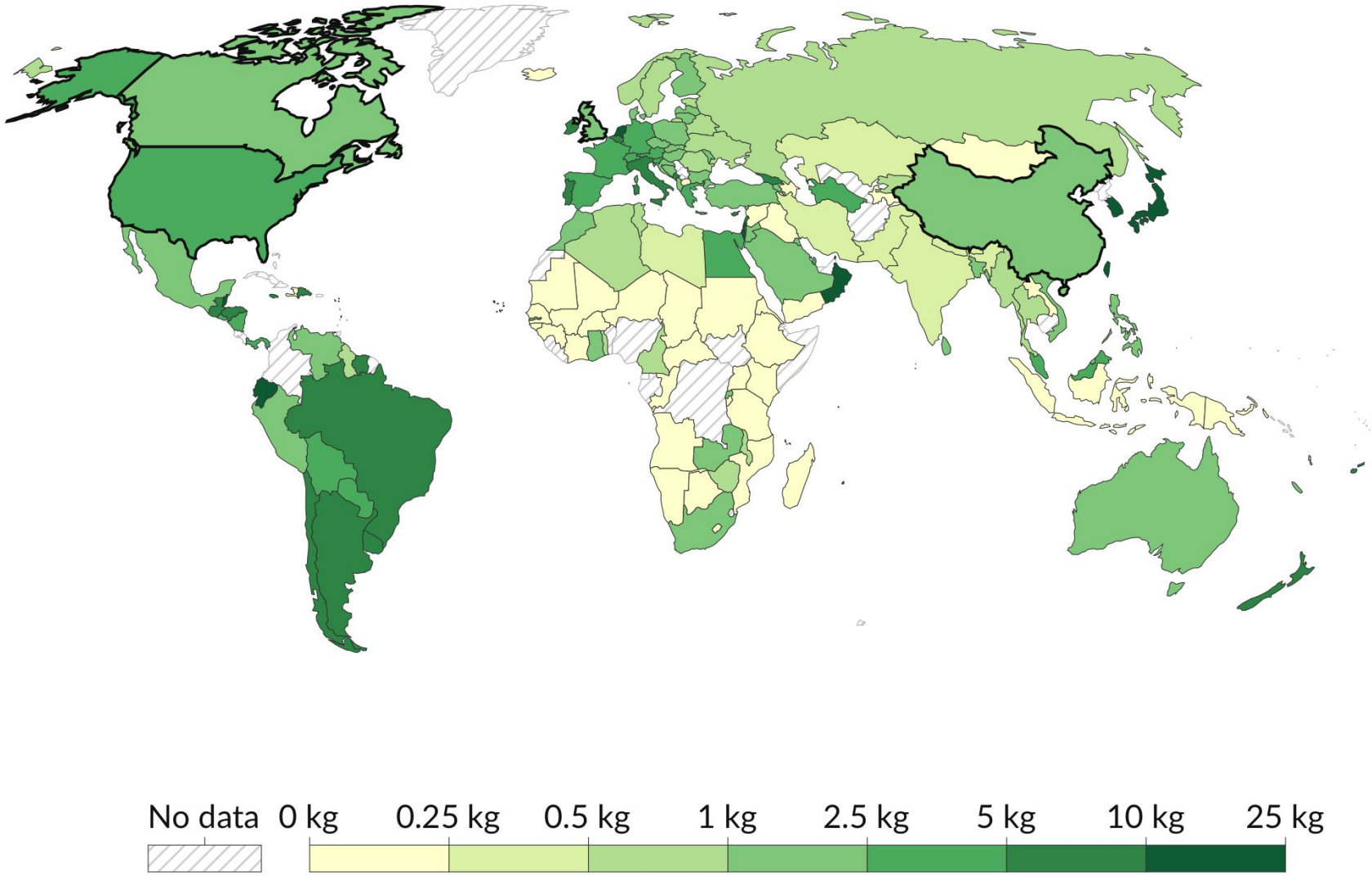


Target 7



Target 7

Ridurre i rischi di inquinamento e l'impatto negativo dell'inquinamento da tutte le fonti, a livelli che non siano dannosi per la biodiversità e i servizi ecosistemici, considerando gli effetti cumulativi, tra cui: **dimezzare** i **nutrienti** in eccesso persi nell'ambiente, anche attraverso misure più efficienti per il ciclo e l'uso dei nutrienti; **dimezzare il rischio complessivo derivante dai pesticidi** e dalle sostanze chimiche altamente pericolose, anche attraverso la gestione integrata dei parassiti, basata sulla scienza, tenendo conto della sicurezza alimentare e dei mezzi di sussistenza; e anche prevenire, ridurre e lavorare per eliminare l'inquinamento causato dalla plastica.


No data
0 kg
0.25 kg
0.5 kg
1 kg
2.5 kg
5 kg
10 kg
25 kg

Sostenibilità dell'agricoltura italiana in cifre

Emissioni di gas serra

32,7 Mt CO_2

Emissioni N equivalente

22,2 Mt eq

Precursori ozono troposferico

0,2 Mt TOPP

Uso energia in agricoltura

2,9 Mtep

Consumo fertilizzanti

1,7 Mt

Consumo prodotti fitosanitari

0,120 (0,057) Mt

Superficie irrigata

2,5 Mha

Prati permamenti e pascoli

3,2 Mha

Superficie Agricola Utilizzata

12,5 Mha

VA a prezzi di base

29.314 Meur

Aziende agrituristiche

25.390

Superficie biologica

2,3 Mha

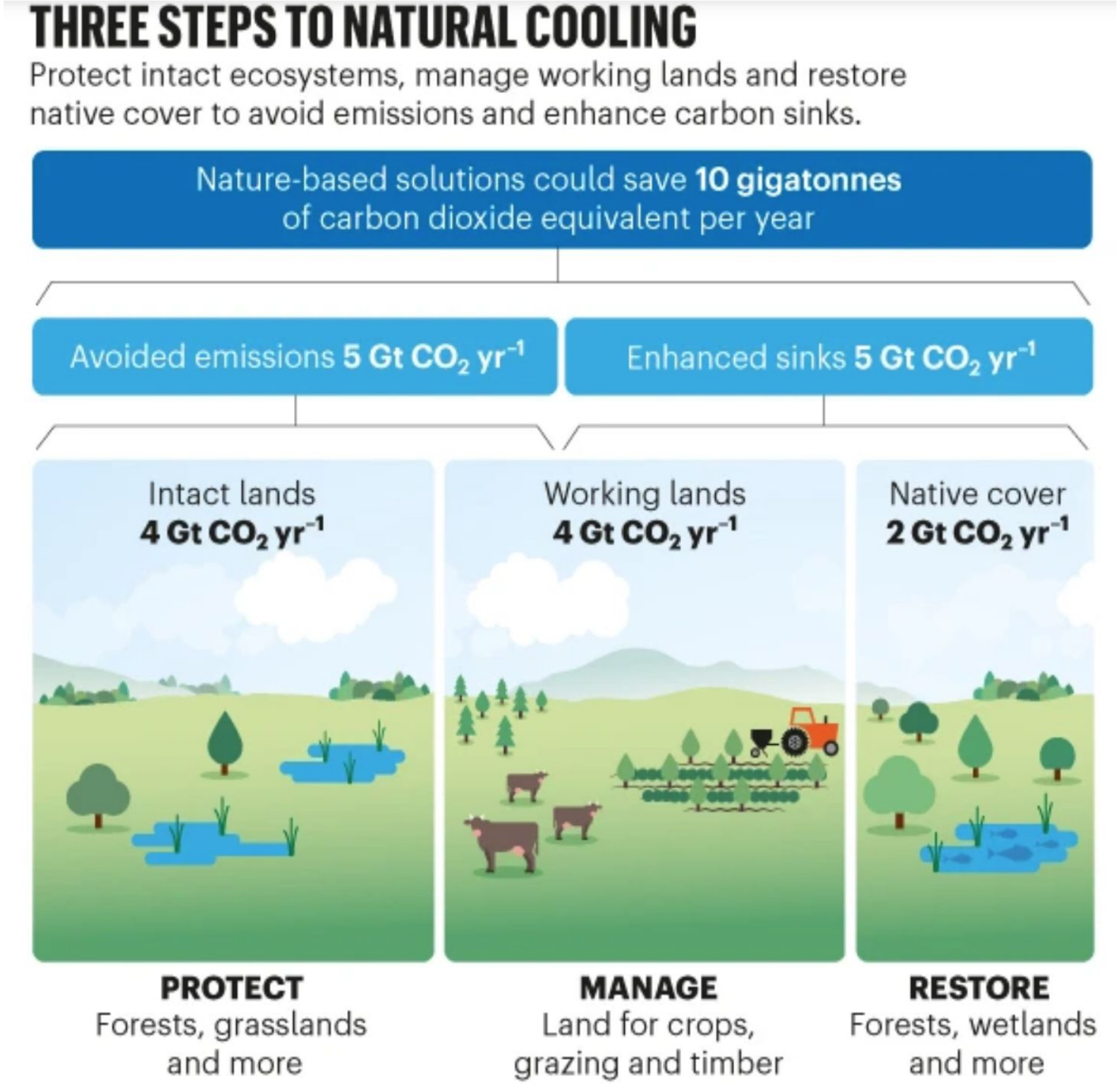
Target 8

Ridurre al minimo l'impatto dei CC […] su biodiversità e aumentarne la resilienza attraverso azioni di mitigazione, adattamento e riduzione del rischio di catastrofi, anche attraverso **soluzioni basate sulla natura** e/o approcci basati sugli ecosistemi, riducendo al minimo gli impatti negativi e promuovendo gli impatti positivi dell'azione per il clima sulla biodiversità.

Nature-based solutions can help cool the planet – if we act now

Analysis suggests that to limit global temperature rise, we must slash emissions and invest now to protect, manage and restore ecosystems and land for the future.

By Cécile A. J. Girardin, Stuart Jenkins, Nathalie Seddon, Myles Allen, Simon L. Lewis, Charlotte E. Wheeler, Bronson W. Griscom & Yadvinder Malhi



Target 12

Aumentare l'area, la qualità e la connettività e migliorare l'accesso e i benefici degli **spazi verdi e blu nelle aree urbane**: (i) integrare conservazione e uso sostenibile della biodiversità; (ii) garantire una pianificazione urbana che includa la biodiversità; (iii) migliorare la connettività e l'integrità ecologica, migliorando così la salute e il benessere umani e la connessione con la natura, contribuendo a un'urbanizzazione inclusiva e sostenibile e alla fornitura di funzioni e servizi ecosistemici.

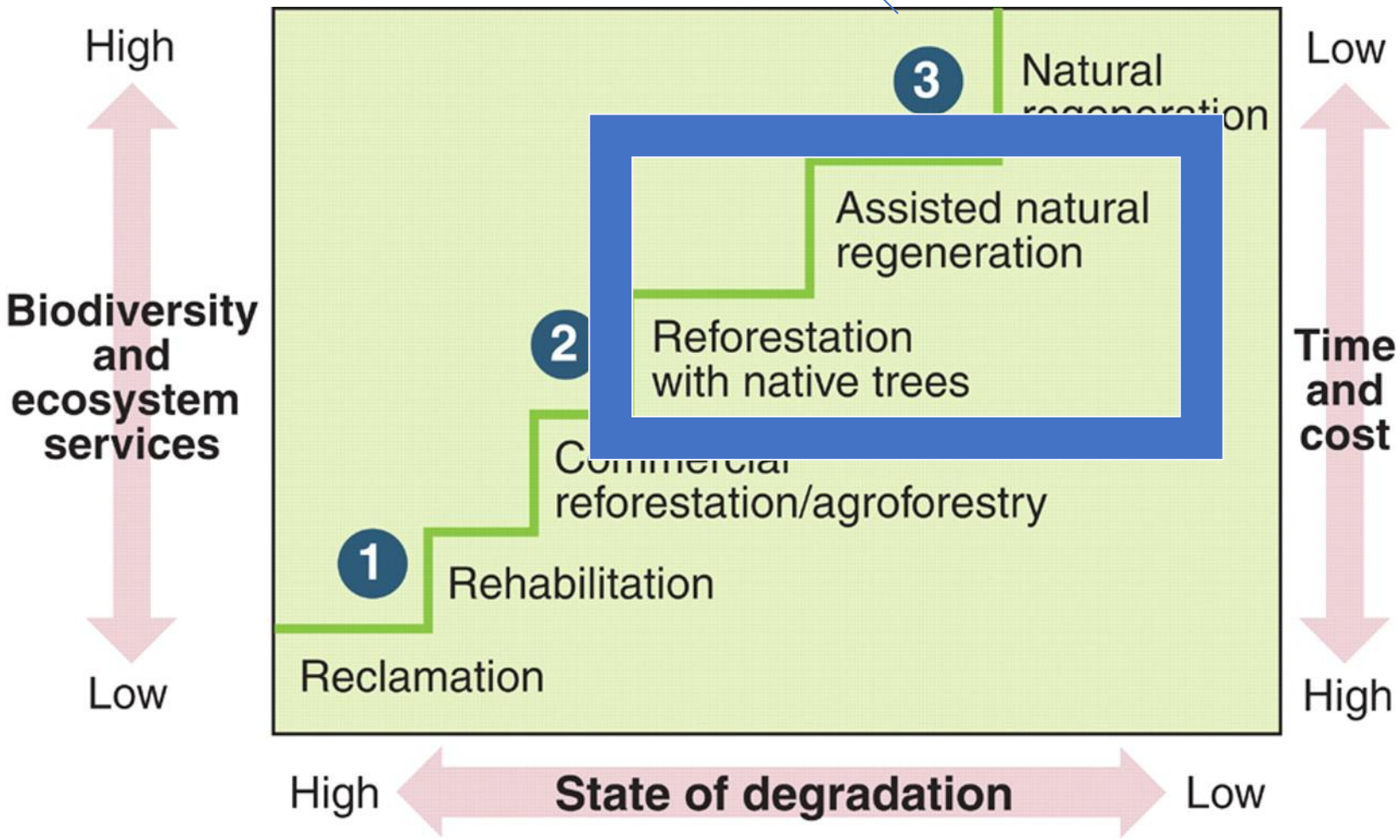
Definizione di Nature-based Solutions, secondo una risoluzione dell'Assemblea per l'Ambiente dell'ONU del 2022

- Le NbS includono quelle azioni per proteggere, conservare, ripristinare, usare in maniera sostenbile and gestire gli ecosistemi terrestri, delle acque interne, costieri e marini, naturali o modificati, che affrontano le sfide sociali, economiche e ambientali, in maniera efficace e adatttiva, assicurando allo stesso tempo benessere umano, servizi ecosistemici, resilienza e benefici associati alla biodiversità.

Progetto PNRR Next Generation EU, per creare foreste urbane e peri-urbane nelle 14 città metropolitane, attraverso la piantagione di 6,6 milioni di piante (alberi e arbusti) forestali, nel rispetto della direttiva sul n zione

Inquadramento territoriale delle 14 Città Metropolitane a livello di Divisioni e Province ecoregionali

La scala del restauro degli ecosistemi



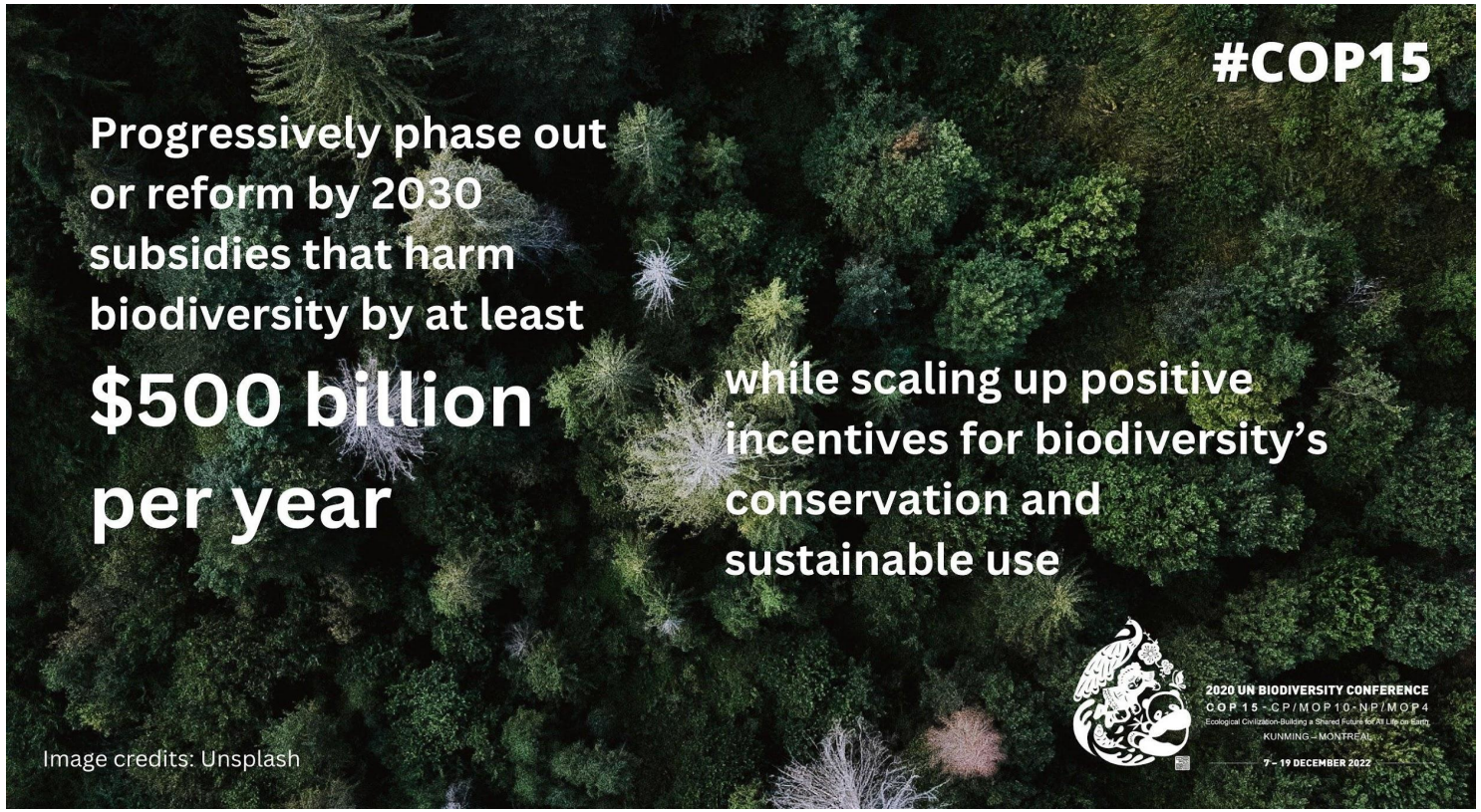
R L Chazdon 2008, Science 320:1458-60

Science
AAAS

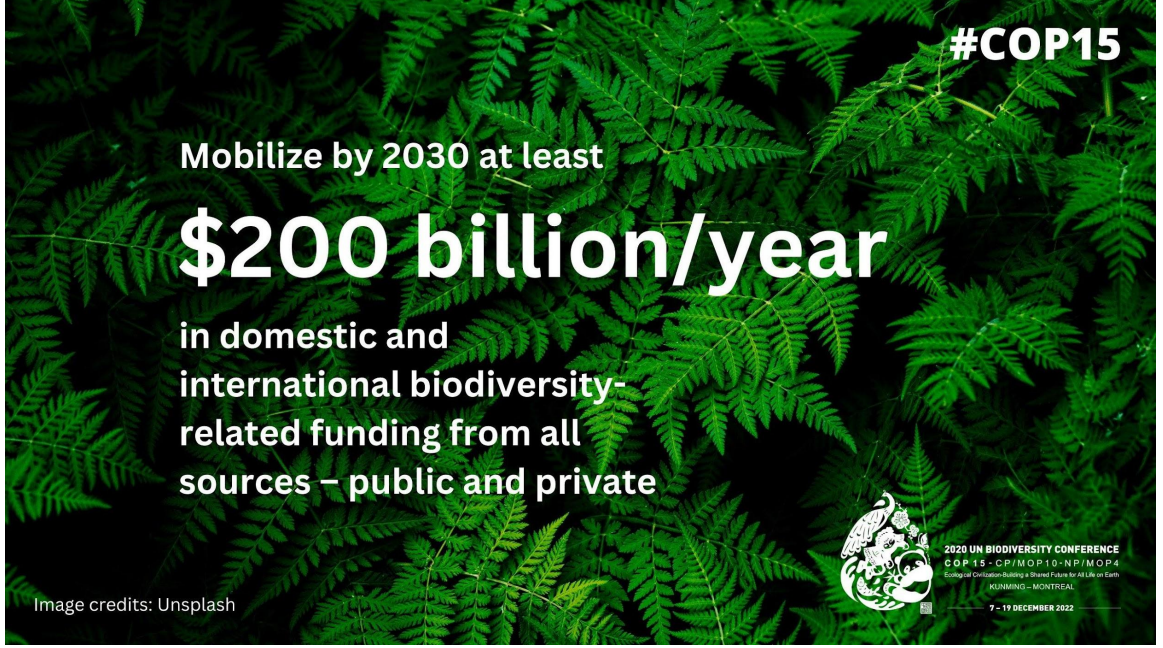
Target 15

Target 16

Target 18


#COP15
Progressively phase out or reform by 2030 subsidies that harm biodiversity by at least
$500 billion per year
while scaling up positive incentives for biodiversity's conservation and sustainable use
2020 UN BIODIVERSITY CONFERENCE
COP 15 - CP/MOP10 - NP/MOP4
KUNMING – MONTREAL
7 – 19 DECEMBER 2022
Image credits: Unsplash

Target 19a

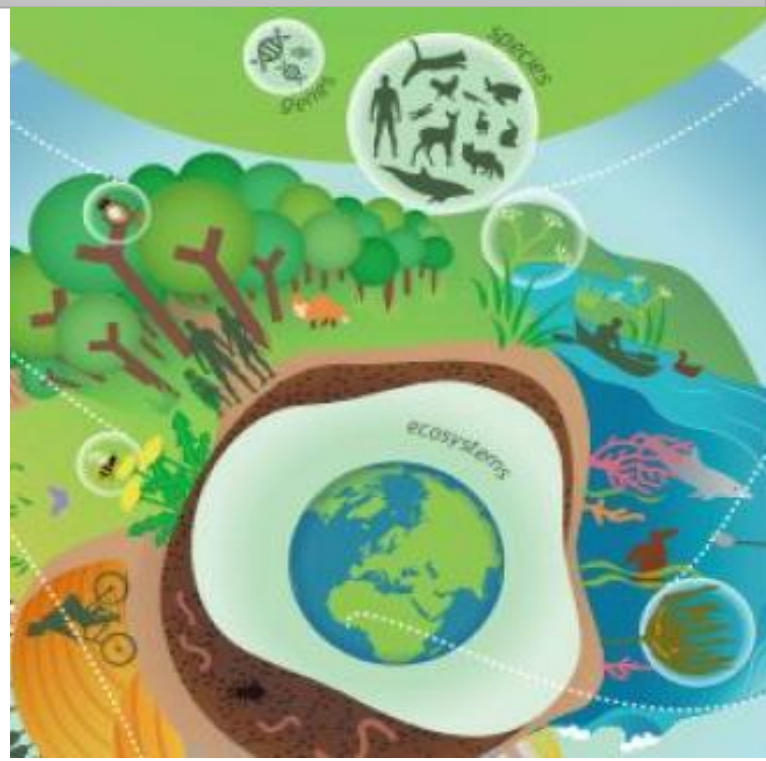


Target 19b

EU Biodiversity Strategy 2030

Bruxelles, 20.5.2020 COM(2020) 380 final

- **Strategia in ambito Green Deal europeo (COM (2019) 640 final)** proteggere la natura e invertire il degrado degli ecosistemi
- **Obiettivi entro 2030**: azioni e impegni specifici a beneficio delle persone, del clima e del pianeta:
  - **creare 30% aree** marine e 30% di aree terrestri **protette, di cui il 10% «strictly protected»**
  - **ripristinare il 30% degli ecosistemi degradati**
  - proteggere le **aree boschive**
  - Aumentare l'estensione **dell'agricoltura sostenibile (25% di agricoltura biologica)**
  - arrestare il declino degli **impollinatori**
  - **ripristinare 25 000 km** libero scorrimento dei **fiumi**
  - **ridurre del 50%** l'uso e il rischio associato all'uso di **pesticidi**
  - piantare **3 miliardi di alberi**



European Commission

Nature Restoration Law

For people, climate, and planet

22 June 2022
#EUGreenDeal

THE NATURE RESTORATION LAW WILL:

Restore at least 20% of EU land and sea by 2030, and all ecosystems in need of restoration by 2050

Require Member States to develop **National Restoration Plans** taking account of national circumstances

Build on EU nature laws, focusing on all natural habitats, and not just those protected under **Birds and Habitats Directives or Natura 2000**

Demonstrate EU **leadership in protecting and restoring nature** and set the bar for global action ahead of the Biodiversity COP15

SHARE

REVIEW

Food Security: The Challenge of Feeding 9 Billion People

H. Charles J. Godfray[1,*], John R. Beddington[2], Ian R. Crute[3], Lawrence Haddad[4], David Lawrence[5], James F. Muir[6], Jules Pr…

+ See all authors and affiliations

Science 12 Feb 2010:
Vol. 327, Issue 5967, pp. 812-818
DOI: 10.1126/science.1185383

Abstract

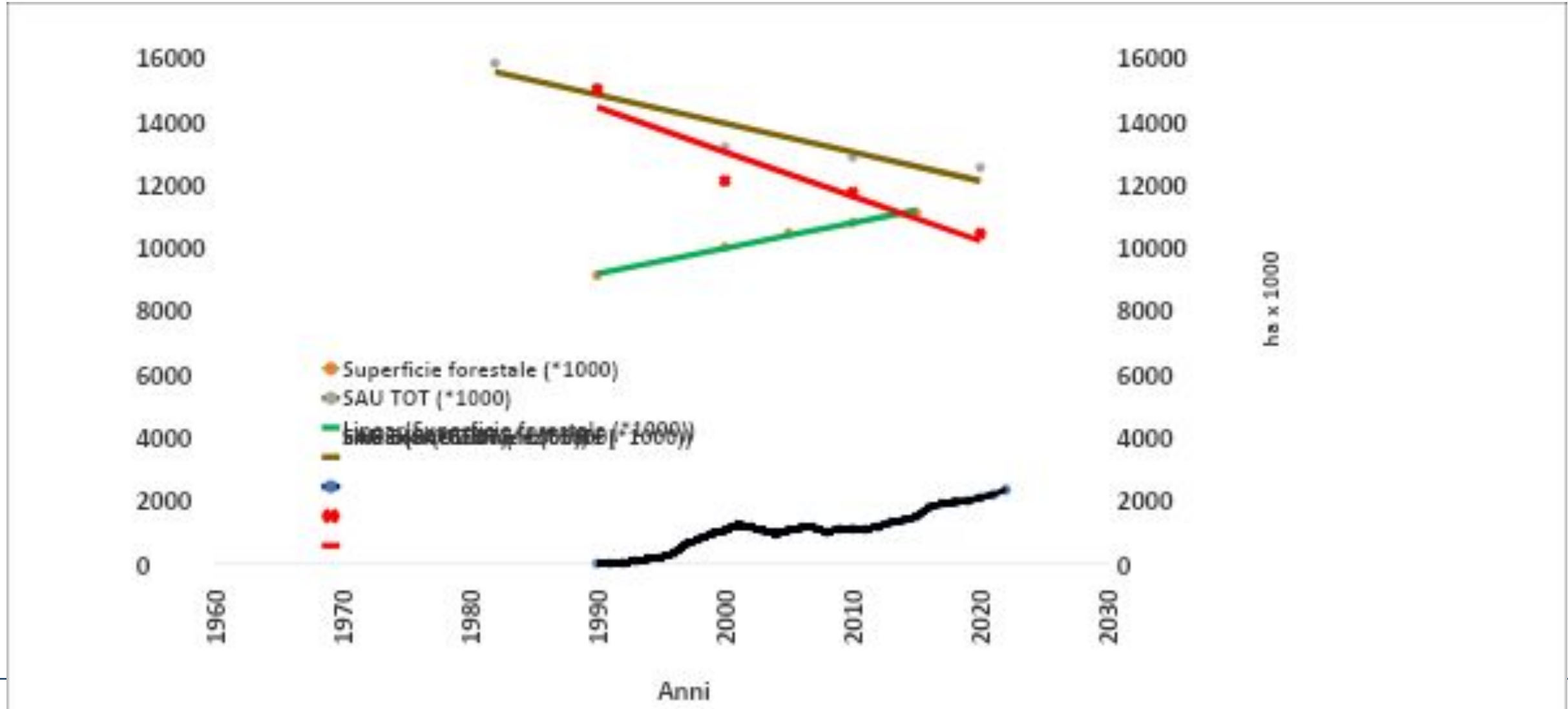
Continuing population and consumption growth will mean that the global demand for food will increase for at least another 40 years. Growing competition for land, water, and energy, in addition to the overexploitation of fisheries, will affect our ability to produce food, as will the urgent requirement to reduce the impact of the food system on the environment. The effects of climate change are a further threat. But the world can produce more food and can ensure that it is used more efficiently and equitably. A multifaceted and linked global strategy is needed to ensure sustainable and equitable food security, different components of which are explored here.

The past half-century has seen marked growth in food production, allowing for a dramatic decrease in the proportion of the world's people that are hungry, despite a doubling of the total population (**Fig. 1**) (*1*, *2*). Nevertheless, more than one in seven people today still do not have access to sufficient protein and energy from their diet, and even more suffer from some form of micronutrient malnourishment (*3*). The world is now facing a new set of intersecting challenges (*4*). The global population will continue to grow, yet it is likely to plateau at some 9 billion people by roughly the middle of this century. A major correlate of this deceleration in population growth is increased wealth, and with higher purchasing power comes higher consumption and a greater demand for processed food, meat, dairy, and fish, all of which add pressure to the food supply system. At the same time, food producers are experiencing greater competition for land, water, and energy, and the need to curb the many negative effects of food production on the environment

Science

Vol 327, Issue 5967
12 February 2010

Evoluzione della superficie forestale e della superficie agricola utilizzata (convenzionale e biologica) in Italia



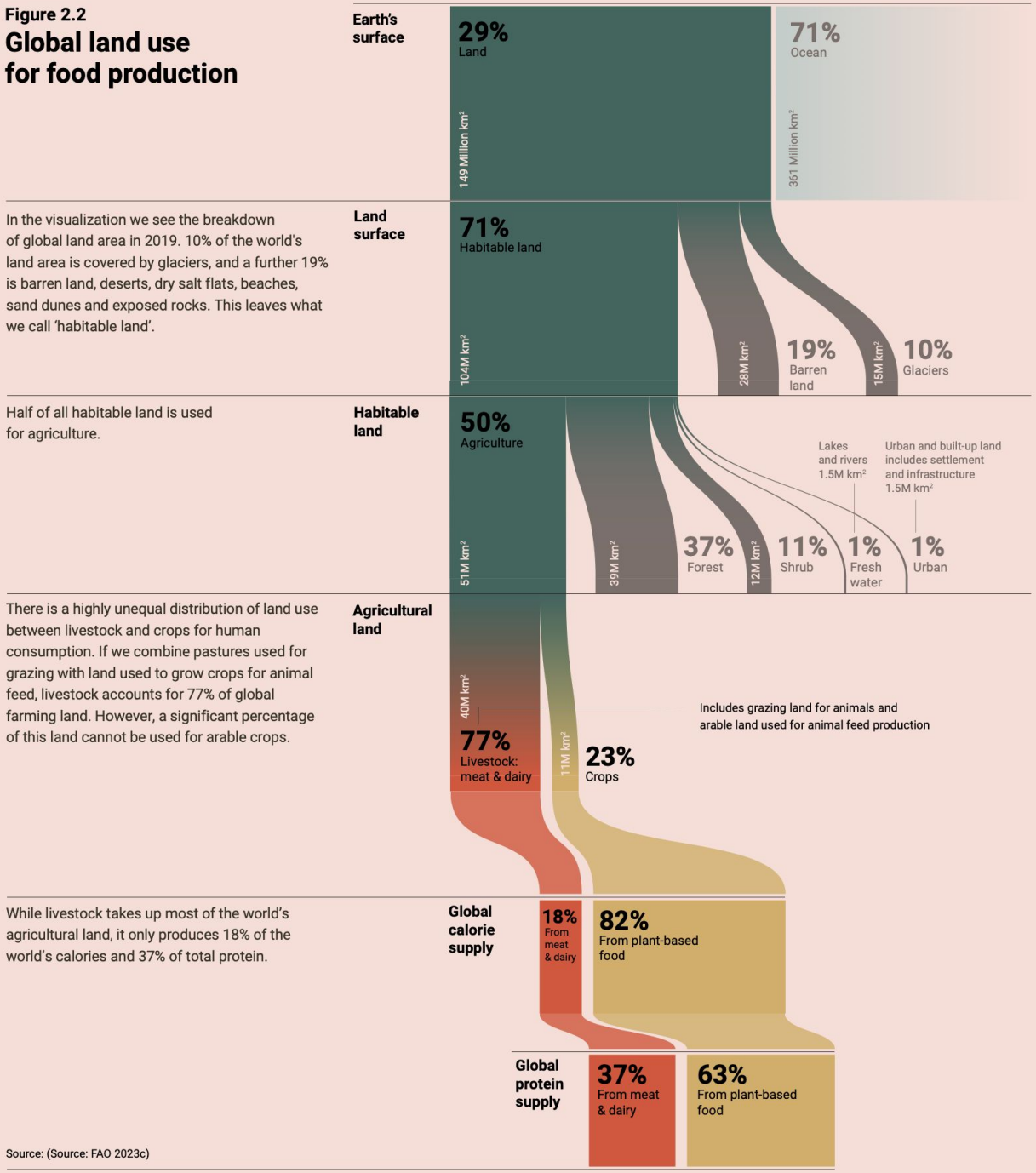
Consumo di carne *per capita* (kg anno $^{-1}$)

Region	OECD-FAO Outlook
World	34.7
North America	95.3
Oceania	70.7
Europe	64.8
Latin America and Caribbean	59.6
Asia	27.0
Africa	12.7

Source: (OECD and FAO 2022; FAO 2023a; FAO 2023b; UNDESA 2023).

Figure 2.2

Global land use for food production



In the visualization we see the breakdown of global land area in 2019. 10% of the world's land area is covered by glaciers, and a further 19% is barren land, deserts, dry salt flats, beaches, sand dunes and exposed rocks. This leaves what we call 'habitable land'.

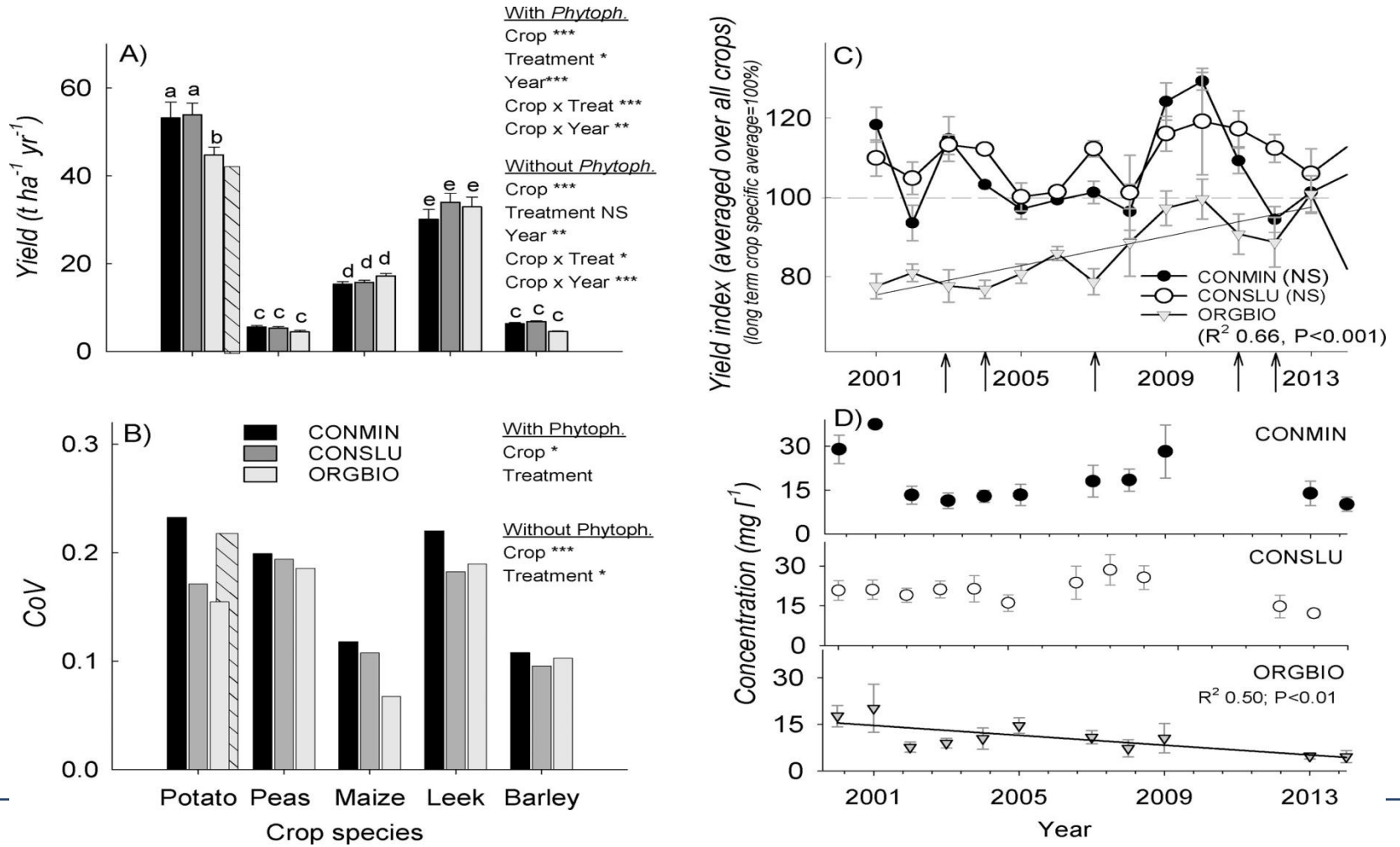
Half of all habitable land is used for agriculture.

There is a highly unequal distribution of land use between livestock and crops for human consumption. If we combine pastures used for grazing with land used to grow crops for animal feed, livestock accounts for 77% of global farming land. However, a significant percentage of this land cannot be used for arable crops.

While livestock takes up most of the world's agricultural land, it only produces 18% of the world's calories and 37% of total protein.

Source: (Source: FAO 2023c)

Fig. 1. A: Long-term crop-independent yield indexes (mean ± SE) over period 2001–2013; striped light grey bar for potato indicates yield when *Phytophthora* years were included. B: Temporal coefficient of variation in yield (CoV) between 2001 and 2013. C: Changes in the relative yield index (2001–2013). *Phytophthora* years are indicated by arrows along x-axis. D: Nitrate concentrations in groundwater (mean ± SE) between 2000 and 2014 (including *Phytophthora*-outbreak years). symbols are similar to those in panel C. Different letters indicate statistically significant differences at $\alpha < 0.05$.



Food losses and waste by numbers

Food losses and waste worldwide

33,3 percent

Hectares of land used, about 28 per cent of the world's agricultural land area

1,4 billion

Tons of global fertilizer consumed, about 23 per cent of the total

28 millions

Total freshwater resource use

24 percent

Food wastage at the agricultural production stage produced in areas where soils are facing medium to strong land degradation

99 percent

People suffer from diseases of energy surplus

1 billion

Total food loss and food waste occurs in developed countries

56 percent

Total food loss and food waste occurs in developing countries

44 percent

Largest emitting country in the world if food wastage were a country

3rd

This article is more than **1 year old**

EU wastes 153m tonnes of food a year – much more than it imports, says report

Bloc must halve its food waste by 2030 to tackle climate crisis and improve food security, say campaigners

Wheat wasted in the EU is roughly half the amount exported by Ukraine. Photograph: Stéphane Mahé/Reuters

The EU wastes more food than it imports and could puncture food price inflation by simply curbing on-farm waste, according to a report.

how this should inform impact assessment modelling.

THE EU FOOD WASTE REDUCTION TARGET MUST LEGALLY REQUIRE A 50% REDUCTION BY 2030

In 2015, the EU agreed to reduce food waste by 50% by 2030 when it agreed to SDG 12.3. A legally binding target will formalise this commitment into law and accelerate Member States' action to meet it. It will also allow the EU to meet its domestic and international climate commitments; support food security; align with gender equality goals; promote climate justice; and save money for governments, businesses, and households.

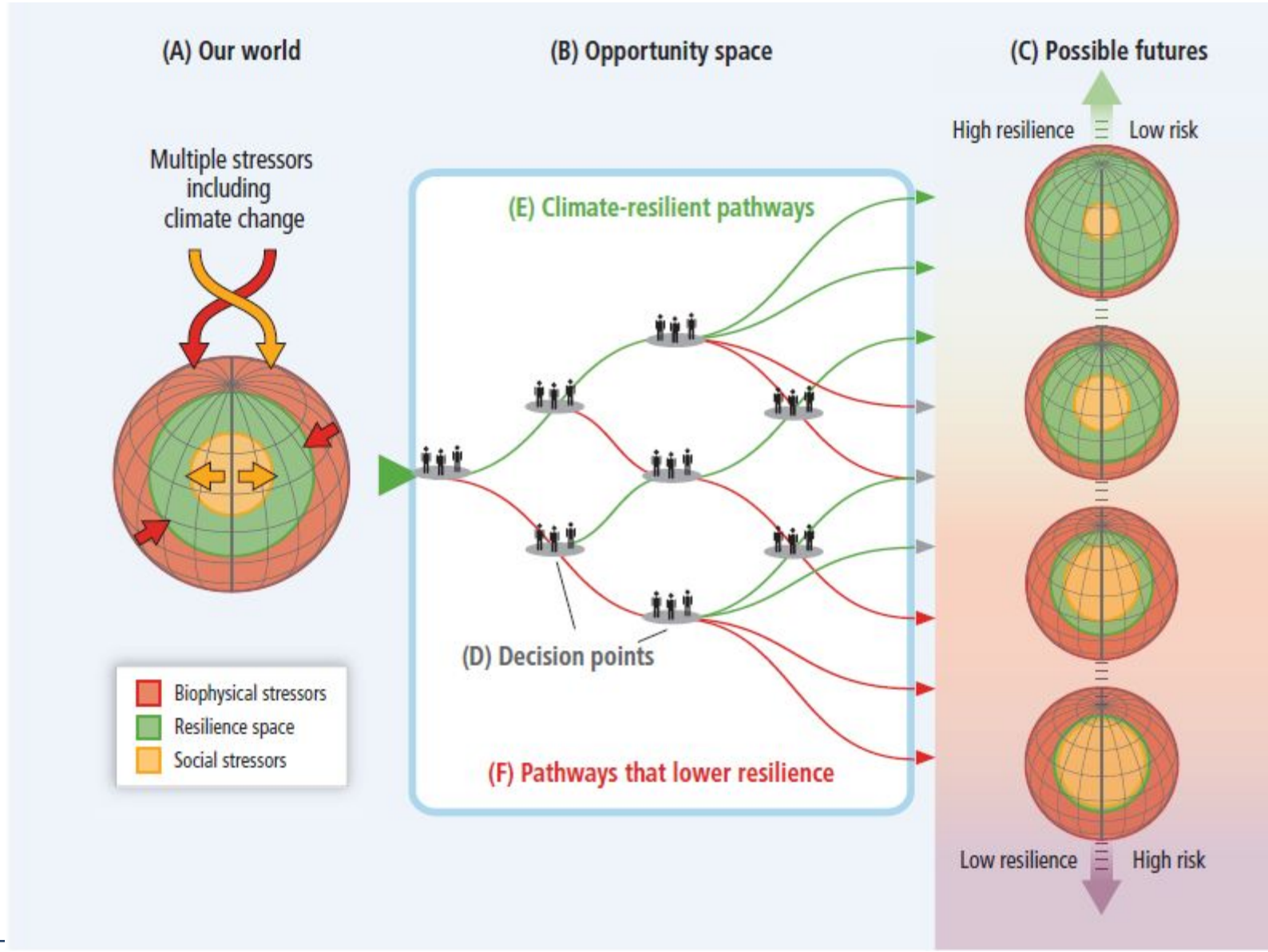
THE EU FOOD WASTE REDUCTION TARGET MUST BE FARM TO FORK

Food loss and waste in the primary production, processing, and food service sectors is substantial. If primary production and processing were to be excluded from a food waste target, this would exclude up to 33% of total food loss and waste in the EU[2]. Excluding food service as well would mean that the target would exclude at least 48% of total food loss and waste.[a] For

A 50% BY 2030, FARM-TO-FORK FOOD WASTE REDUCTION TARGET CAN BE ACHIEVED THROUGH TARGETED, AMBITIOUS ACTION

- Regulation to reduce food waste has been on the EU's agenda for over a decade, but delays in measurement and reduction targets have slowed the pace of action. Member States are now well-equipped with baseline figures from mandatory food waste measurement. Once a target is set, Member States will be able to achieve progress towards it much more quickly than we have seen in the past, particularly if the EU provides additional support. Evidence from industry frontrunners show the necessary rate of food waste reduction is possible.

- Until now, action against food waste has largely relied on voluntary agreements, which have seen some successes but have serious limits. Evidence from other sectors shows that regulation can yield far faster progress than voluntary measures. It is vital that the EU consider the impact of introducing regulation when modelling the feasibility of achieving a 50% by 2030 reduction target.


(A) Our world
(B) Opportunity space
(C) Possible futures
Multiple stressors including climate change
(E) Climate-resilient pathways
High resilience
Low risk
(D) Decision points
Biophysical stressors
Resilience space
Social stressors
(F) Pathways that lower resilience
Low resilience
High risk

"It's not a journey where we are backing into the caves. It's a journey of high technology, good health, of better democracy, and huge, multiple benefits that go well beyond saving the planet."

"Non è un viaggio di ritorno nelle caverne. È un viaggio ad alta tecnologia, di benessere psico-fisico, di democrazia più ampia e diffusa, e di enormi, molteplici benefici che vanno ben oltre il fatto di salvare pianeta. "

Johan Rockström, 2018