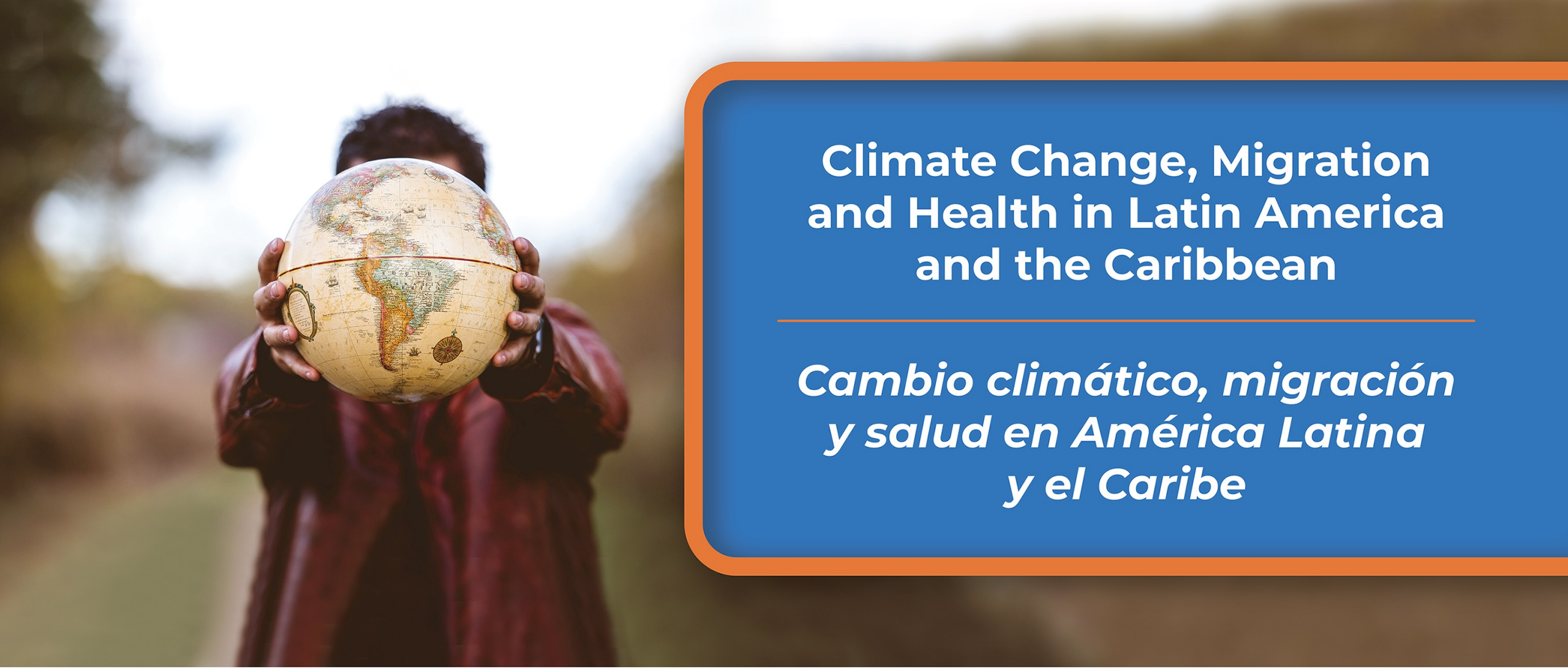


Climate Change, Migration and Health in Latin America and the Caribbean

Cambio climático, migración y salud en América Latina y el Caribe

IAI Inter-American Institute for Global Change Research

Red Chilena de Investigación en Salud y Migración
ReChISaM

Columbia Mailman School of Public Health
Global Consortium on Climate and Health Education

ICIM | UDD
Instituto de Ciencias e Innovación en Medicina
Facultad de Medicina
Clínica Alemana - Universidad del Desarrollo

Lancet Migration
Global collaboration to advance migration health

Migración & Salud Latinoamérica y Caribe

Climate Change, Migration and Health in Latin America and the Caribbean

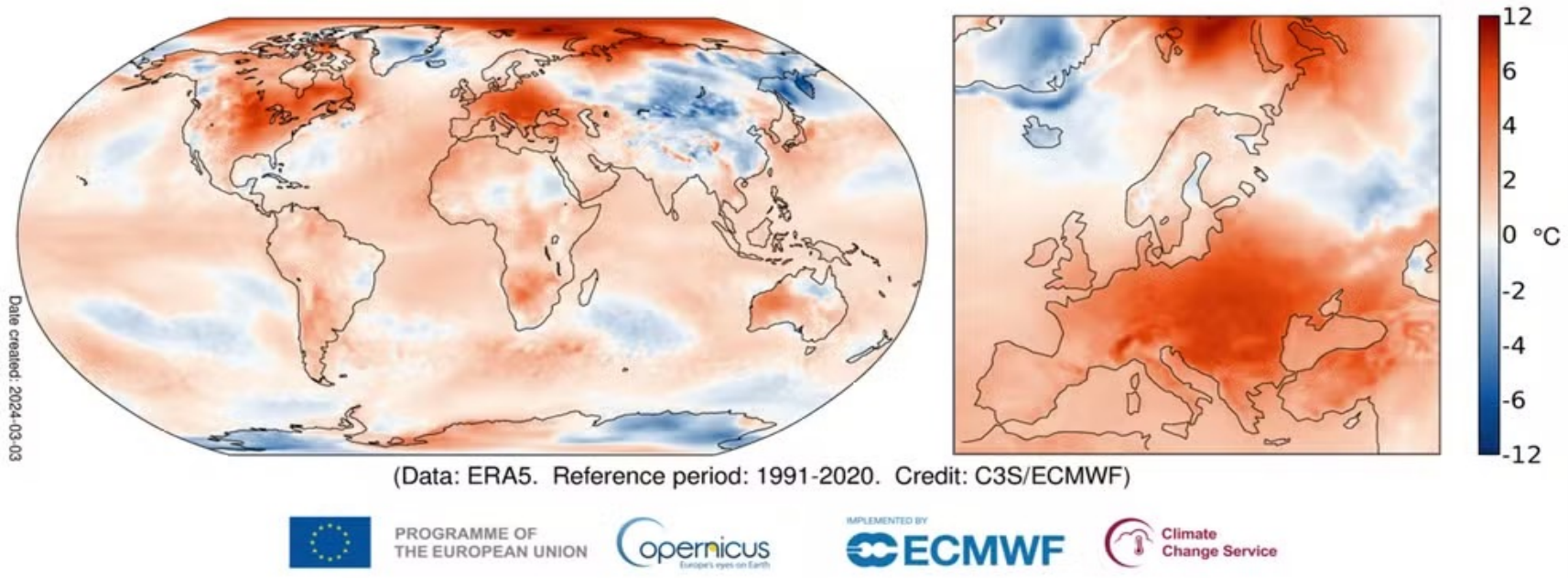
Cambio climático, migración y salud en América Latina y el Caribe

Drought, heat and extreme weather: climate forces on food-insecurity in LAC

Jean Pierre Ometto

National Institute for Space Research (INPE)

The problem is facing us…



Mean global temperature (12 months)

- 0,65°C above the 1991-2020 mean; 0,81°C (1981-2010) and 1,52°C above the pre-industrial (1850-1900).

Copernicus 24/06/24

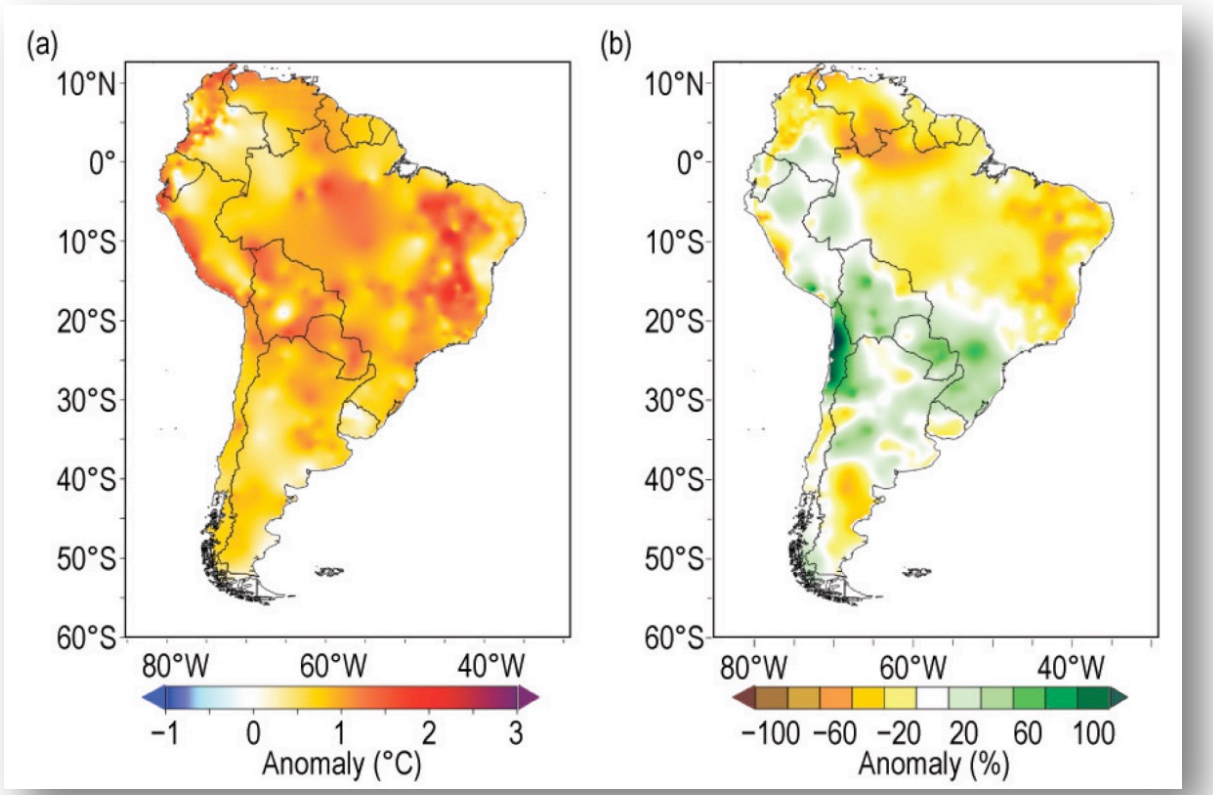
I. **Climate Emergency** – incorporate the urgency of actions into social systems and production systems

II. Climate agenda Sustainability agenda

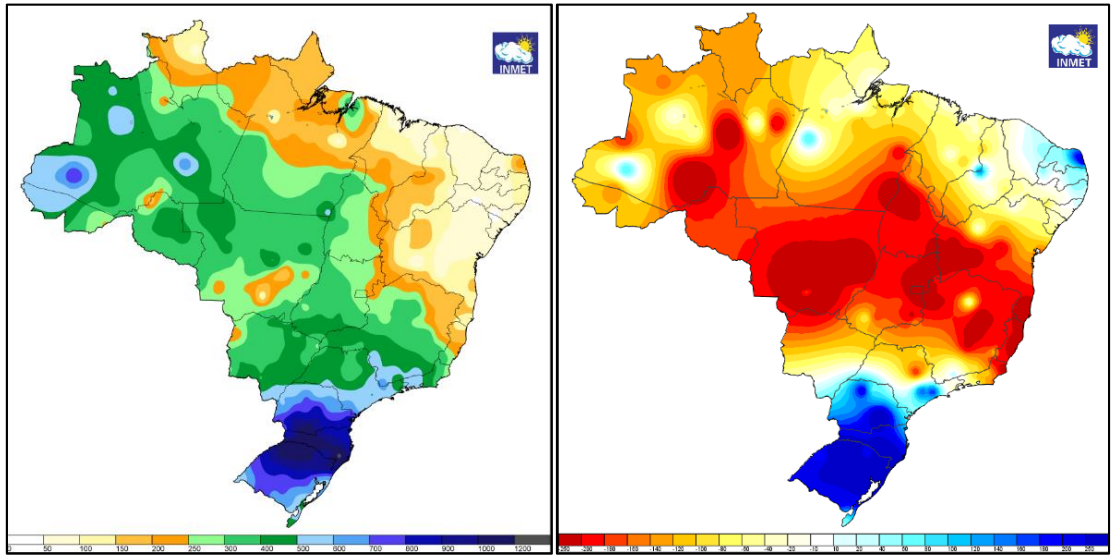
III. Dimension of consequences – clear and objective mapping

IV. Mitigation ⇔ Adaptation

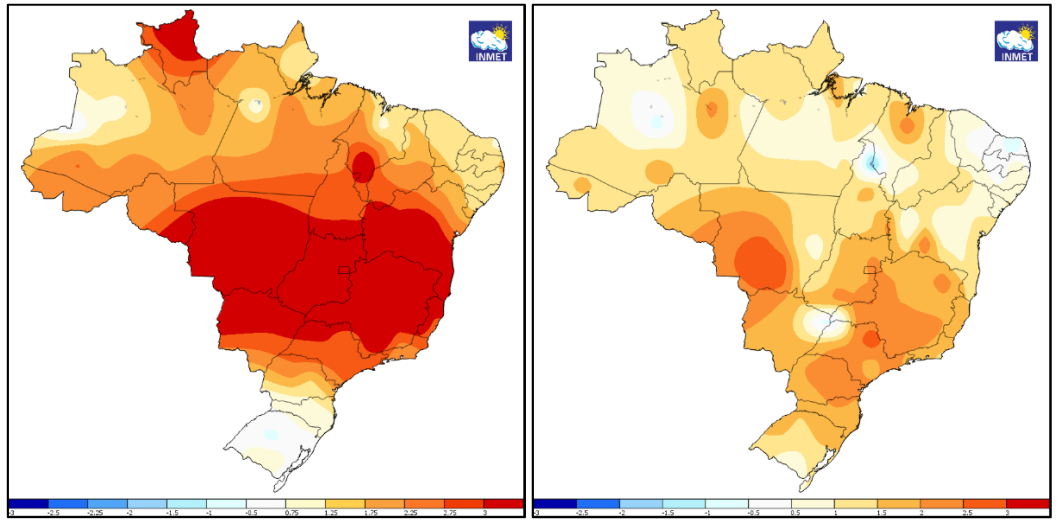
South America– a drier and hotter continent



Reference perido: 1981–2010.
Source: State of the Climate in 2015,
Bull. Amer. Meteor. Soc., 97 (8), 2016.



(a) Accumulated rain between September 23rd and September 21st December 2023 and (b) precipitation anomaly or deviation (rain observed in spring 2023. Source: Inmet.

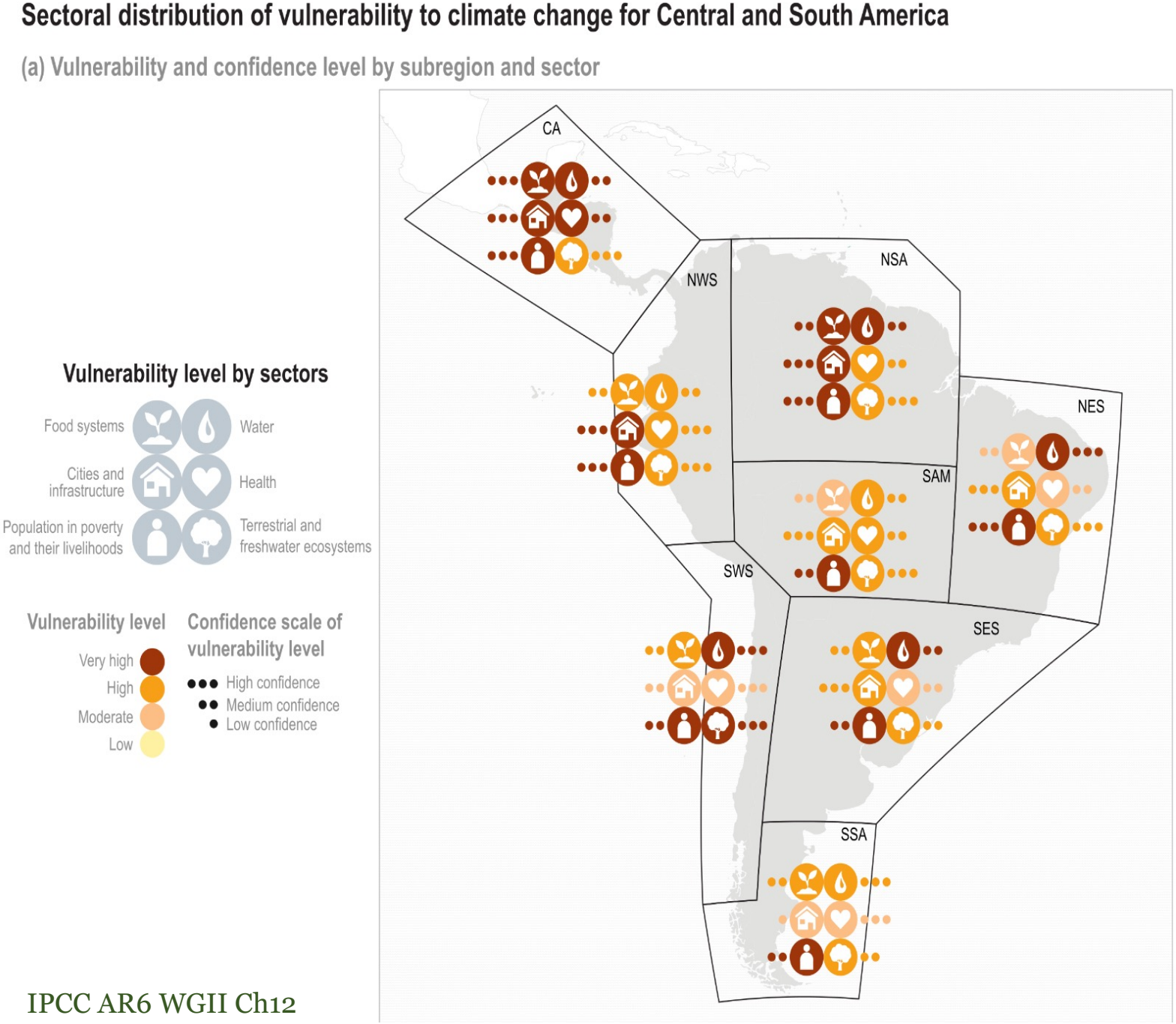


Anomaly or deviation of (a) maximum air temperature and (b) minimum air temperature observed in spring 2023.

Current Impact

- **Climate change impacts** are stressing agriculture, forestry, fisheries, and aquaculture, increasingly hindering efforts to meet human needs (high confidence).
- **Warming** has altered the distribution, growing area suitability and timing of key biological events, such as flowering and insect emergence, impacting food quality and harvest stability (high confidence).
- Climate change impacts everybody, but **vulnerable groups**, such as women, children, low-income households, Indigenous or other minority groups and small-scale producers, are **often at higher risk** of malnutrition, livelihood loss, rising costs and competition over resources (high confidence).

IPCC AR6 WGII Ch5



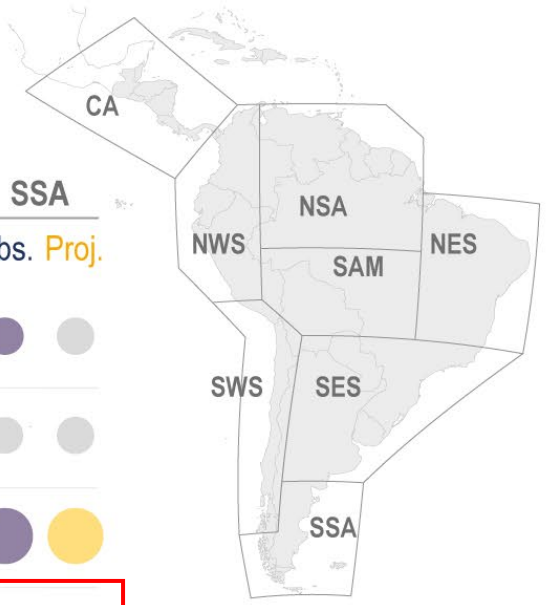
IPCC AR6 WGII Ch12

Figure 12.7. Sectoral distribution of vulnerability levels to climate change for the subregions of LAC. The vulnerability levels are based on studies that include: i) databases with climate change vulnerability indexes by country and sector, ii) researches that implement climate change vulnerability indexes by sector at the local, national, regional or global scale, and iii) studies that define some vulnerability level based on the authors' expert judgment.

The Figure shows the vulnerability and confidence levels for each subregion

Synthesis of observed and projected impacts to main sectors in Central and South America

Projections averaged across scenarios and 21st century



- Central America (CA)
- Northwest South America (NWS)
- Northern South America (NSA)
- South America Monsoon (SAM)
- Northeast South America (NES)
- Southwest South America (SWS)
- Southeast South America (SES)
- Southern South America (SSA)

	CA		NWS		NSA		SAM		NES		SES		SWS		SSA	
	Obs.	Proj.	Obs.	Proj.	Obs.	Proj.	Obs.	Proj.	Obs.	Proj.	Obs.	Proj.	Obs.	Proj.	Obs.	Proj.
Terrestrial and freshwater ecosystems and their services																
Ocean and coastal ecosystems							na	na								
Water																
Food, fibre and other ecosystem products																/
Cities and infrastructure												/		/	/	/
Health					/						/	/		/	/	/
Populations in poverty and their livelihoods					/	/	/	/			/	/	/	/	/	/
Migration, conflict and indigenous knowledge and local knowledge					/	/	/	/			/	/	/	/	/	/

Impact level Low ○ Medium ◯ High ◯

/ = not assessed na = not applicable

Confidence level: Observed impacts

Confidence level: Projected impacts

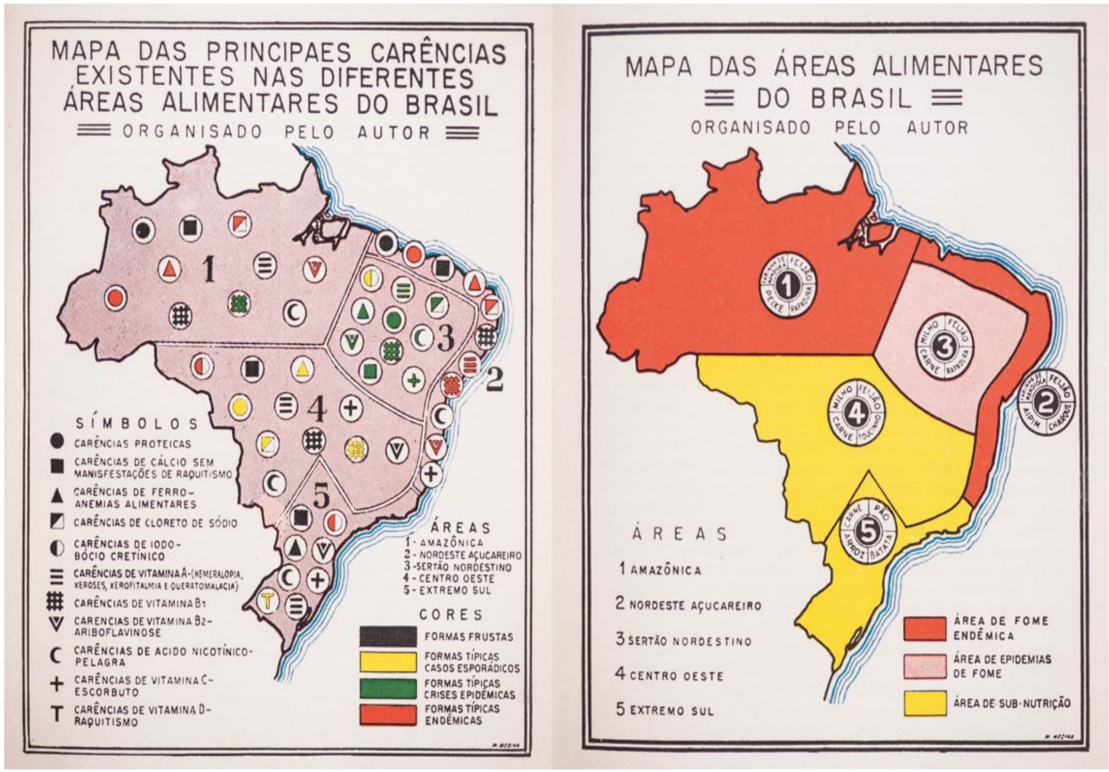
Low Medium High

IPCC AR6 WGII Ch12

Food security is defined by the Food and Agriculture Organization of the United Nations (FAO) as a "situation in which all people, at all times, have physical, social, and economic access to sufficient, safe, and nutritious food that meets their dietary needs and food preferences for an active and healthy life."

UN "*Regional Overview of Food Security and Nutrition 2023*":
- 735 million people suffer from hunger in the World; 43.2 million (6.5% of the population) of Latin America and the Caribbean
- 2022, 247.8 million in LAC and 2.3 billion people (World) experienced moderate or severe food insecurity.

https://revistapesquisa.fapesp.br/as-raizes-da-fome/



Geography of hunger (Brazil, 1940)

Dimensions of food security:

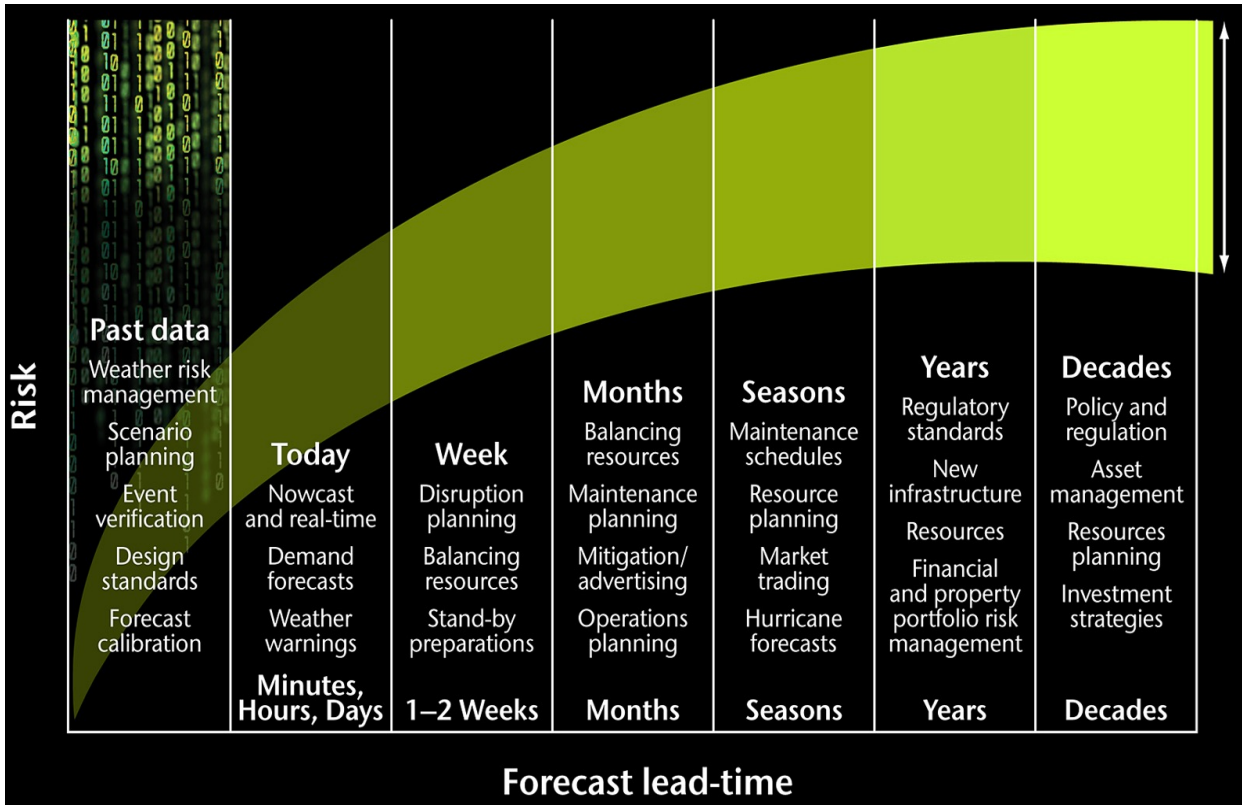
i. Food availability
ii. Access to food
iii. Stability in access
iv. Adequate food use

Mapping of risk (e.g. climate change extremes events)

I. **Risk** = f(Trend of an event happening; Exposure; (Sensitivity + Adaptive Capacity)))

II. **<u>Resilience</u>** → Capacity of a socio-ecological system to recover and resume the same functions after a given impact

A socio-ecological system (SES) is a concept that considers human and natural systems to be intertwined, interconnected, and interdependent

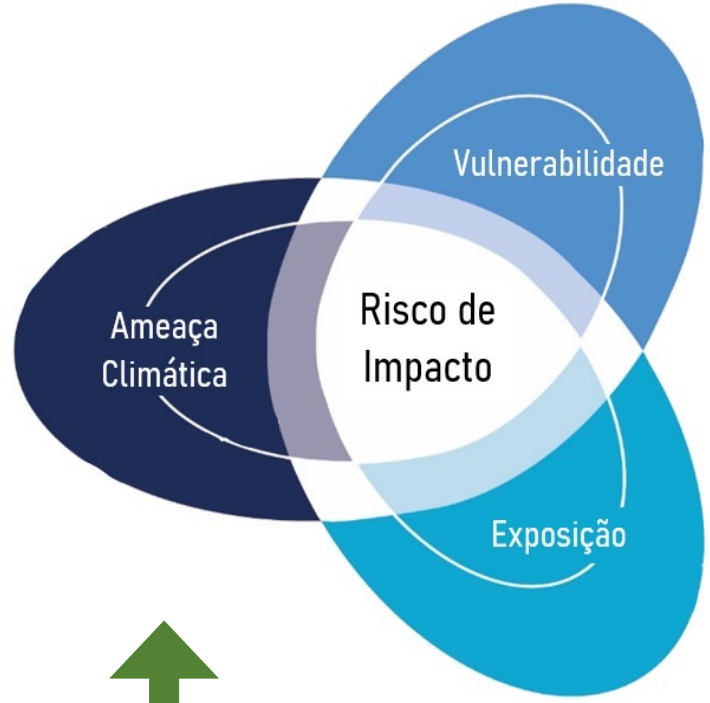


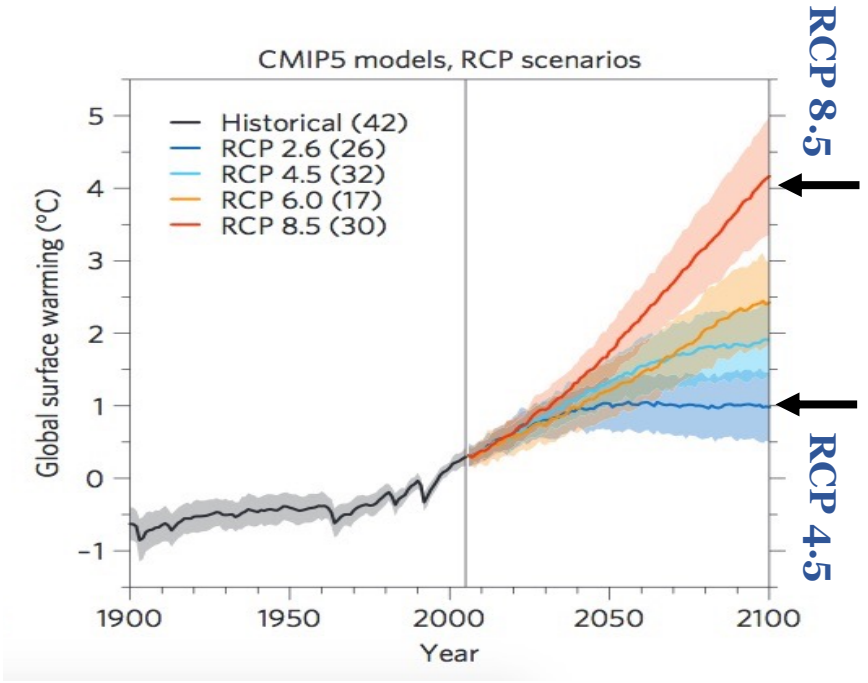
Climate change → impact risk for food security in Brazil

Risk IPCC (2014;2022)

Climate change

Food Security



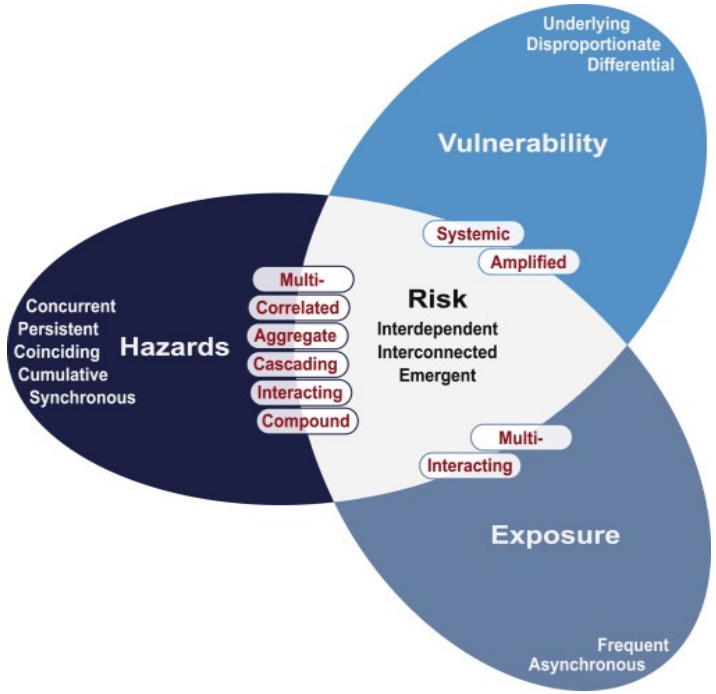


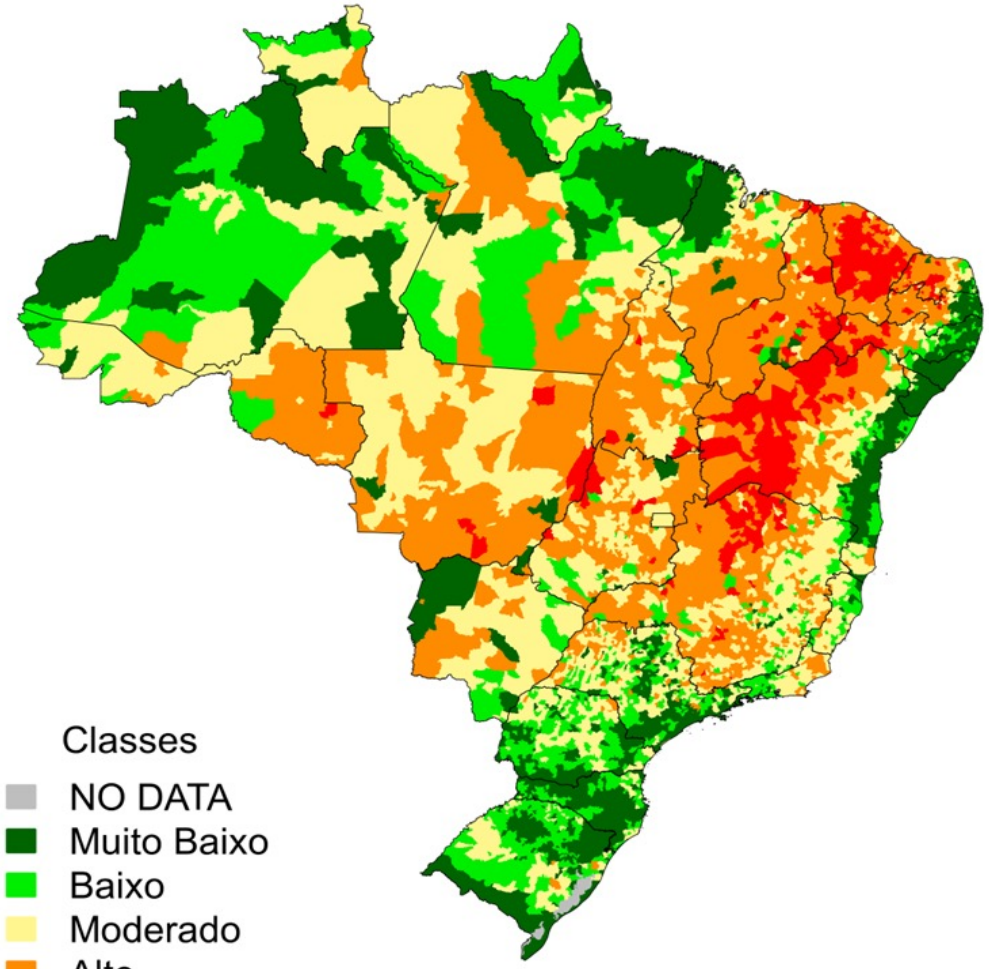
Validation (expert consultation)

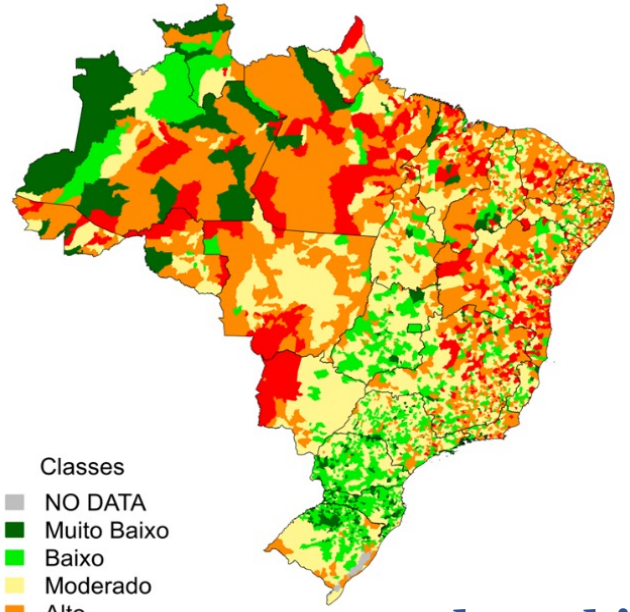
Plataforma WEB (MVP)

2030 2050

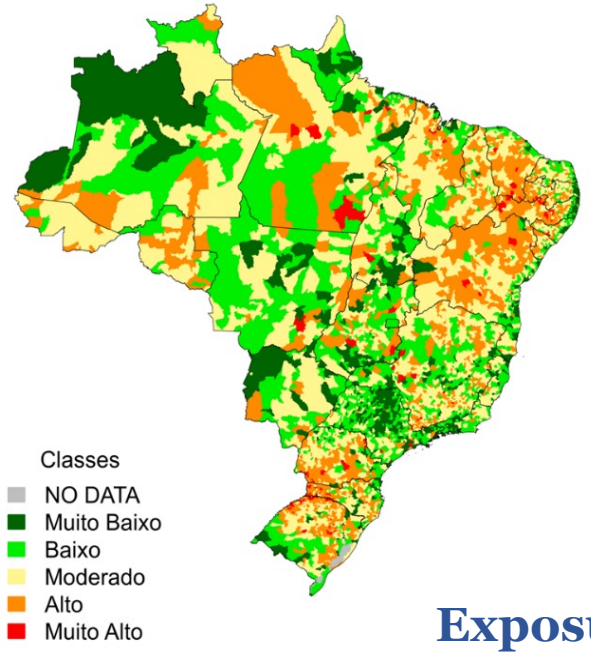
Drought -> Impact Risk for food security



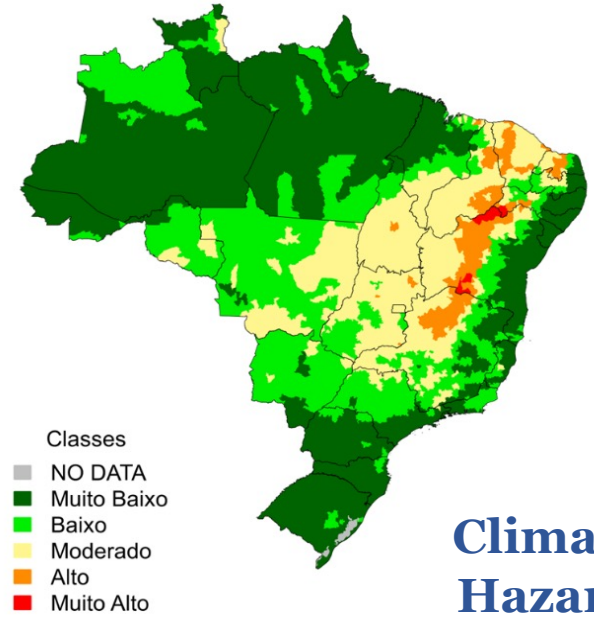




Vulnerability



Exposure



Climate Hazard

Critical aspects and urgent actions

i. **Climate change** will increase inequality if we do not ensure a just transition (in mitigation and adaptation efforts)
ii. **Impacts on the most vulnerable communities**
iii. **Social organization**, participation, and the reconfiguration of governance are essential for building climate resilience. Dialogue and agreements that include multiple actors are mechanisms to recognize trade-offs and promote dynamic and location-specific adaptation options.

i. Comprehensive and Multisectoral Policies

- **Judicialization of climate damages** - Contribute to control bodies and the judiciary to inform decisions regarding impacts
- **Adaptation policies** that include development and the reduction of poverty, inequality, and disaster risk
- **Actions at multiple scales** and the participation of actors from all social groups, including the most exposed and vulnerable populations, are critical elements for effective adaptation

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Obrigado
Gracias
Thank you

Jean Pierre Ometto

jean.ometto@inpe.br