

A satellite view of Earth from space, showing a large, swirling cyclone over the Pacific Ocean. The Earth's surface is visible, with green landmasses and blue oceans. The text is overlaid on a black, irregular shape in the lower right quadrant.

Satellite data for connecting  
environments and societies and  
addressing climate action

KARINA BERBERT BRUNO  
**SPACE4YOUTH** WINNER 2021

# Karina Berbert Bruno

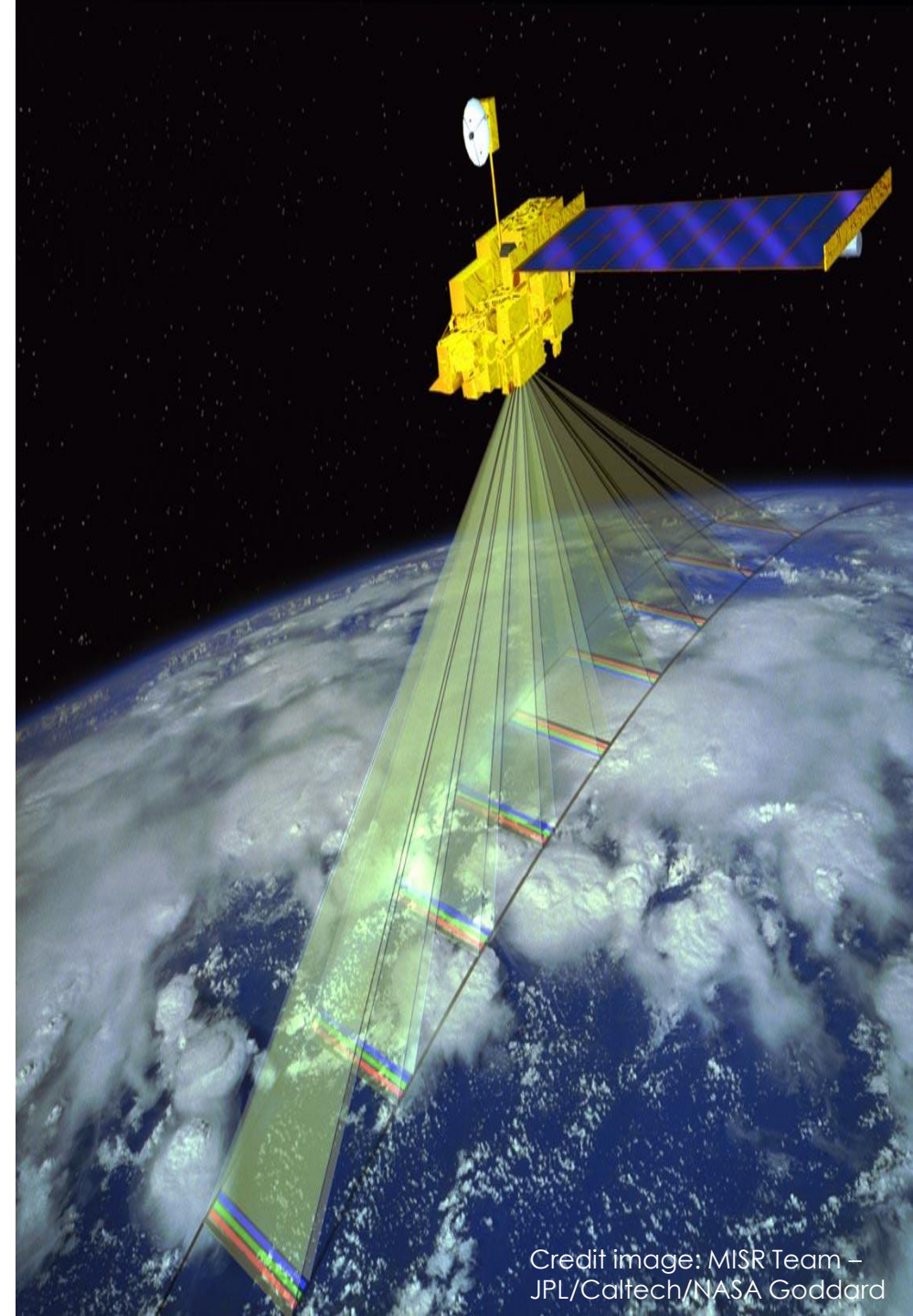
- **GIS** Analyst and Consultant at Umgrauemeio
- **Geographer** (B.Sc), Master's student in **Demography and Population Studies** at University of Campinas (UNICAMP), Brazil
- **Space4Youth** winner 2021
- Areas: **Remote Sensing, Physical Geography**, Human Geography, **Demography**, Sociology, **Computer Sciences**
- Projects experience: **Land Use and Cover Changes, Sustainability** and Sustainable Development, **Deforestation, Climate Change impacts, Agricultural expansion** and production, Renewable Energies, Urban Planning, **Fire activity and impacts**



# CONTENT

## Space technologies and data applications

- Connecting environments and societies
- Space4Youth Essay
- Institutions and Initiatives
- Connecting for Climate Action
- **Present and future actions with space technologies**



Credit image: MISR Team –  
JPL/Caltech/NASA Goddard

# Connecting environments and societies

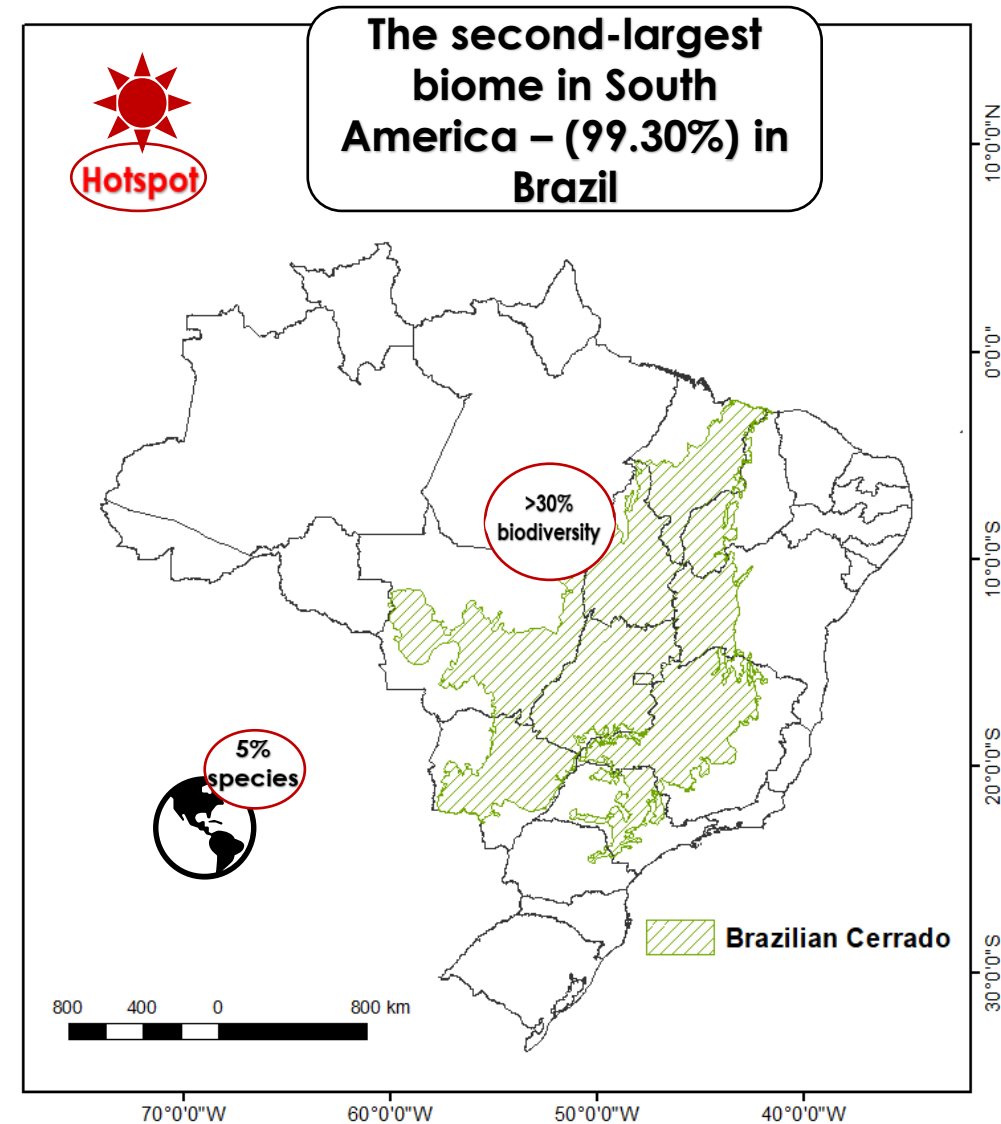


- **What connects** environments to societies?
- **How** can **space** technologies and data **connect** environments and societies?
  - Food security
  - Sustainable development (natural resources management)
  - **Climate action**
  - Natural hazards
  - Economic impacts (cost-effective services)
  - Connecting remote areas and people

# Space4Youth: Earth Observation Technologies and the Brazilian Savanna



- Project based on satellite images
- **How** can **satellites help** a threatened **biome** in Brazil?
  - Social, environmental and economic **improvements**
- **Land use and cover** map (monitoring changes and understanding the **deforestation dynamics**)
- **Connecting space** science with **actions**

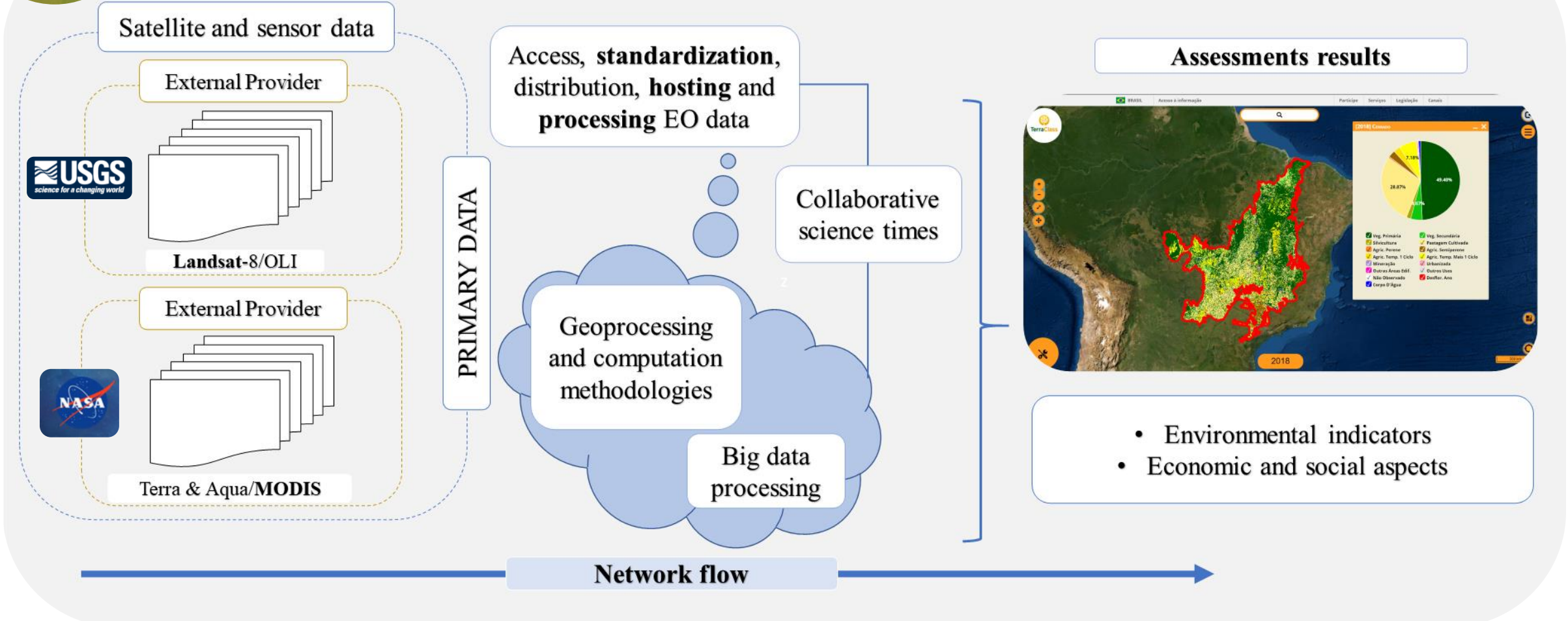


# Space technology and data support

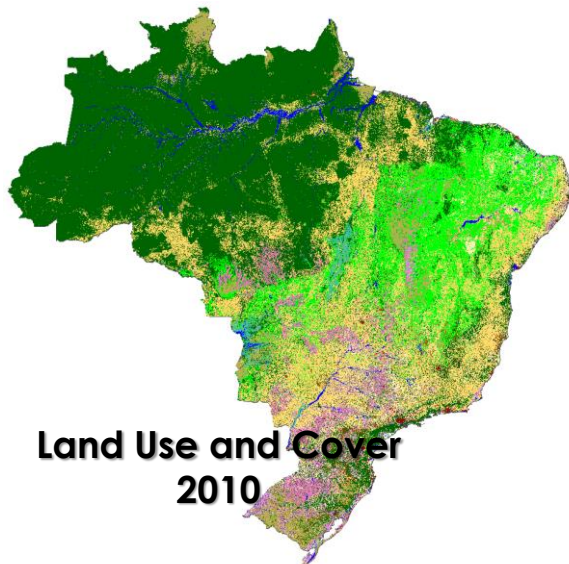
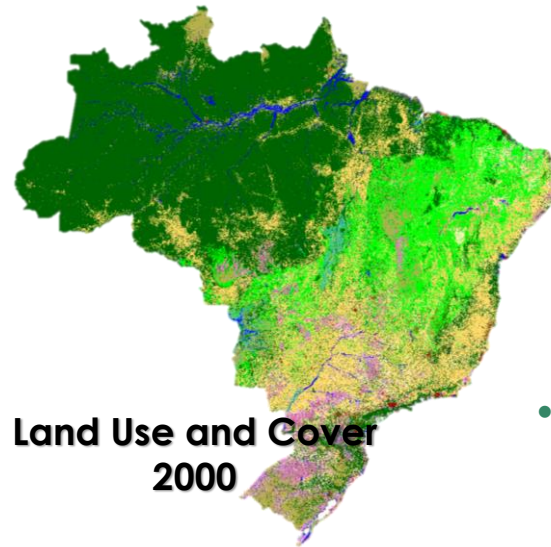
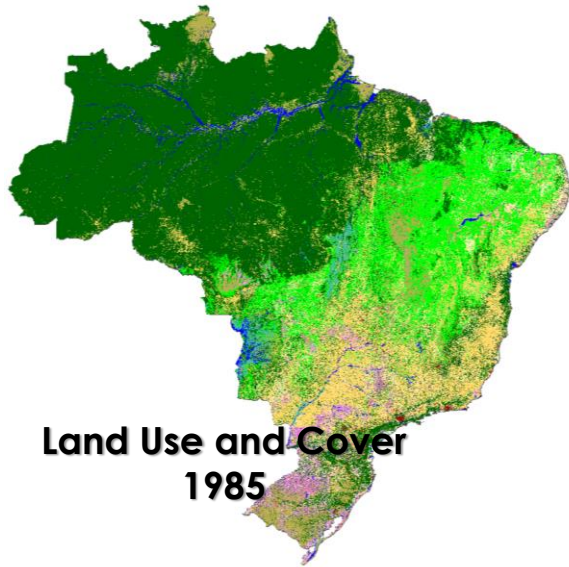


Open source

## EO DATA, SCIENCE AND TECHNOLOGY INTEGRATION



# Projects/Initiatives based on Satellite Data



Open-source

- **Mapbiomas**: Initiative of **Greenhouse gas emission estimation system** from **Observatório do Clima**
  - Provides **Land Use and Cover (LUC) historical data** (LUC classified maps) from **1985 to 2020** (current)

# Space technologies, environments and societies

BBC Sign in Home News Sport Reel Worklife Travel

## NEWS

Home Coronavirus Climate Video World US & Canada UK Business Tech Science Stories

World Africa Asia Australia Europe Latin America Middle East



## Global hunger for soybeans 'destroying Brazil's Cerrado savanna'

The Cerrado savanna is an area in Brazil the same size as Western Europe.

It's one of the most biodiverse places in world - 40% of animal and plant species there can be found nowhere else on the planet.

BBC Sign in Home News Sport Reel Worklife Travel

## NEWS

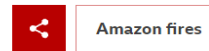
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World Africa Asia Australia Europe Latin America Middle East

## Amazon fires: Are they worse this year than before?

By Jack Goodman and Christopher Giles  
BBC Reality Check and Visual Journalism

29 August 2020



GETTY IMAGES



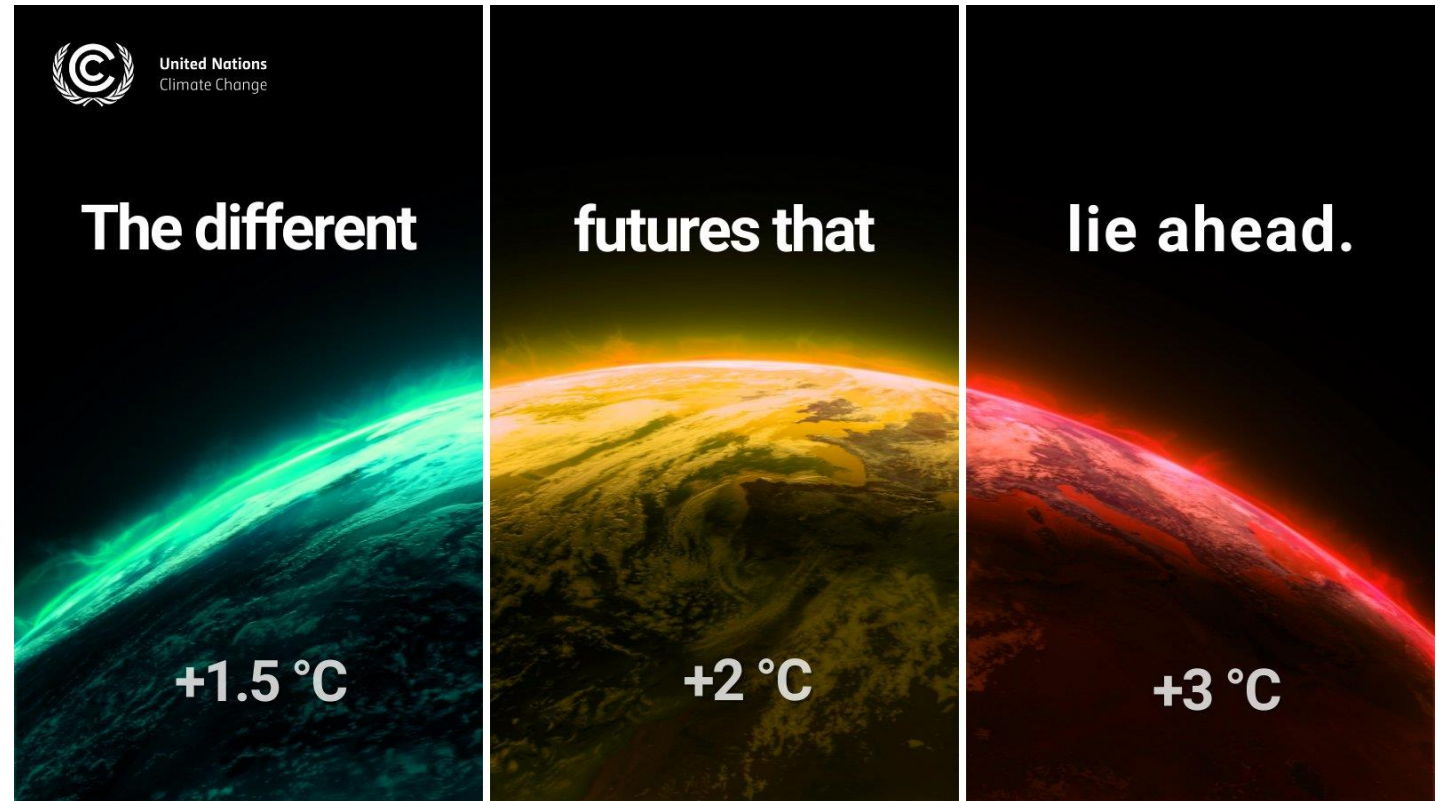
# Connecting for climate action

- **Traditional and local knowledges**
- **International cooperation and collaboration - youth**
- **Multi-stakeholder initiatives**



# Space for the present and future

- **Space technologies:** Artificial Intelligence, near real time, promote evidence-based decision making.
- **Climate Change challenges:**
  - Ongoing
  - Current actions
  - Further results
  - Environments and societies
- **Youth** perspective: using science to tackle climate change;
  - Different mindsets and behaviors



Credit image: United Nations

Thank you!

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 Karina Berbert