

Le basi scientifiche degli SDGs delle Nazioni Unite: un focus su SDG15 *'Life on land'*

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15 LIFE
ON LAND





Obiettivi di SDG15 nel contesto dell'Agenda 2030



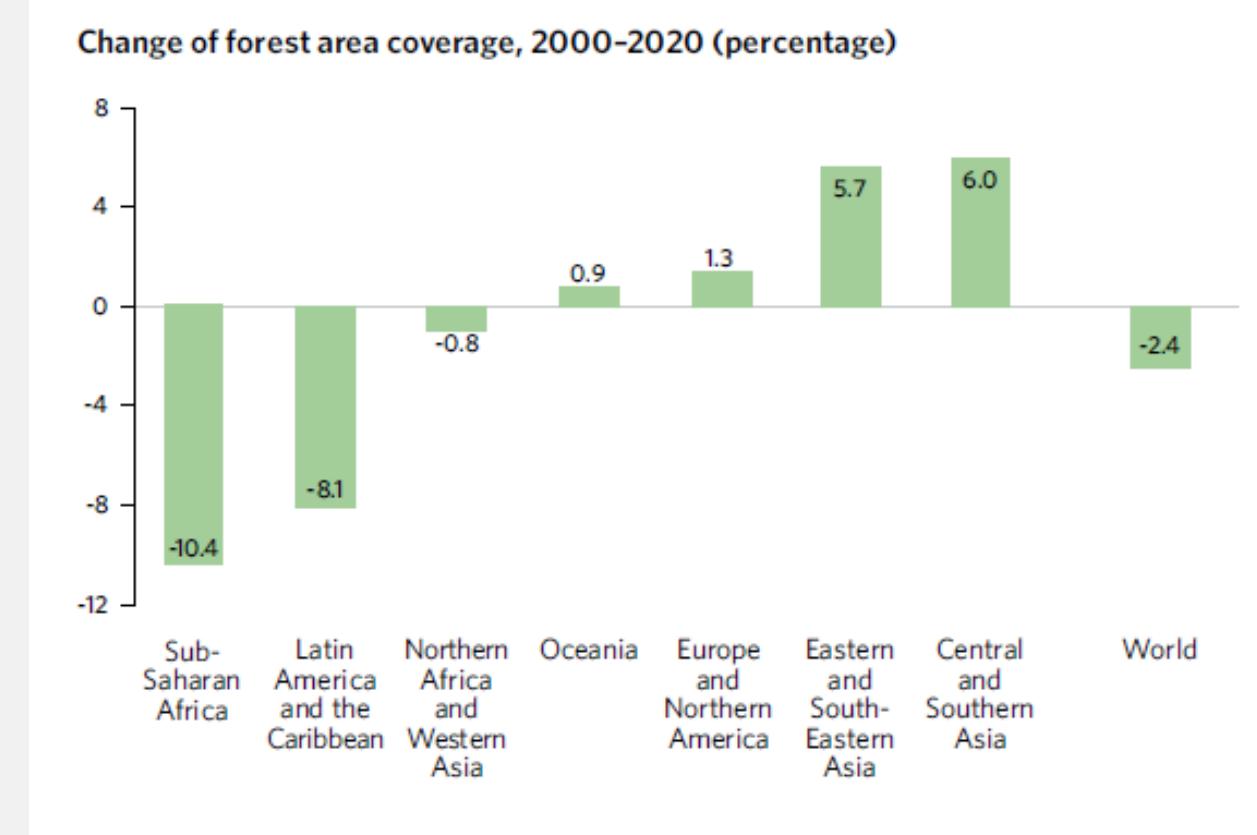
Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification and halt and reverse land degradation and halt biodiversity loss



Obiettivi di SDG15 nel contesto dell'Agenda 2030

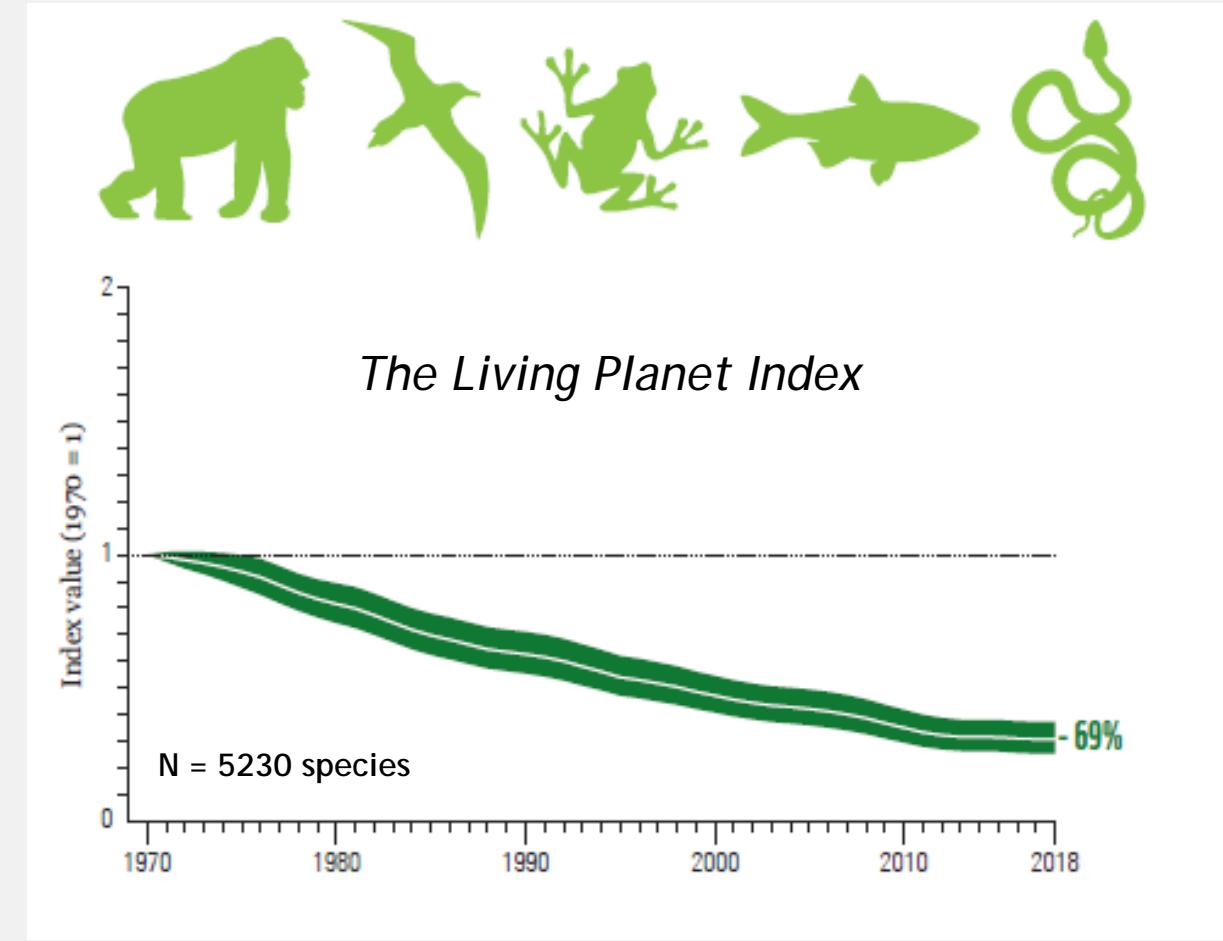
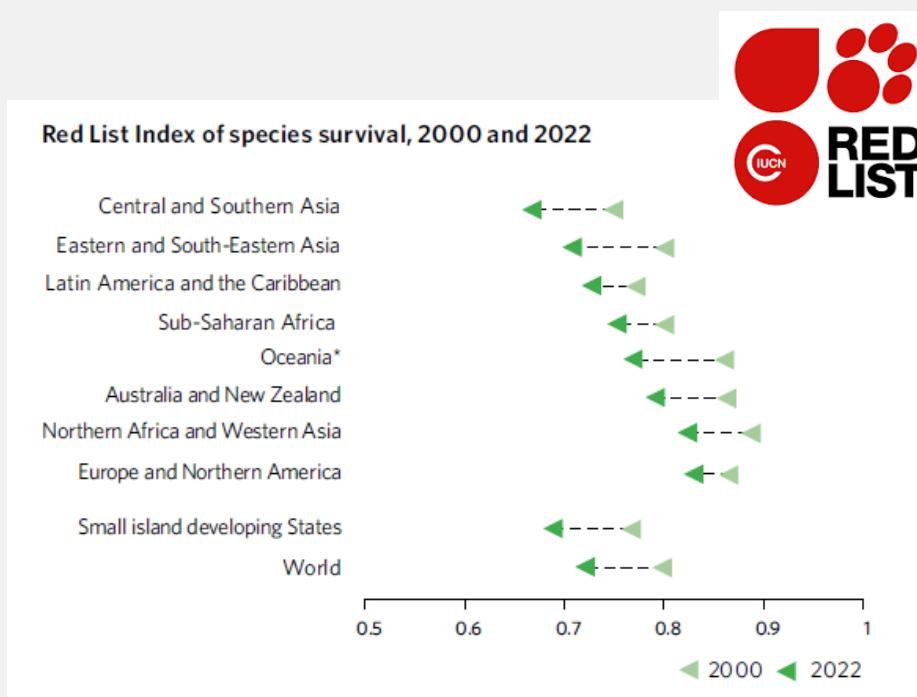
By 2020, ensure the conservation, restoration and sustainable use of terrestrial and inland freshwater ecosystems and their services, in particular forests, wetlands, mountains and drylands

By 2020 [...] promote the implementation of sustainable management of all types of forests, **halt deforestation**, restore degraded forests...



Obiettivi di SDG15 nel contesto dell'Agenda 2030

Take urgent and significant action to reduce the degradation of natural habitats, halt the loss of biodiversity and, *by 2020, protect and prevent the extinction of threatened species*





La crisi ambientale

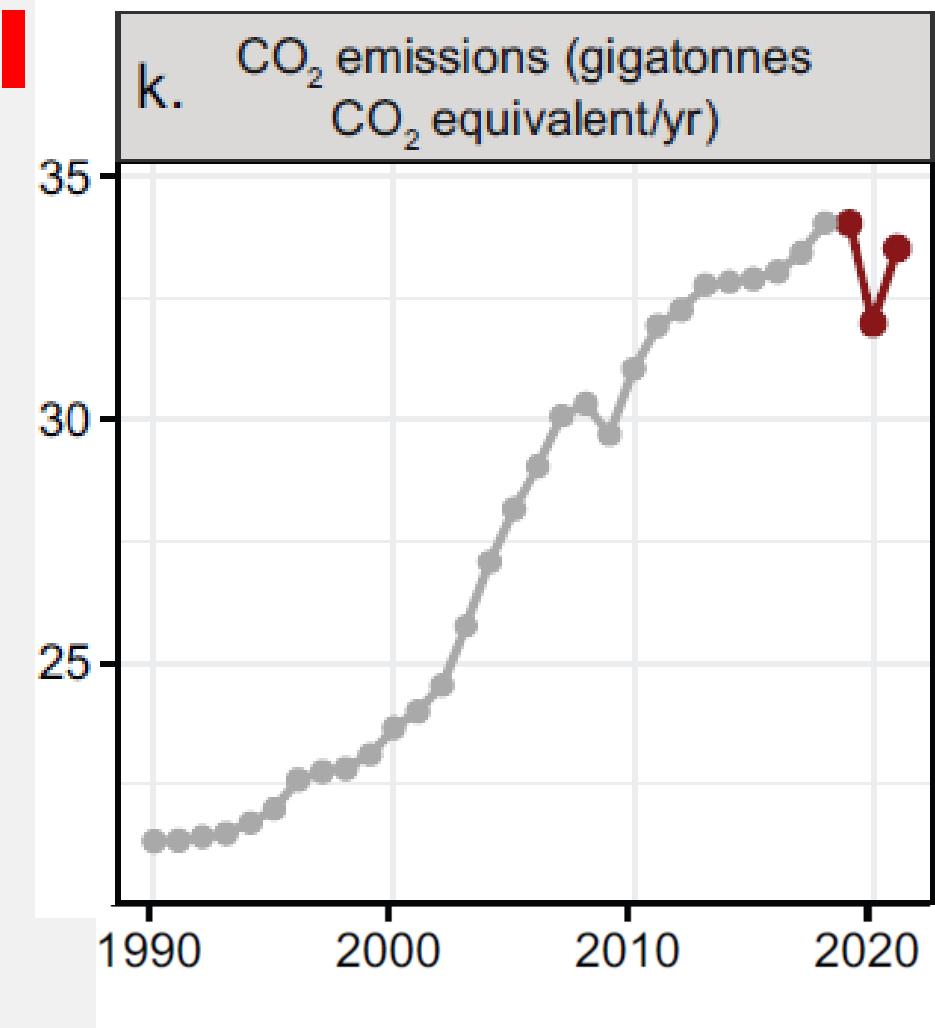




La crisi climatica: una crisi di sistema

Viewpoint

World Scientists' Warning of a Climate Emergency 2021



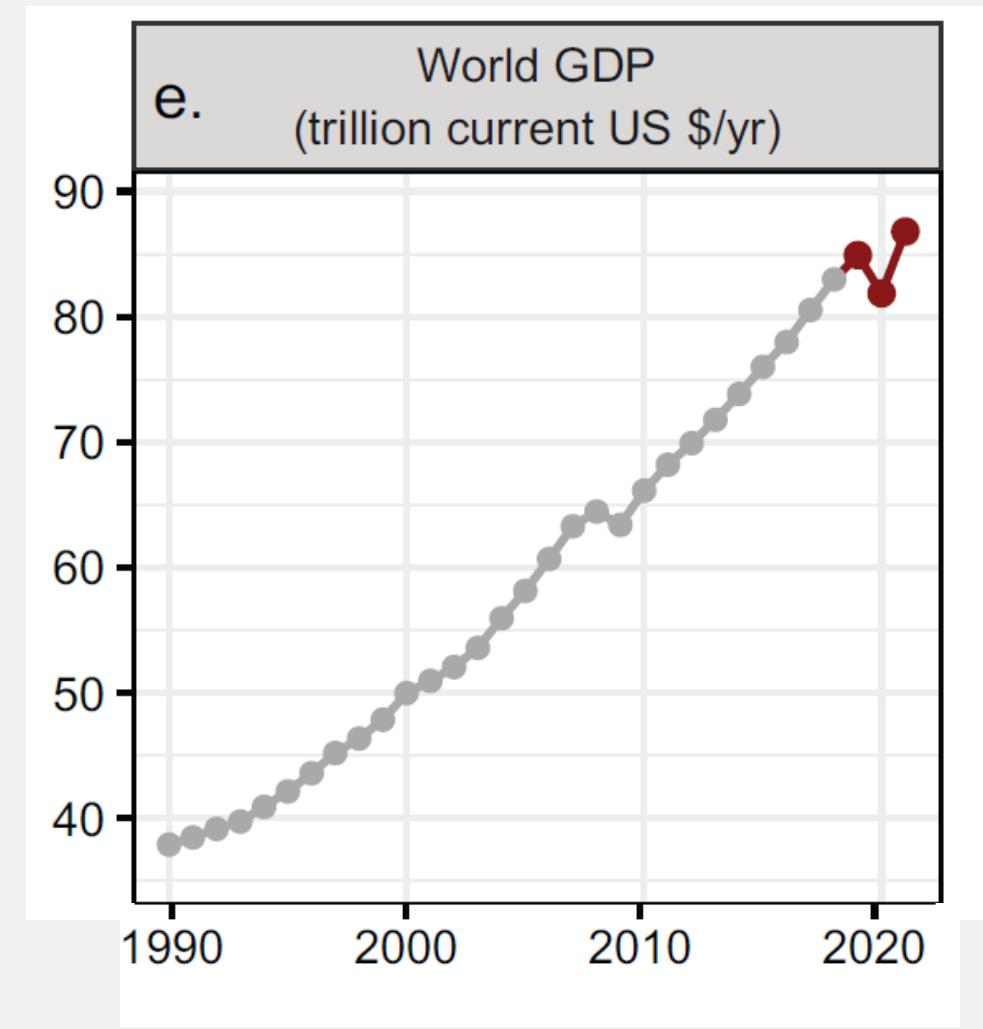
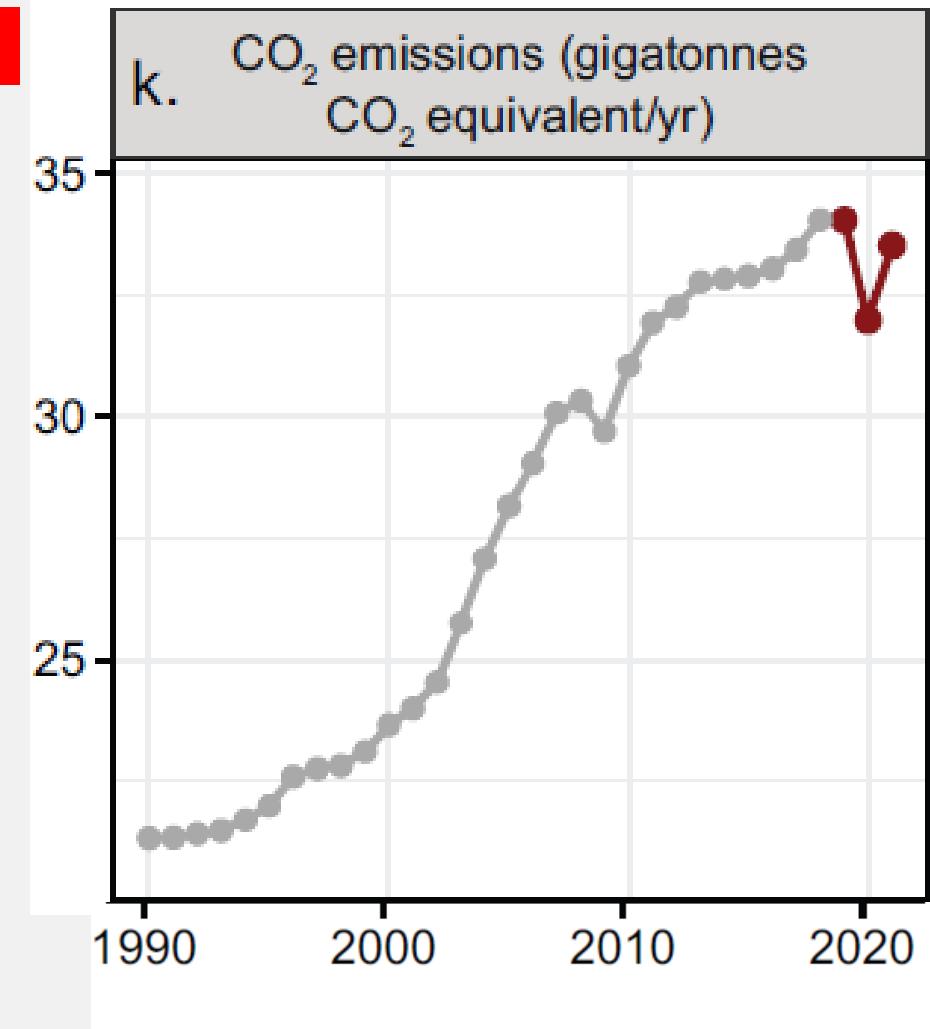


La crisi climatica: una crisi di sistema

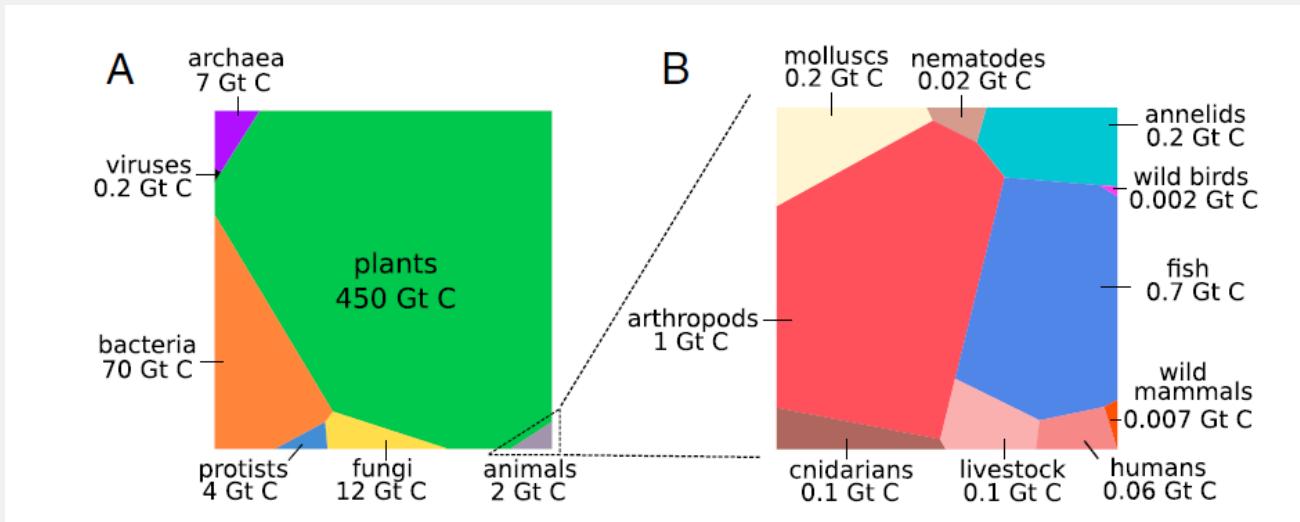


Viewpoint

World Scientists' Warning of a Climate Emergency 2021



L'Uomo moderno e la crisi ambientale



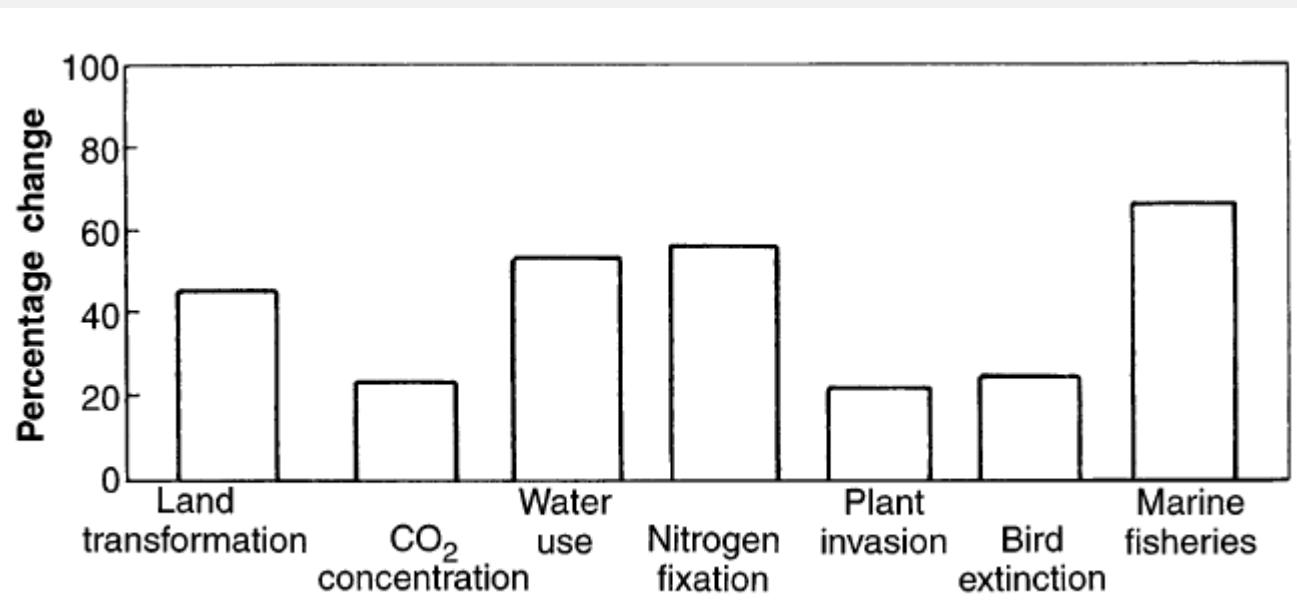
Uomo = 0.01% della biomassa totale

The biomass distribution on Earth

Yinon M. Bar-On^a, Rob Phillips^{b,c}, and Ron Milo^{a,1}

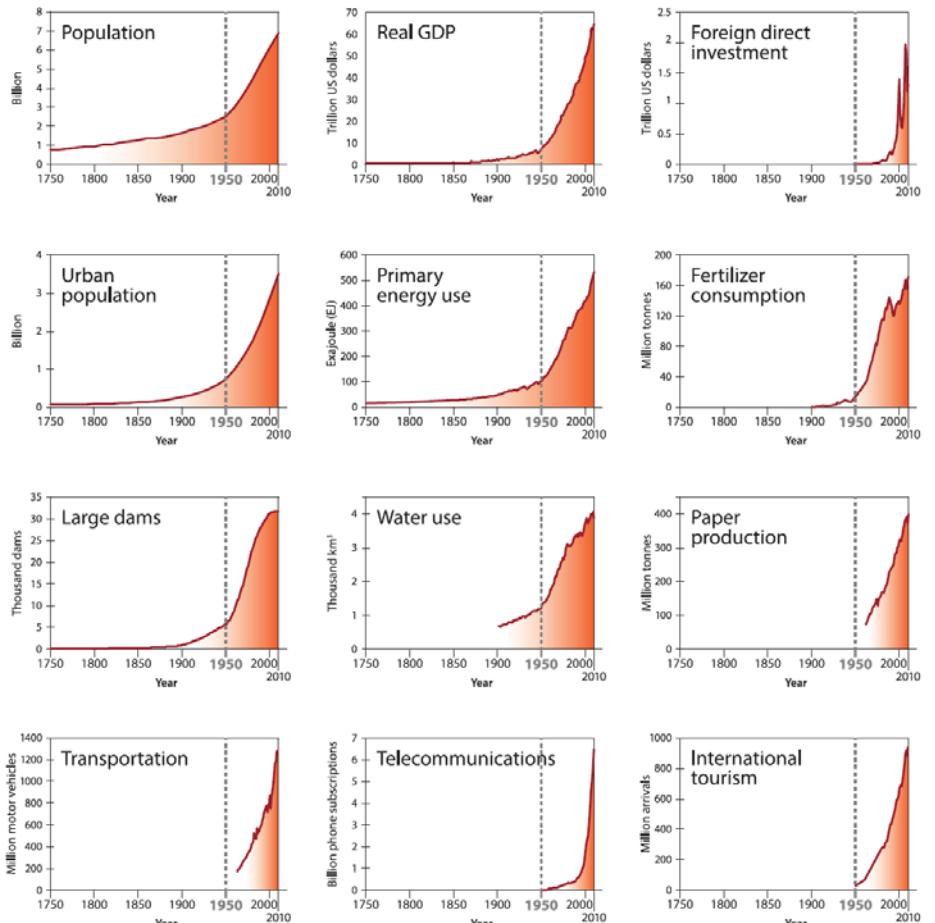
Human Domination of Earth's Ecosystems

Peter M. Vitousek, Harold A. Mooney, Jane Lubchenco, Jerry M. Melillo

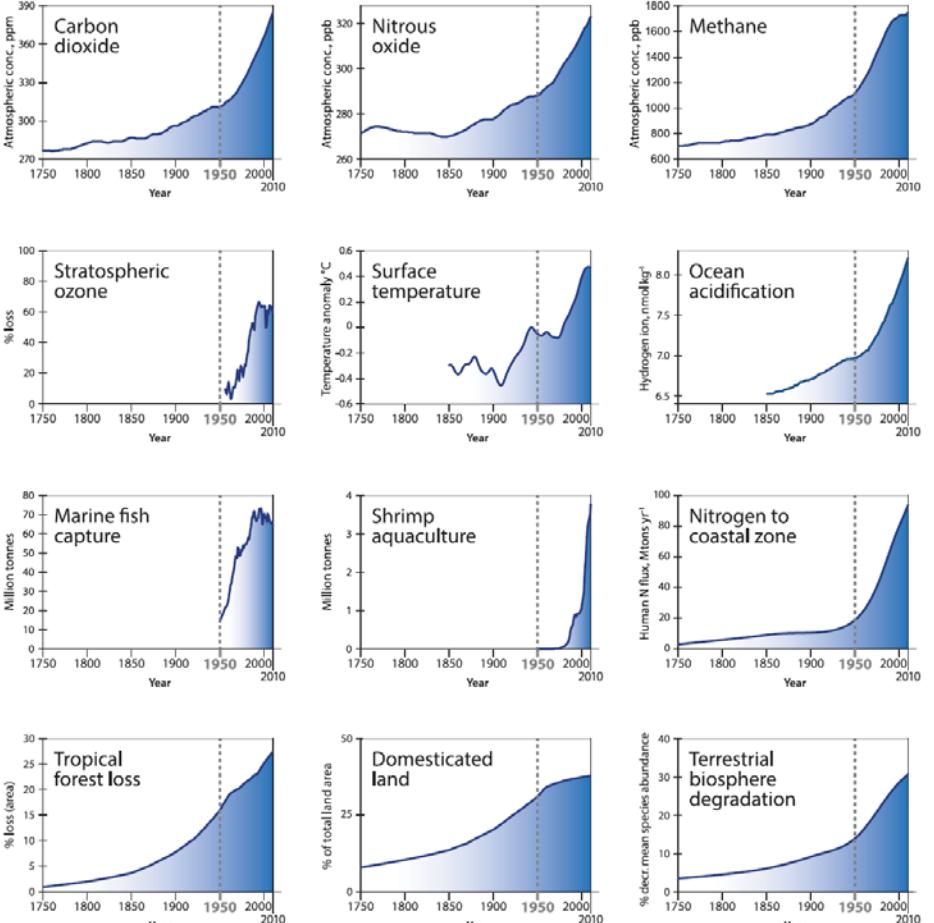


La Grande Accelerazione dell'Antropocene

Socio-economic trends



Earth system trends

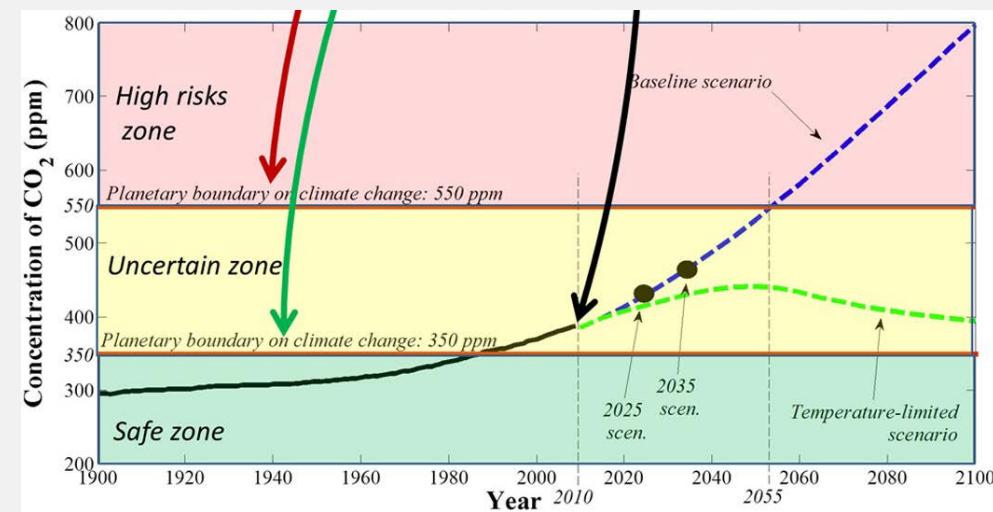
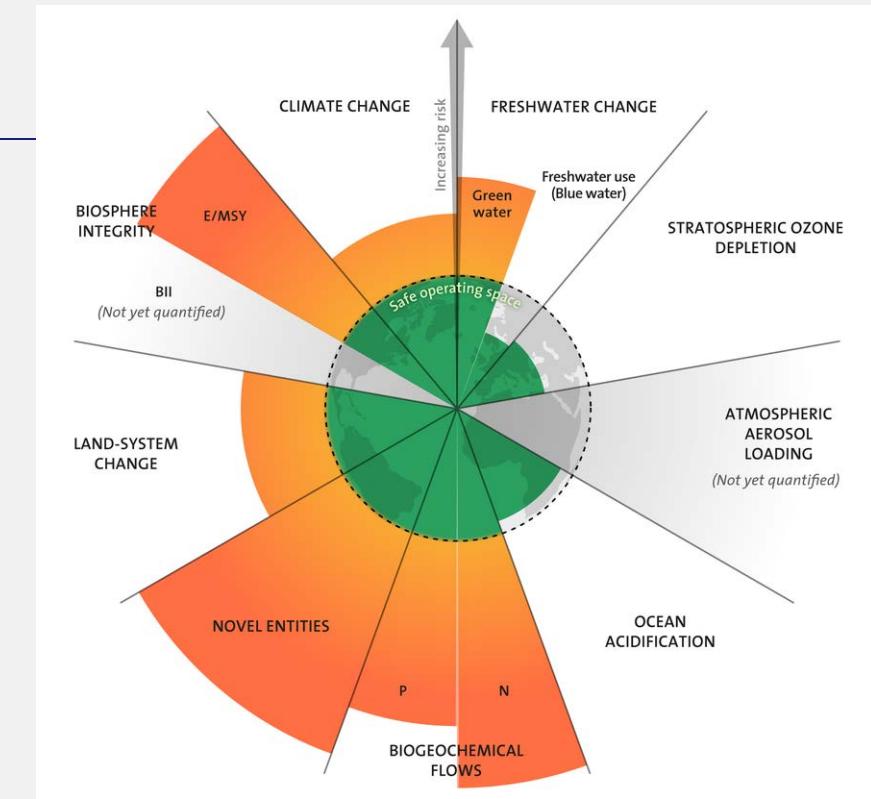
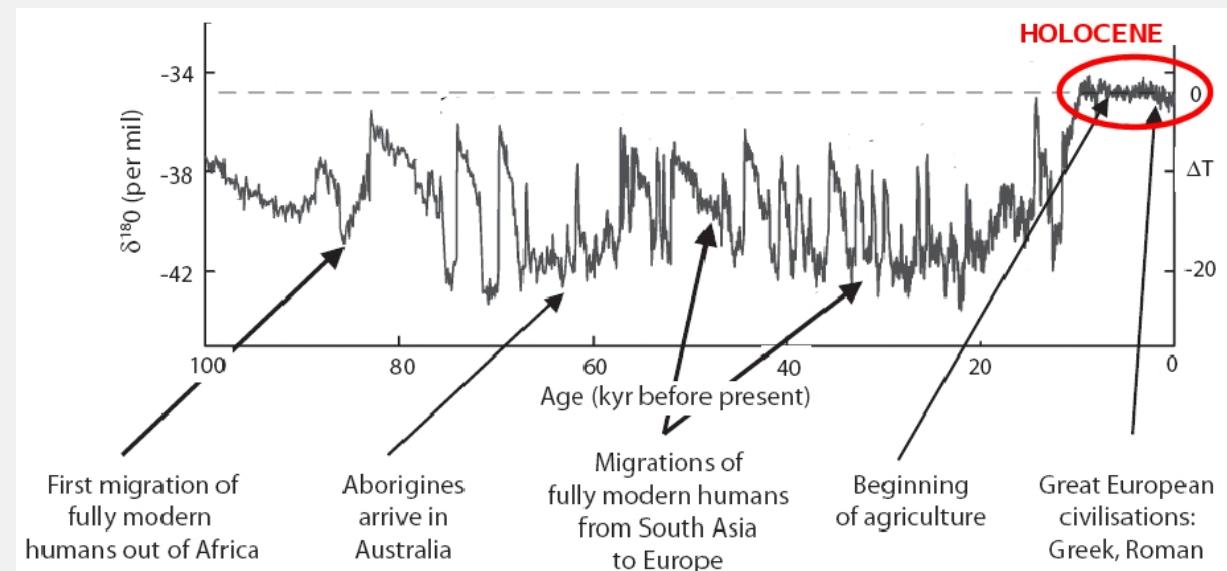


"The last 50 years have without doubt seen the most rapid transformation of the human relationship with the natural world in the history of humankind. (Steffen et al., 2004: 131)"

I limiti planetari

*«...defining a safe operating space
for humanity...»*

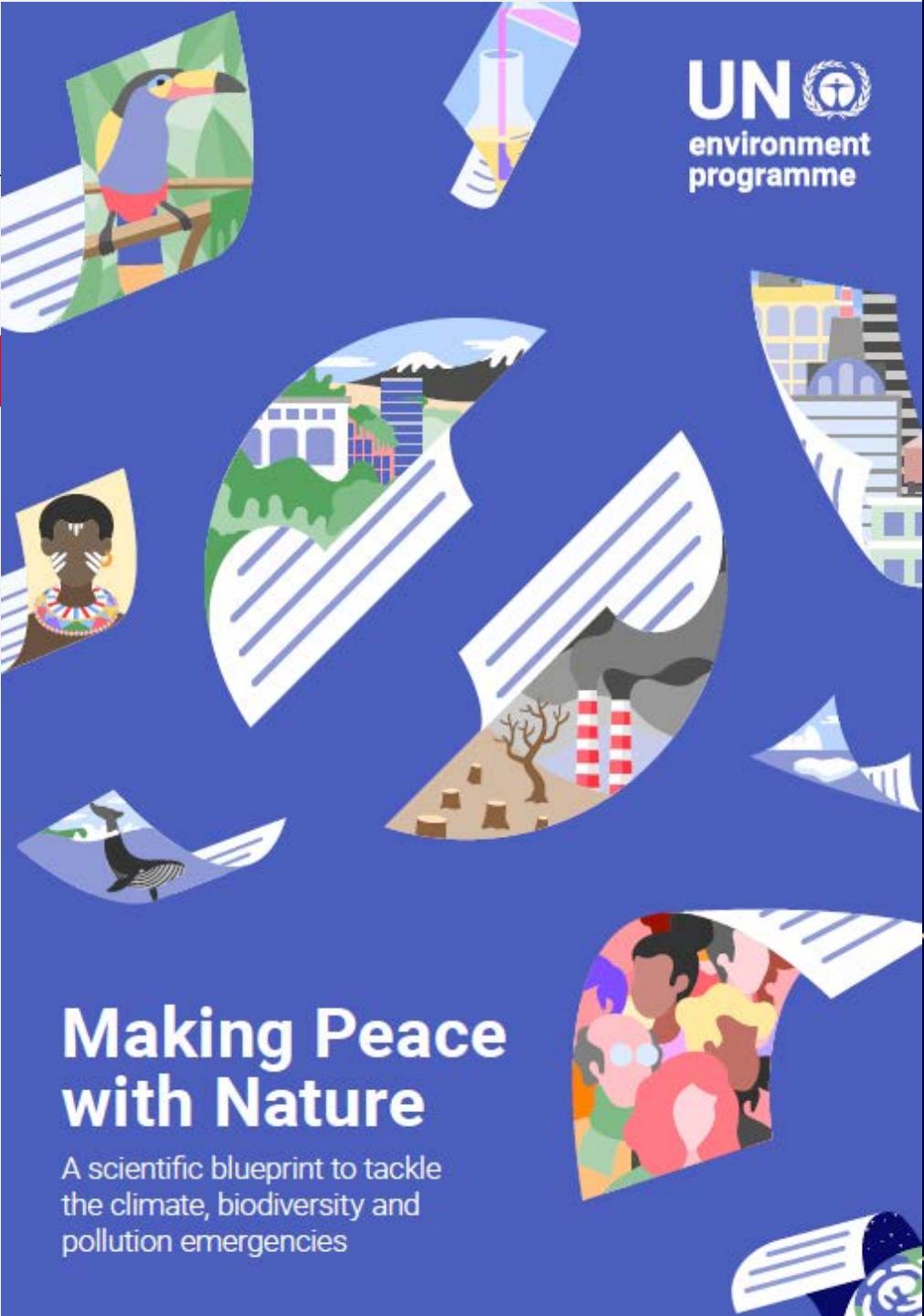
Valutazione del grado di alterazione di **9 processi geofisici/biofisici/biologici** globali da parte delle attività umane rispetto alle condizioni medie dell'Olocene





Making Peace with Nature

A scientific blueprint to tackle
the climate, biodiversity and
pollution emergencies



UN

environment
programme

MAKING PEACE WITH NATURE

Transforming nature
puts human well-being at risk

HUMAN DEVELOPMENT (1970–2020):

- ▶ The economy has grown nearly fivefold and trade tenfold
- ▶ Human population has doubled to 7.8 billion
- ▶ Still, 1.3 billion people are poor and 700 million hungry

DISPOSALS OF WASTE MATTER:

- ▶ Greenhouse gas emissions have doubled
- ▶ Chemical production, waste and pollution have increased

USE OF SPACE AND RESOURCES:

- ▶ Resource use has tripled
- ▶ Humans impact 3/4 of ice-free land and 2/3 of oceans

Earth's capacities to

- ▶ support life
- ▶ provide resources
- ▶ absorb waste matter

**ARE DEGRADED
AND SURPASSED**

RISK to:

Livelihoods, equity, health, economic development, peace, food, water, sanitation, safe cities and settlements

Transforming humankind's relationship with nature is the key to a sustainable future

HUMAN DEVELOPMENT (from 2020):

- ▶ Sustainable economic and financial systems
- ▶ Healthy, nutritious food and clean water and energy
- ▶ Healthy lives and well-being for all in safe cities and settlements

DISPOSALS OF WASTE MATTER:

- ▶ Net-zero carbon dioxide emissions by 2050
- ▶ Management of chemicals, waste and pollution

USE OF SPACE AND RESOURCES:

- ▶ Recycling of resources
- ▶ Protection and sustainable use of land and oceans

Earth's capacities to

- ▶ support life
- ▶ provide resources
- ▶ absorb waste matter

**ARE RESTORED
AND ADAPTED**

SUPPORT for:

Poverty elimination, equity, health, economic development, peace, food, water, sanitation, safe cities and settlements

Il concetto di servizi ecosistemici, or why biodiversity matters!

Servizi ecosistemici

*Insieme di benefici forniti
(gratuitamente) dall'ambiente
naturale al genere umano*



Il concetto di servizi ecosistemici, or why biodiversity matters!

More than half of global GDP – some €40 trillion – depends on nature

Nature restoration will be a central element of the EU's recovery plan from the coronavirus pandemic, providing immediate business and investment opportunities for restoring the EU's economy.



Regulating services: >75% of global food crops rely on animal pollination, and ca. 50% by wild pollinators

Provisioning services: capture fisheries are the main protein source for ca. 1 mld people, with 40 mln people directly employed (indirectly 150-200 mln) - economic value of capture fisheries: US \$100 billions/year



Biodiversity improves ecosystem functioning and hence the quality of most ecosystem services



Biodiversity increases ecosystems stability, resilience, key processes (primary and secondary productivity), carbon storage capacity, nutrient cycling, decomposition, etc.

Benefits for human health, well-being, economy, and nature

Biodiversity matters, but... profits & war matters more!

Business groups block action that could help tackle biodiversity crisis, report finds

Industry associations for sectors from oil to agriculture in the US and Europe found resisting wildlife-friendly laws, say researchers



FROM POLITICO PRO

Ukraine war dims hopes for a global biodiversity cash injection

Reversing biodiversity loss by 2030 requires massive investments, and critics say wealthy countries aren't stepping up.



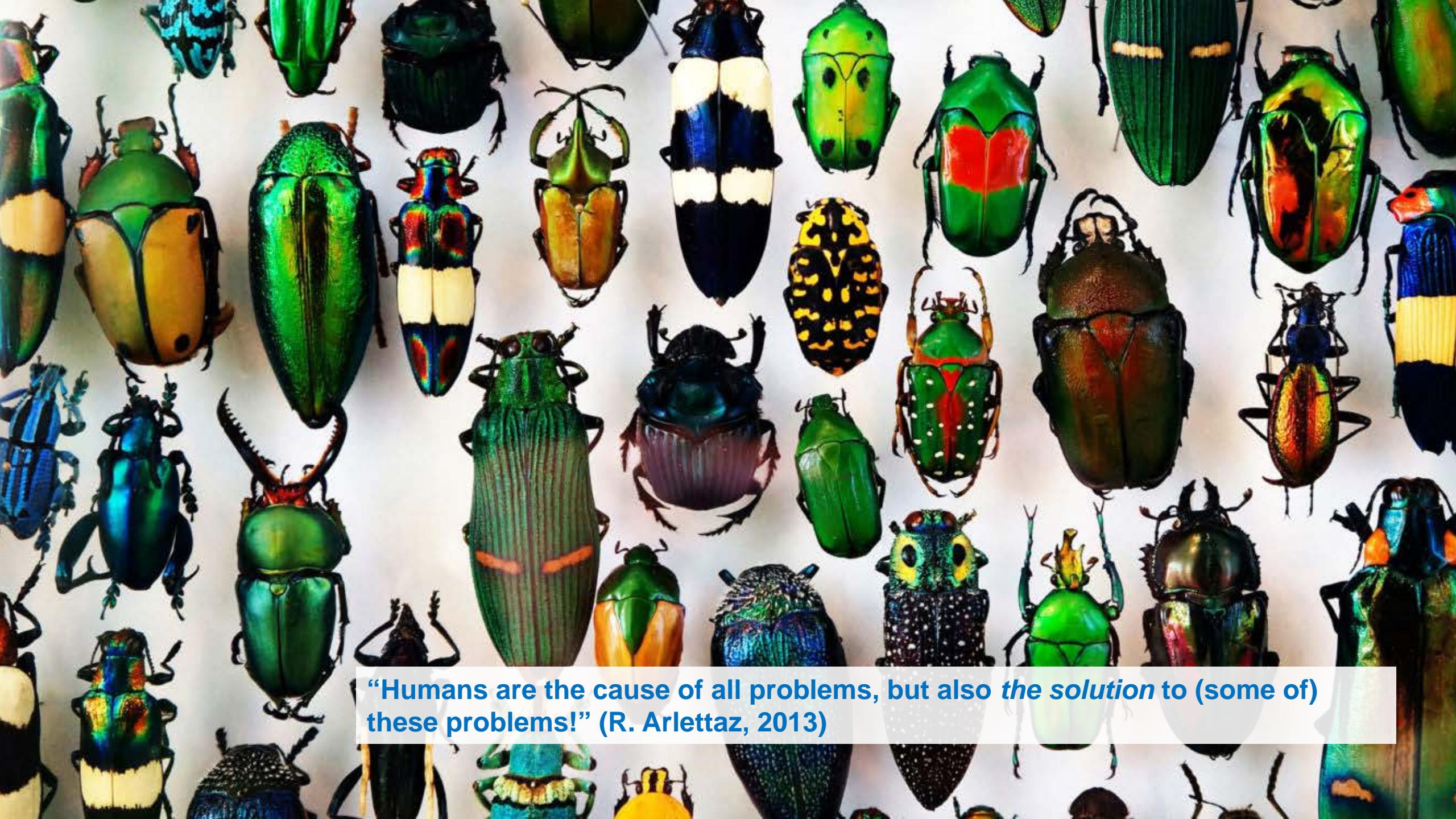
Economic and social costs of inaction



Biodiversity loss and ecosystem collapse is one of the biggest threats facing humanity in the next decade. **Economic and social costs of inaction** would be huge. The world already lost an estimated €3.5-18.5 trillion per year in ecosystem services from 1997 to 2011, and an estimated €5.5-10.5 trillion per year from land degradation. Biodiversity underpins EU and global food security. Biodiversity loss risks puts our food systems and nutrition at risk.

Biodiversity loss is intrinsically linked to and exacerbates climate change.





"Humans are the cause of all problems, but also *the solution* to (some of) these problems!" (R. Arlettaz, 2013)