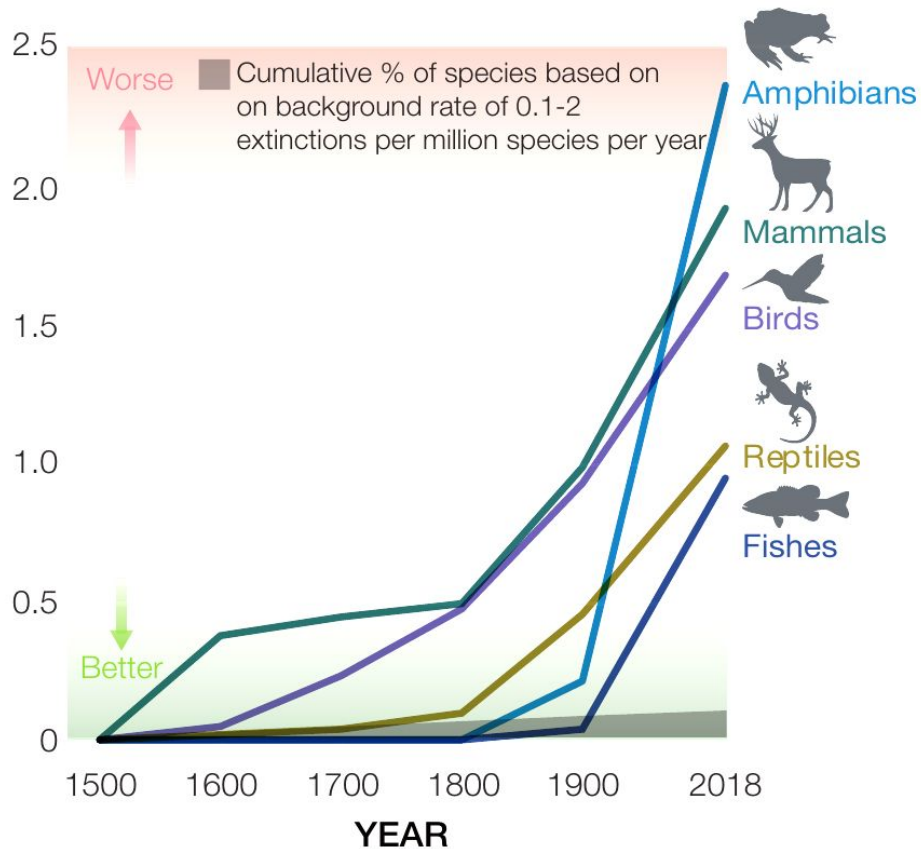


Lucas Garibaldi

Diseño de paisajes agropecuarios



Cumulative % of species driven extinct



Extinción de especies

CellPress

Gold Standard
for the Global Goals
3 tons of
CO₂ offset

One Earth

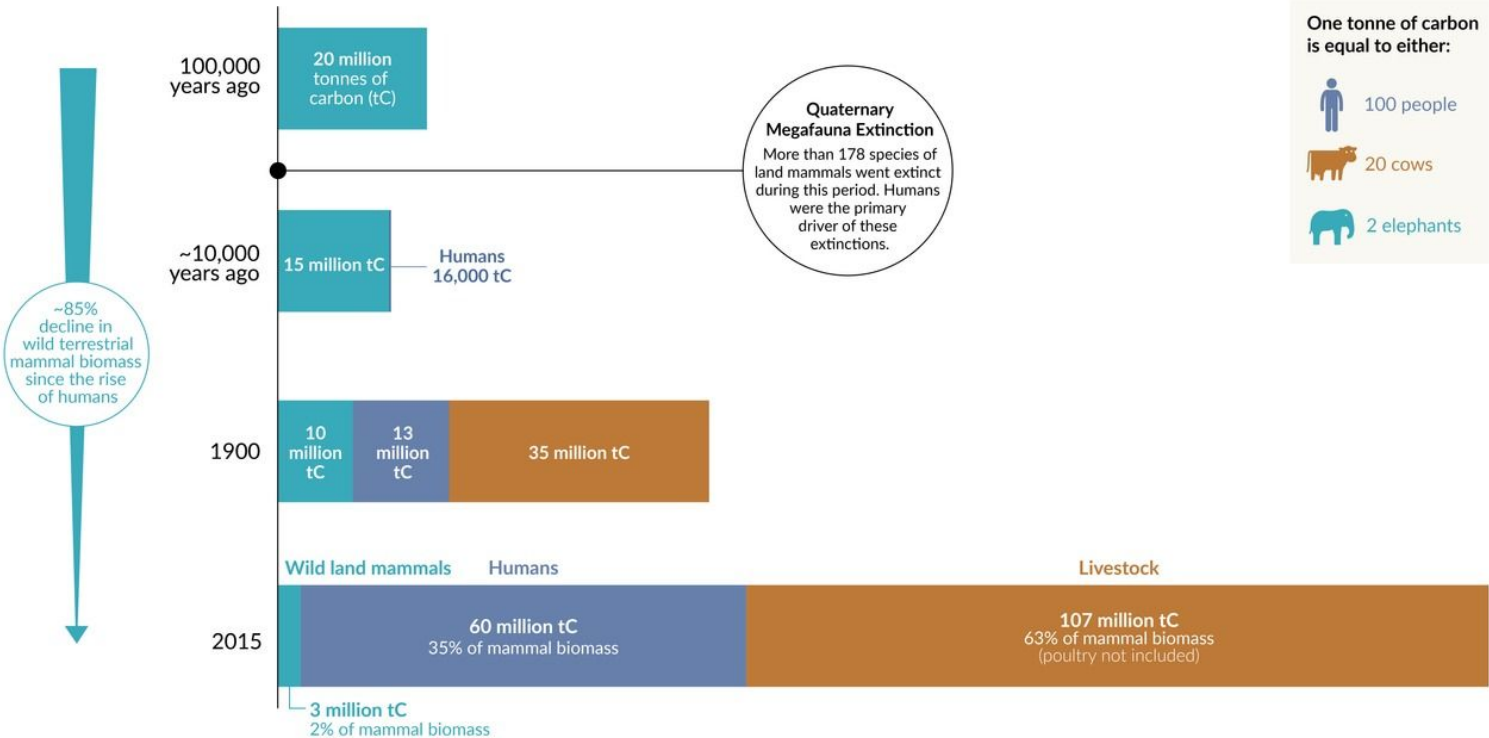
Article

Worldwide occurrence records suggest a global decline in bee species richness

Eduardo E. Zattara^{1,2,3,5,*} and Marcelo A. Aizen^{1,4}

Changing distribution of the world's land mammals

Mammals are compared in terms of biomass, measured in tonnes of carbon.



Note: Estimates of long-term biomass come with significant uncertainty, especially for wild mammals 100,000 and 10,000 years ago.

Sources: Barnosky (2008); Smil (2011); and Bar-On et al. (2018).

	NATURE'S CONTRIBUTION TO PEOPLE	POTENTIAL CONTRIBUTION	REALIZED CONTRIBUTION	ENVIRONMENTAL CONDITION	IMPACT ON PEOPLE
REGULATING	Habitat	Habitat to support desired species			
	Pollination & seed dispersal	Pollinator diversity & abundance	Pollinator - plant overlap	Pollinated plant diversity & abundance	Health from pollinated foods
	Air quality regulation	Amount of burnable biomass or pollution entraining vegetation	Burned vegetation & actual pollution entrainment	Air quality	Air pollution-driven mortality
	Climate regulation	Potential GHG sequestration by existing ecosystems	Actual GHG sequestration, including land management	GHG concentration	Climate-driven mortality & costs
	Ocean acidification regulation	Potential CO ₂ sequestration by existing ecosystems	Actual CO ₂ sequestration by existing ecosystems	Ocean acidification	Nutrition & income from shellfish & coral reefs
	Water quantity & flow regulation	Potential water modulation by existing ecosystems	Actual water modulation by existing ecosystems	Available water	Available water relative to demand
	Water quality regulation	Extent of filtering ecosystems	Actual ecosystem removal of pollutants	Water quality	Health from water pollution & cost of water treatment
	Soil formation & protection	Extent of ecosystems that create soil fertility	Soil fertility, reflects land use	Soil fertility, reflects ability to use soil	Soil-driven health and income
	Hazard regulation	Existence of hazard-reducing ecosystems	Actual ecosystem hazard reduction	Incidence and severity of hazards	Hazard-driven health & income
	Pest regulation	Pest enemy diversity & abundance	Actual control of pests	Vector borne disease & pest-driven damage	Health from vectorborne disease & cost of pest damage
MATERIAL	Energy	Extent of agriculture & forest land for bio-energy	Bioenergy harvested		Bio-energy-driven income and security
	Food & feed	Extent of food producing land & ocean fish stocks	Amount and nutrition of harvested food & feed		Nutrition & income from food & feed
	Materials	Extent of agriculture and forest land for materials	Amount & quality of harvested materials		Employment & income
	Medicine	Overlap of species diversity & knowledge	Medicinal species in use		Health from natural medicines
NON-MATERIAL	Learning & Inspiration	Natural diversity in proximity to people	Actual learning from nature		Income & wellbeing from bio-inspiration
	Experience	Natural & traditional landscapes in proximity to people	Actual physical and psychological experiences in nature for rich/urban & poor/rural people		Nature-driven quality of life for rich/urban & poor/rural people
	Identity	Land use stability to influence identity	Actual shaping of identity by nature for rich/urban & poor/rural people		Nature-driven quality of life for rich/urban & poor/rural people
	Options	Amount and diversity of nature to provide future benefits			

Trend since 1970: Worse Little change Better Regional differences: Different results among indicators:

Confidence scale: Quantity and quality of evidence: ○ Low ● Robust
Level of agreement: △ Low ▲ High

Pérdida en las contribuciones de la naturaleza a las personas

Changes in biodiversity vary in different parts of the world

The global Living Planet Index does not give us the entire picture – there are differences in abundance trends between regions, with the largest declines in tropical areas.

The Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) divides the world into different geographic regions³⁹⁻⁴⁵. This breakdown is designed to

support the monitoring of progress towards the targets developed under the Convention on Biological Diversity.

Valentina Marconi, Louise McRae and Robin Freeman (Zoological Society of London)

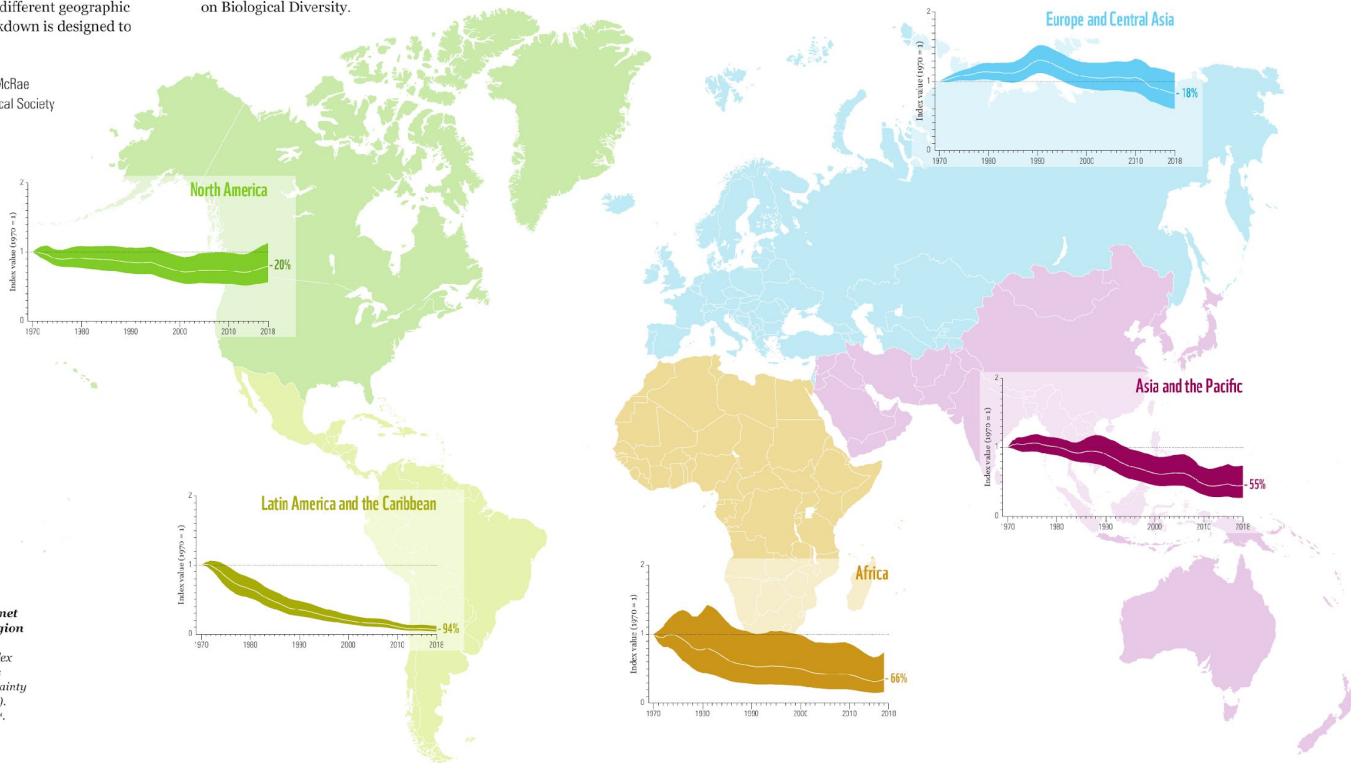


Figure 4: The Living Planet Index for each IPBES region (1970 to 2018)

The white line shows the index values and the shaded areas represent the statistical certainty surrounding the trend (95%). Source: WWF/ZSL (2022)⁴⁶.

The LPI trends presented here follow the IPBES regional classifications, with all terrestrial and freshwater populations within a country assigned to an IPBES region. The Americas are further subdivided into North America, and Latin America and the Caribbean (Mesoamerica, the Caribbean and South America combined).

Trends for each species group are weighted according to how many species are found in each IPBES region. More details about these regional trends and the other cuts of the Living Planet Index can be found in the 2022 *Living Planet Report: Deep dive into the Living Planet Index*.

Argentina



Paisajes **homogéneos**

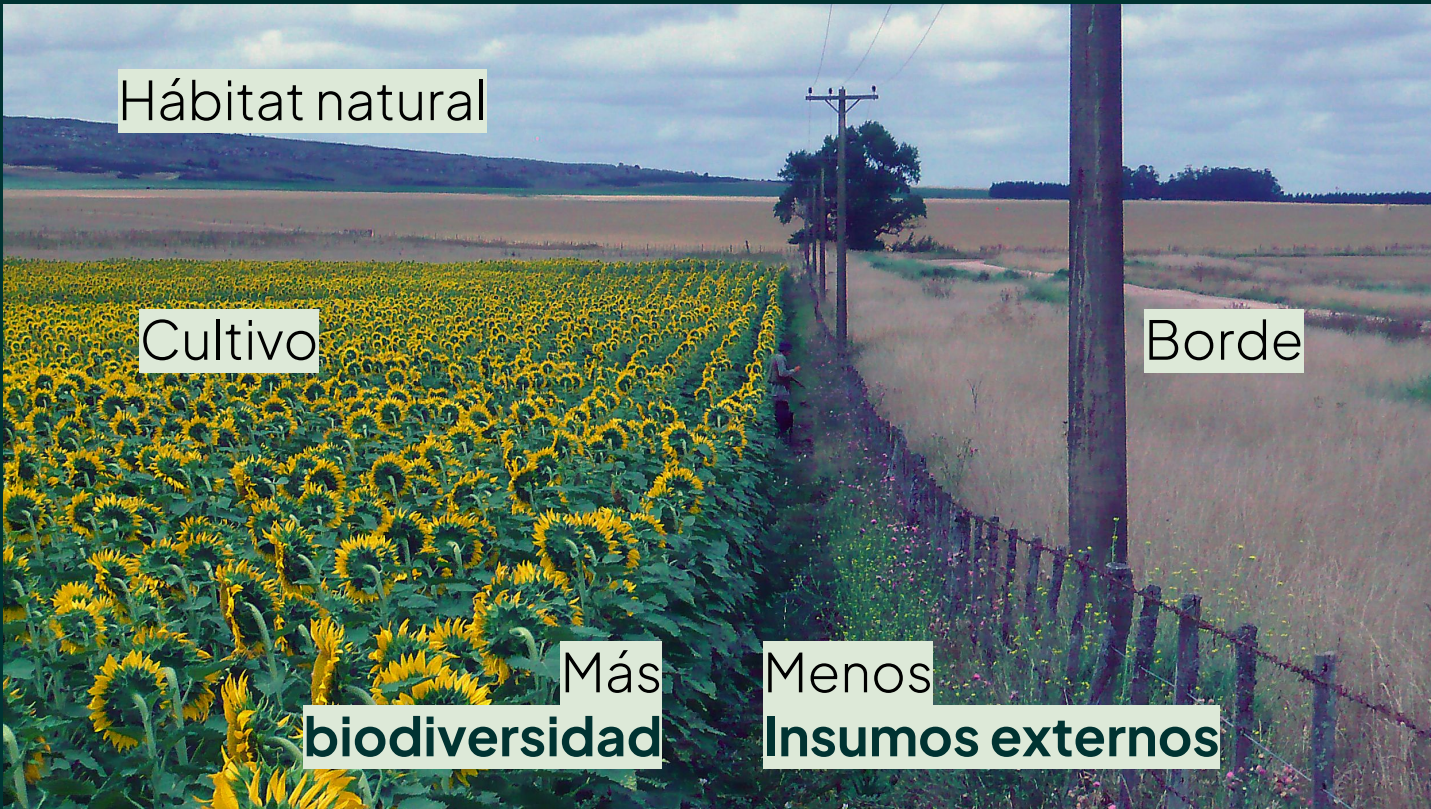
El cambio de uso del suelo es la principal causa de pérdida de biodiversidad



Menos
biodiversidad

Más
Insumos externos

Paisajes multifuncionales



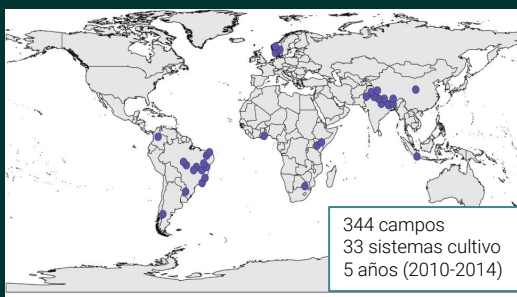
Transiciones productivas sostenibles

- Eficiencia
- Reemplazo
- Rediseño

Master plan – Codesarrollo



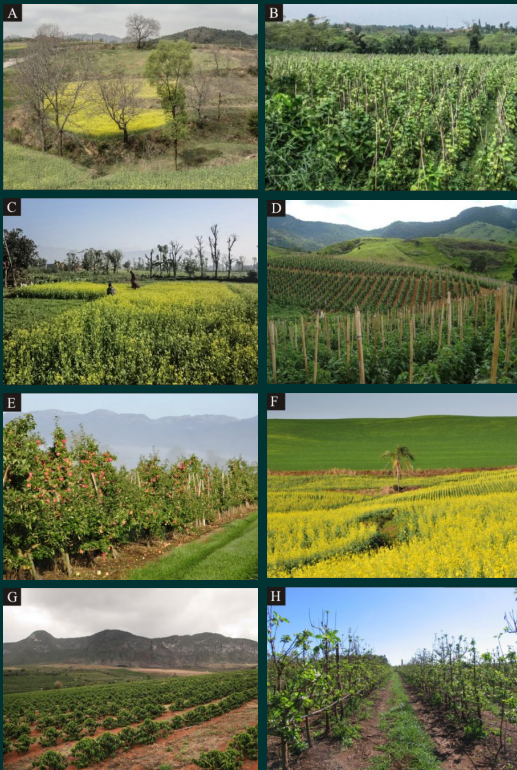
Paisajes multifuncionales



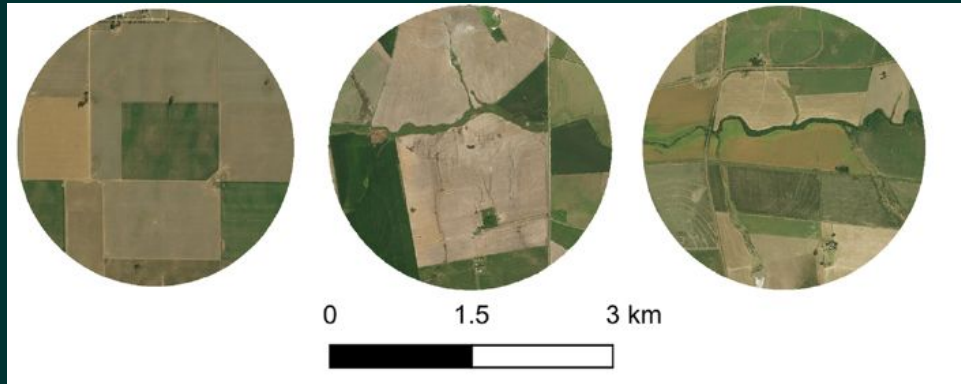
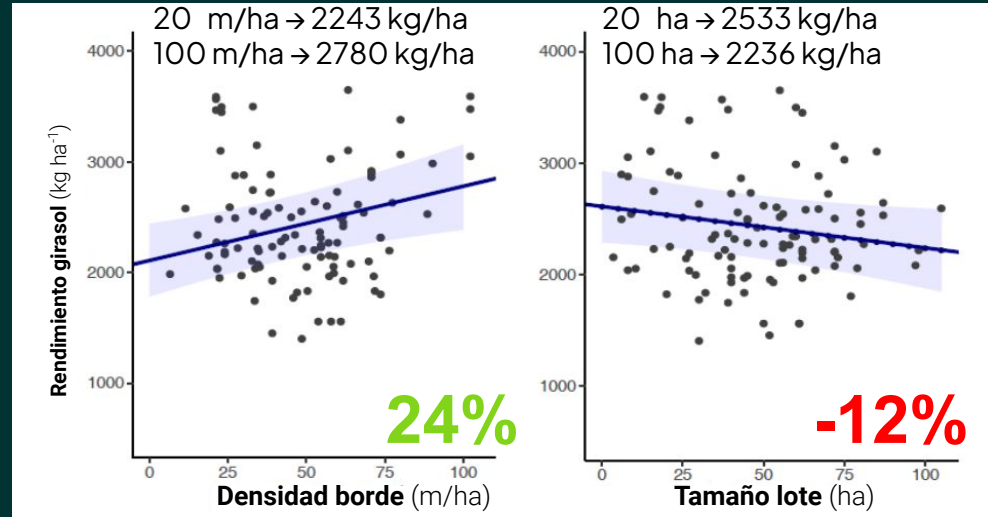
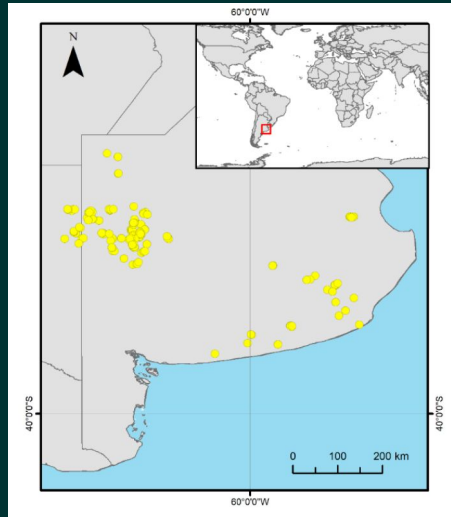
Rendimiento
+ 24 %

Beneficios

- Productividad, estabilidad y calidad de los cultivos.
- Polinización de cultivos
- Menos costos (malezas, enfermedades, plagas)
- Múltiples dimensiones



Productividad, estabilidad y calidad de los cultivos



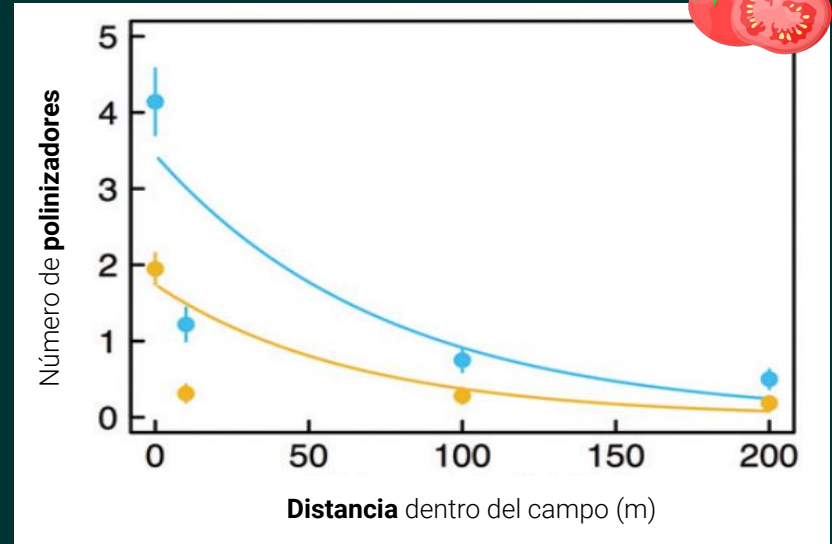
Polinización de cultivos



Foto: K Ullman



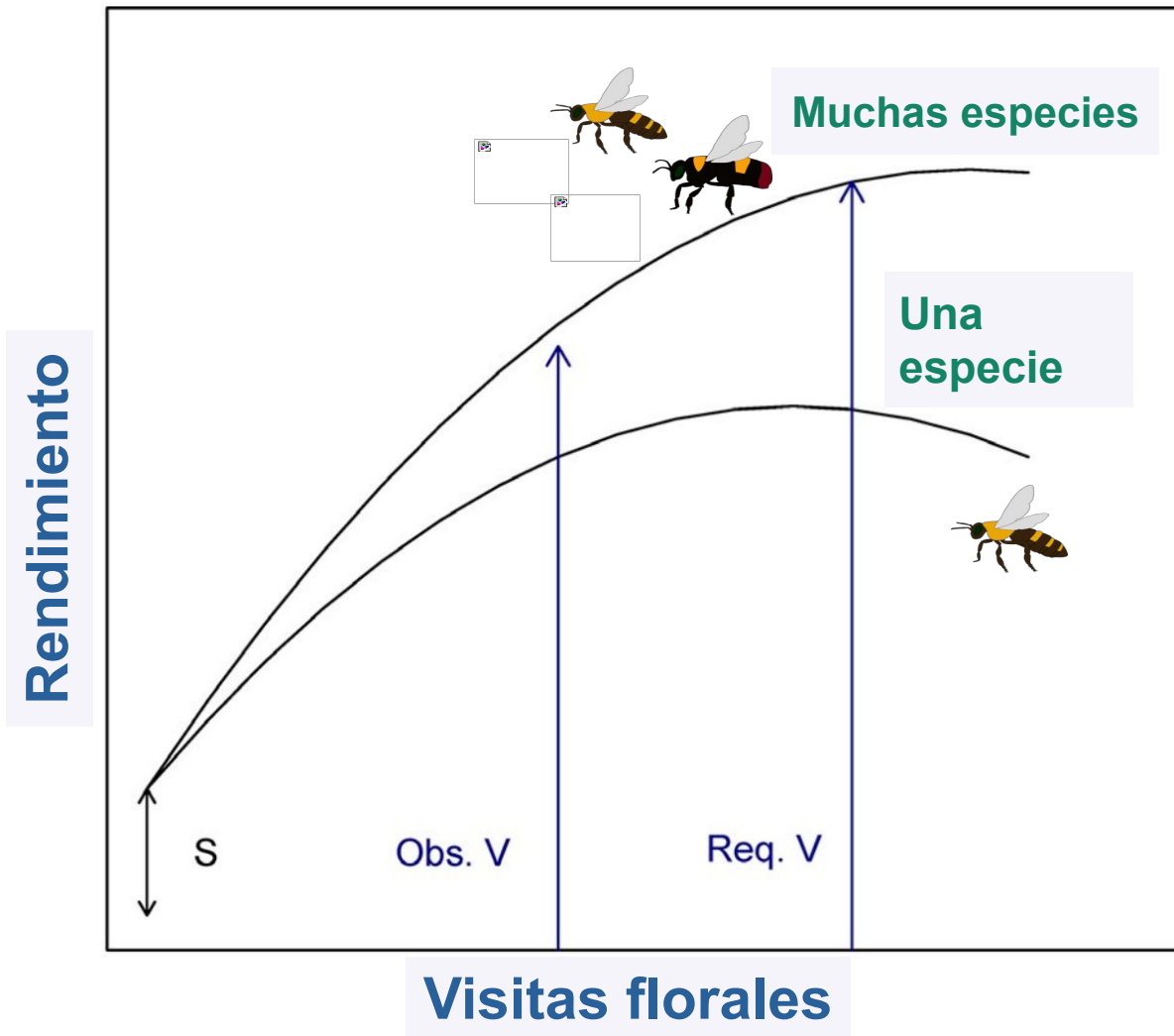
Foto: L M'Gonigle



Polinización de cultivos



Polinización de cultivos



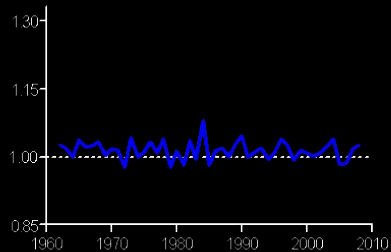
Garibaldi et al. (2013) *Science*
Garibaldi et al. (2015) *J. Appl. Ecol*
Garibaldi et al. (2020) *J. Appl. Ecol*



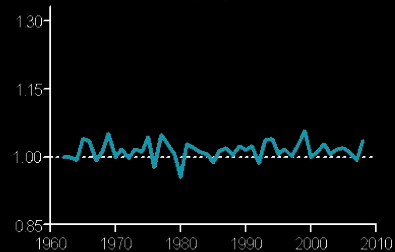
+21% rendimiento

**Polinización de
cultivos**

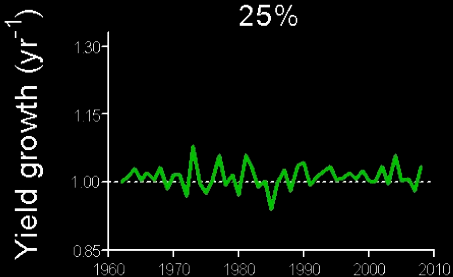
None



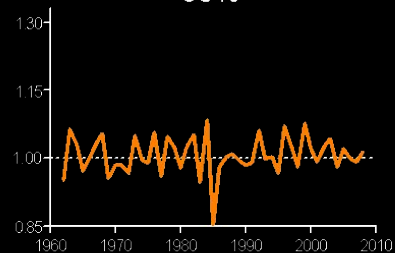
5%



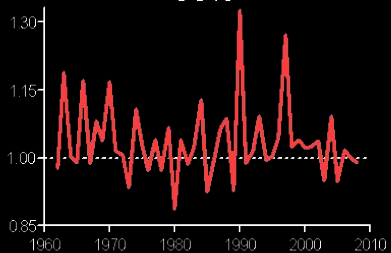
25%



65%



95%

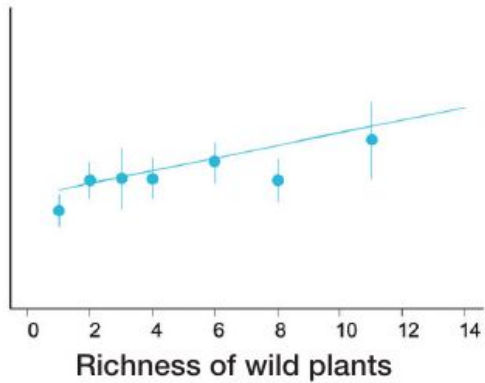
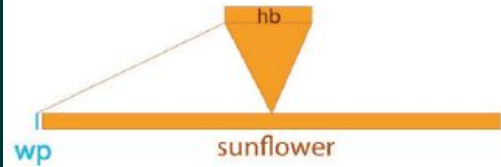
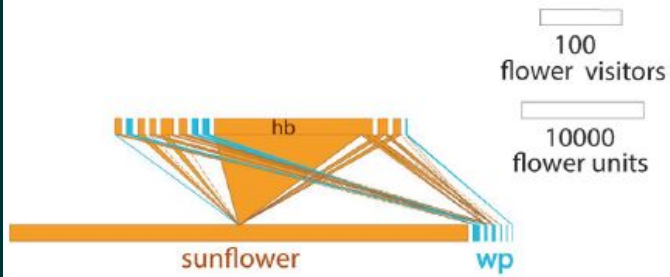


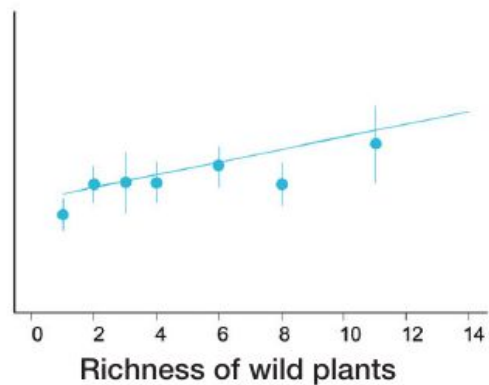
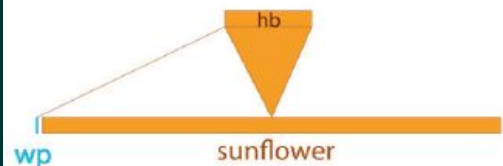
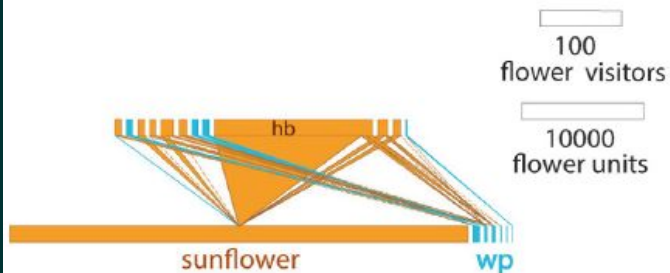
Year

Year

Déficit
polinizadores

Polinización de cultivos





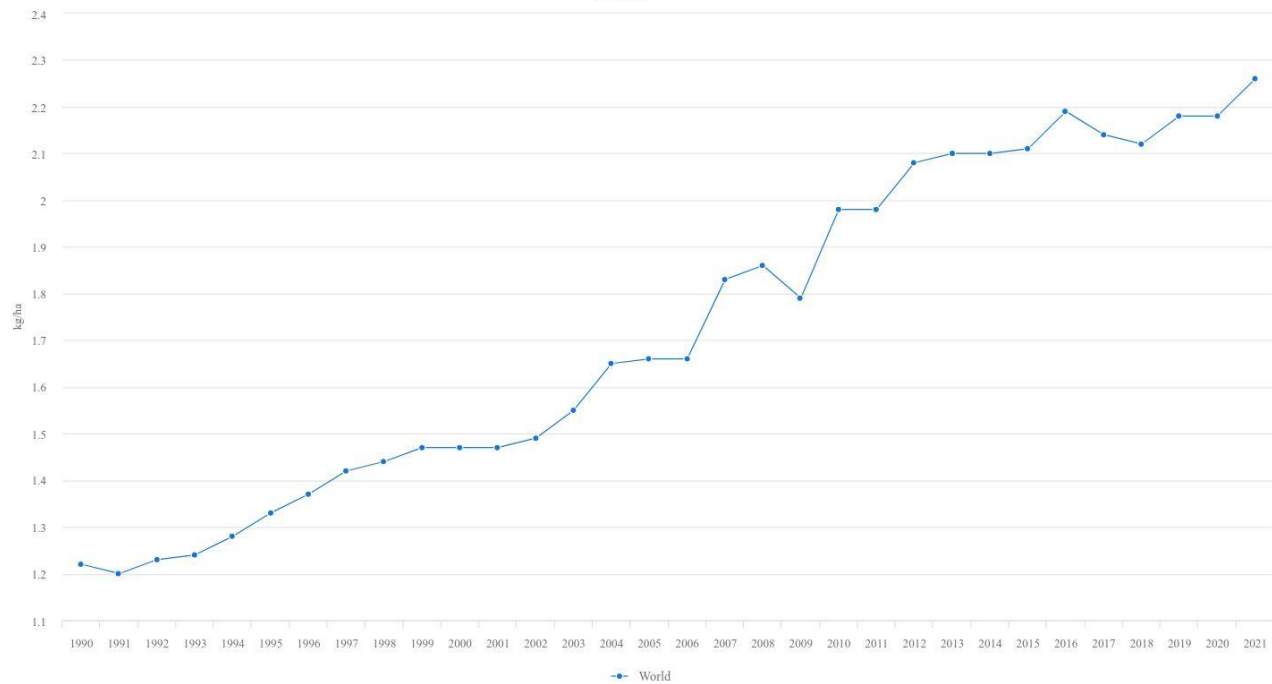
Chicharrita del maíz: ya imposible de controlar en la actual campaña, ¿cómo frenarla en la próxima?

Un experto de la Facultad de Ciencias Agrarias de la Universidad Nacional de Lomas de Zamora brinda sus recomendaciones para que el ciclo 2024/25 no se vea perjudicado también por esta plaga.



Pesticides (total) + (Total) - Use per area of cropland (%)

1990 - 2021



Source: FAOSTAT (May 6, 2024)

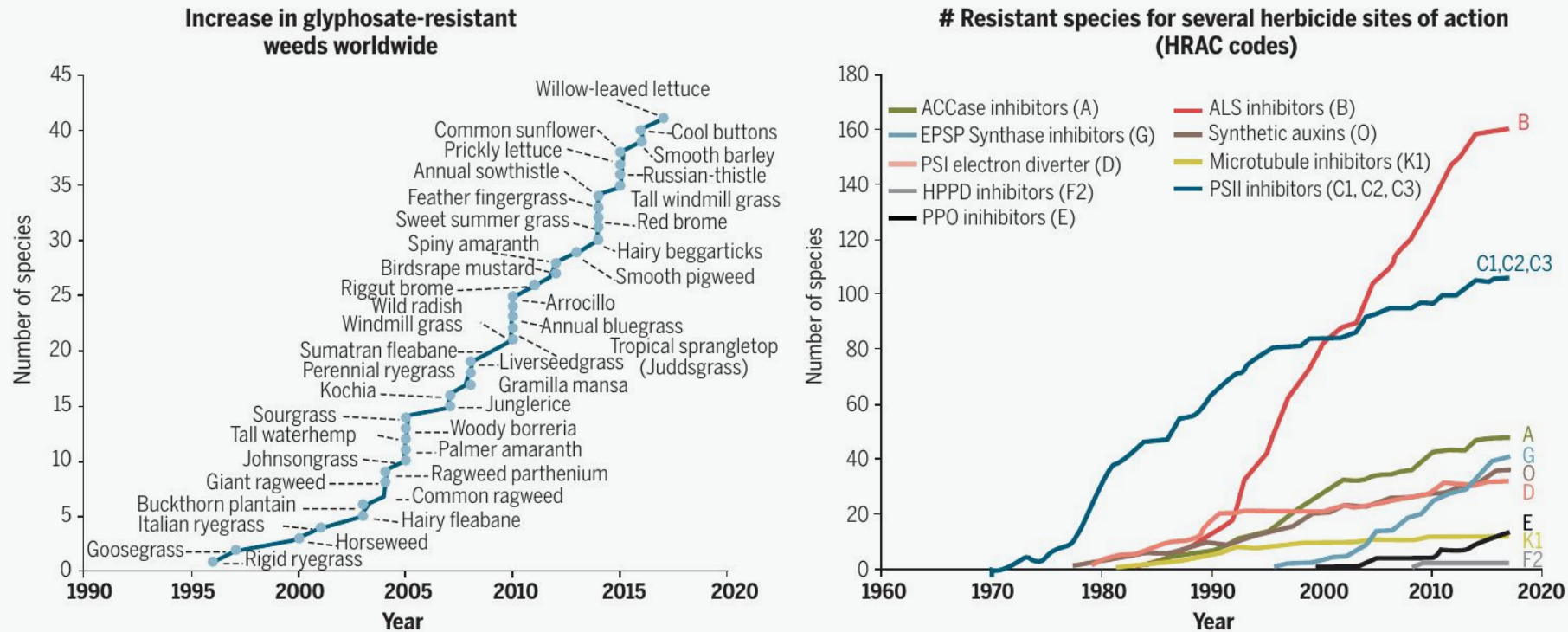
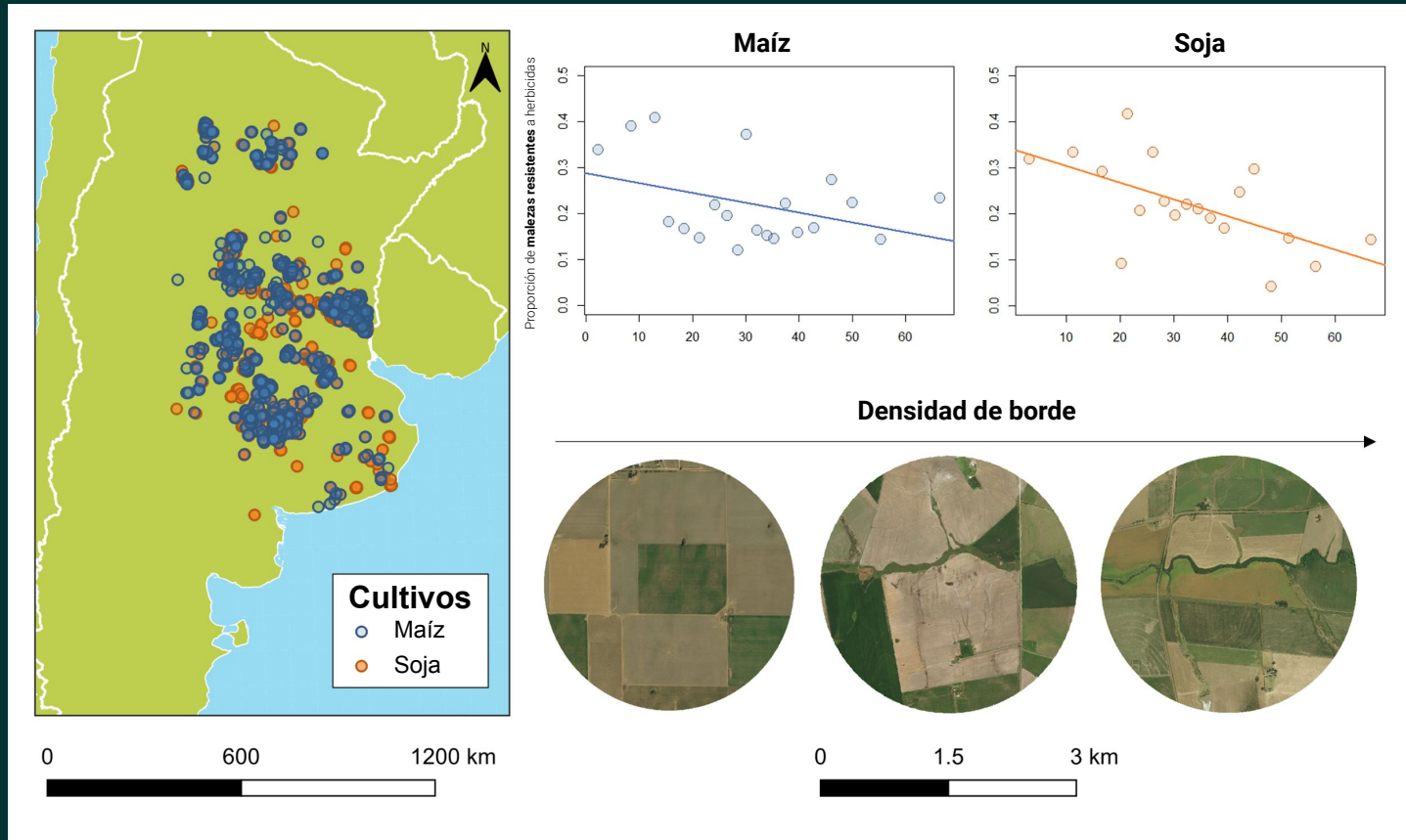


Fig. 1. Weed species with resistance to herbicides. (Left) Cumulative number of weed species with resistance to glyphosate. **(Right)** Cumulative number of weed species with resistance to herbicides in the major mechanism of action groupings.

Menos costos



Malezas **3 veces** menos resistentes

Múltiples dimensiones



- Marco Mundial de Biodiversidad Kunming–Montreal para el 2030
- Emisiones netas cero para el 2050

Ley de Restauración de la Naturaleza de la UE



IMPORTANCIA ESTRATÉGICA

- Restaurar ríos, bosques, pastizales, humedales y ecosistemas marinos contribuye a:
- Incrementar la biodiversidad.
 - Conservar los servicios ecosistémicos que nos ofrece la naturaleza.
 - Limitar el calentamiento global a 1,5°C.
 - Reforzar la resiliencia a nivel europeo.

OBJETIVO PRINCIPAL

Restaurar al menos el 20% de las zonas terrestres y marinas de la UE para 2030 y todos los ecosistemas que lo necesiten para 2050.

OBJETIVOS DE LOS ESTADOS MIEMBROS

PARA 2030

- Restaurar el 30% de los hábitats degradados
- Reparar el 30% de las turberas drenadas
- Liberar el cauce de 25.000 km de ríos
- Plantar 3.000 millones de árboles adicionales
- Revertir el declive de las poblaciones de polinizadores
- Evitar una pérdida neta de espacios verdes urbanos

PARA 2040

- Restaurar el 60% de los hábitats degradados
- Reparar el 40% de las turberas drenadas
- Lograr una tendencia al alza de las poblaciones de polinizadores
- Aumentar la superficie total de espacios verdes urbanos

PARA 2050

- Restaurar el 90% de los hábitats degradados
- Reparar el 50% de las turberas drenadas
- Mantener la tendencia al alza de las poblaciones de polinizadores
- Conservar los espacios verdes urbanos



¡Gracias!

Campo El Médano, La Pampa

Foto: Alejo Ortiz



¿Preguntas?