Ministerio de Bienes Nacionales
Gobierno de Chile

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Infraestructura de Datos Geoespaciales

Panel: Climate Change

"Geospatial Information Addressing Climate Change & Disasters"

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MINISTRY OF ECONOMIC GROWTH AND JOB CREATION

NATIONAL SPATIAL DATA MANAGEMENT DIVISION

December 1, 2022

United Nations Framework Convention on Climate Change

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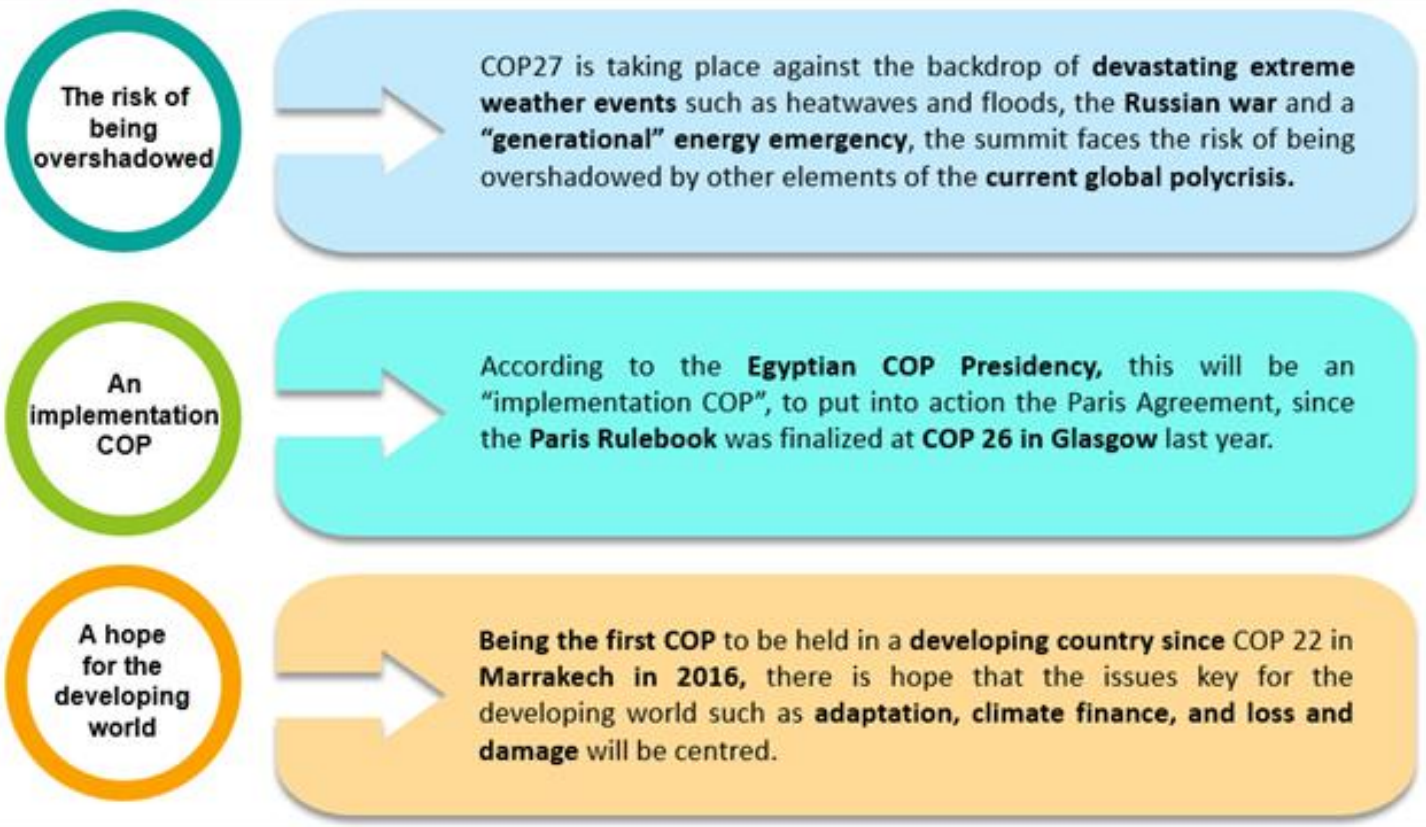
attended by 197 countries, 45,000 people and 120 world leaders

United Nations Framework Convention on Climate Change

COP27 SHARM EL-SHEIKH EGYPT 2022

- Conference of Parties (COP) is the annual UN Climate Change Conference that takes place in a different host city each year.
- It is the supreme decision-making body of the UNFCCC that assesses progress on initiatives to combat climate change.
- It monitors countries progress in the goals of the Paris Agreement.
- The 27th Conference of the Parties to the United Nations Framework Convention on Climate Change (COP27).

A Brief Background of COP 27



The Agenda of COP 27 (studyiq.com)

- World today is faced with:
  - growing energy crisis
  - record greenhouse gas concentrations
  - increasing extreme weather events

COP27
Summit 2022
UN Climate Change Conference

Urgently reducing greenhouse gas emissions

Building resilience, and adapting to the inevitable impacts of climate change

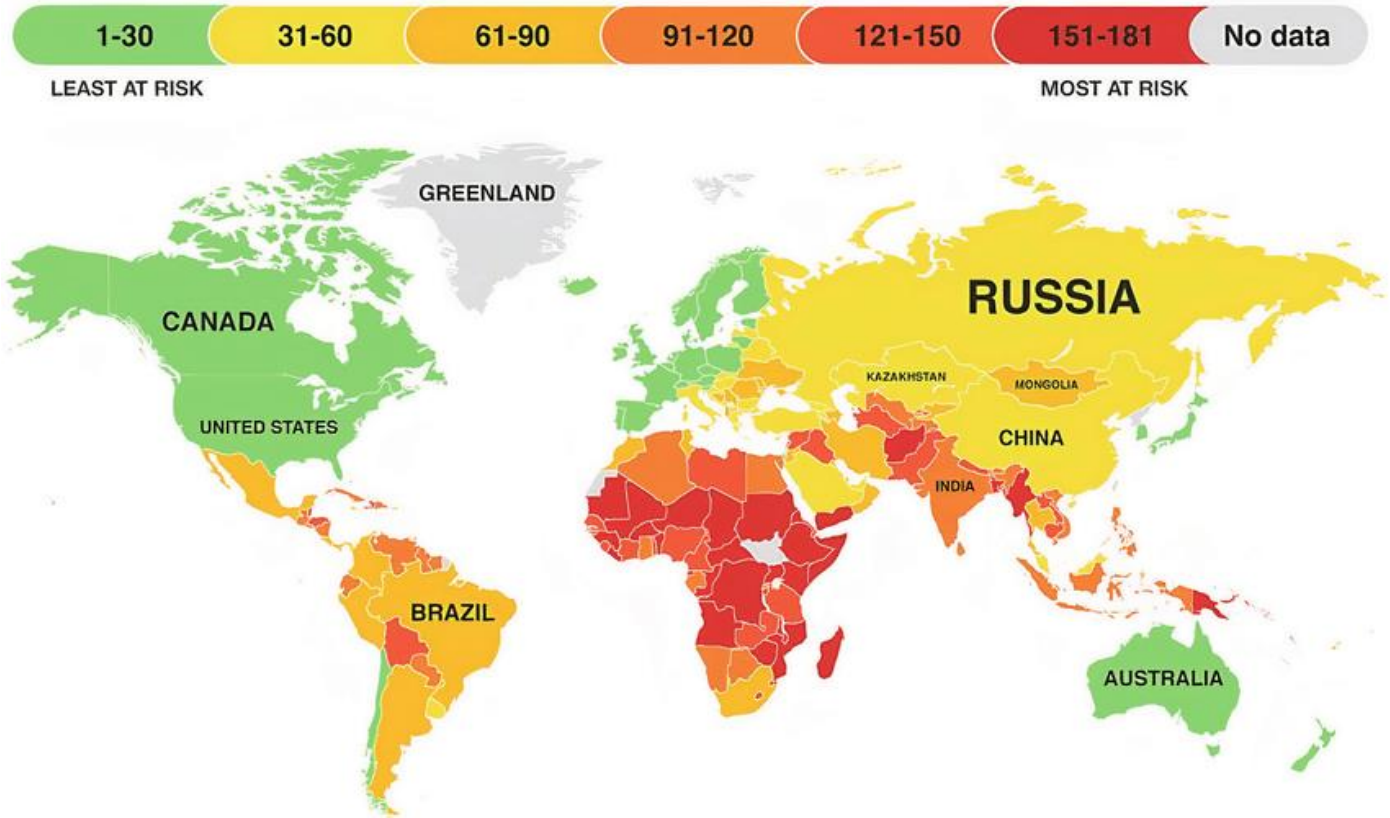
Delivering on the commitments to finance climate action in developing countries

Key Areas Discussed

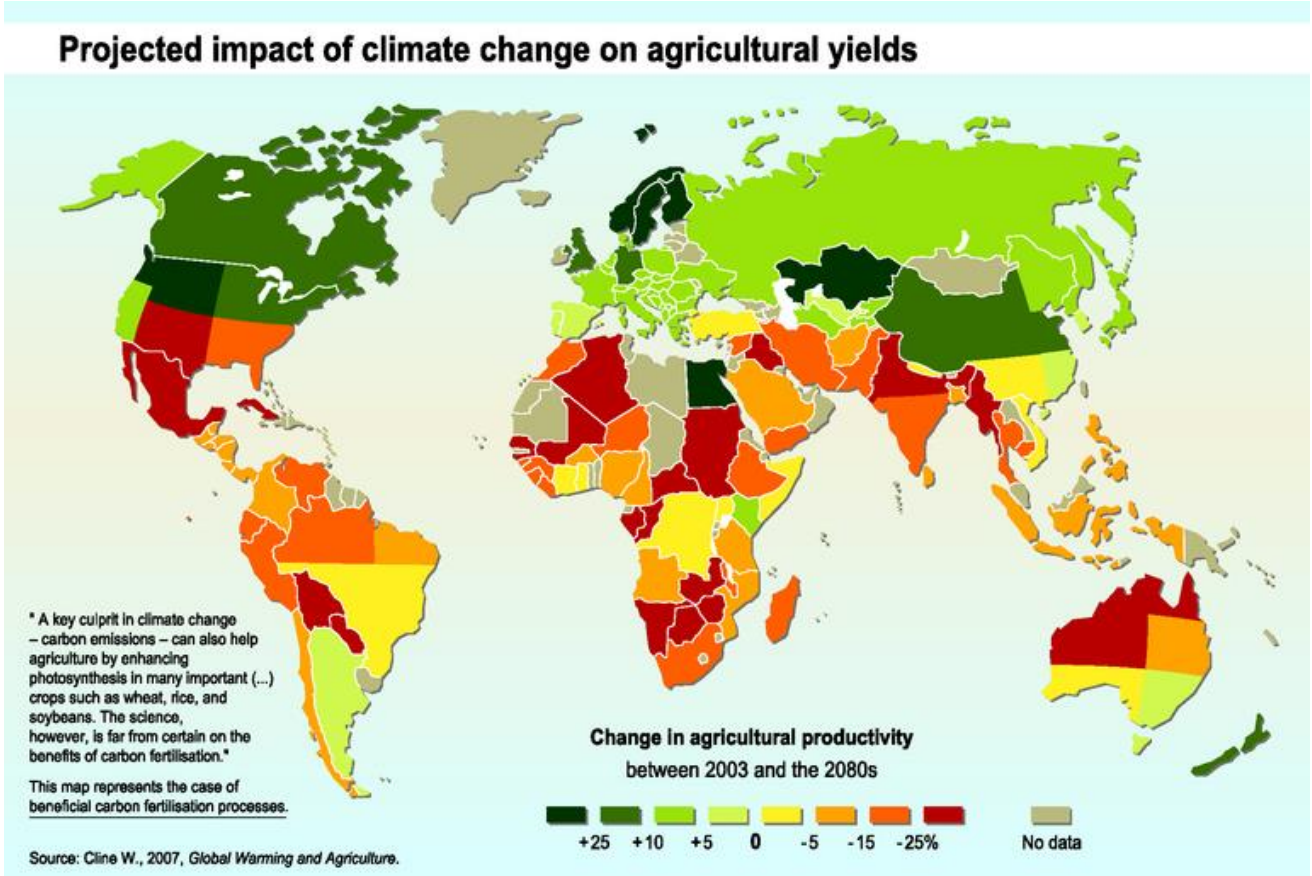
Climate Change is a geographic phenomenon.

Impacts 85% of the earth

Countries Most at Risk

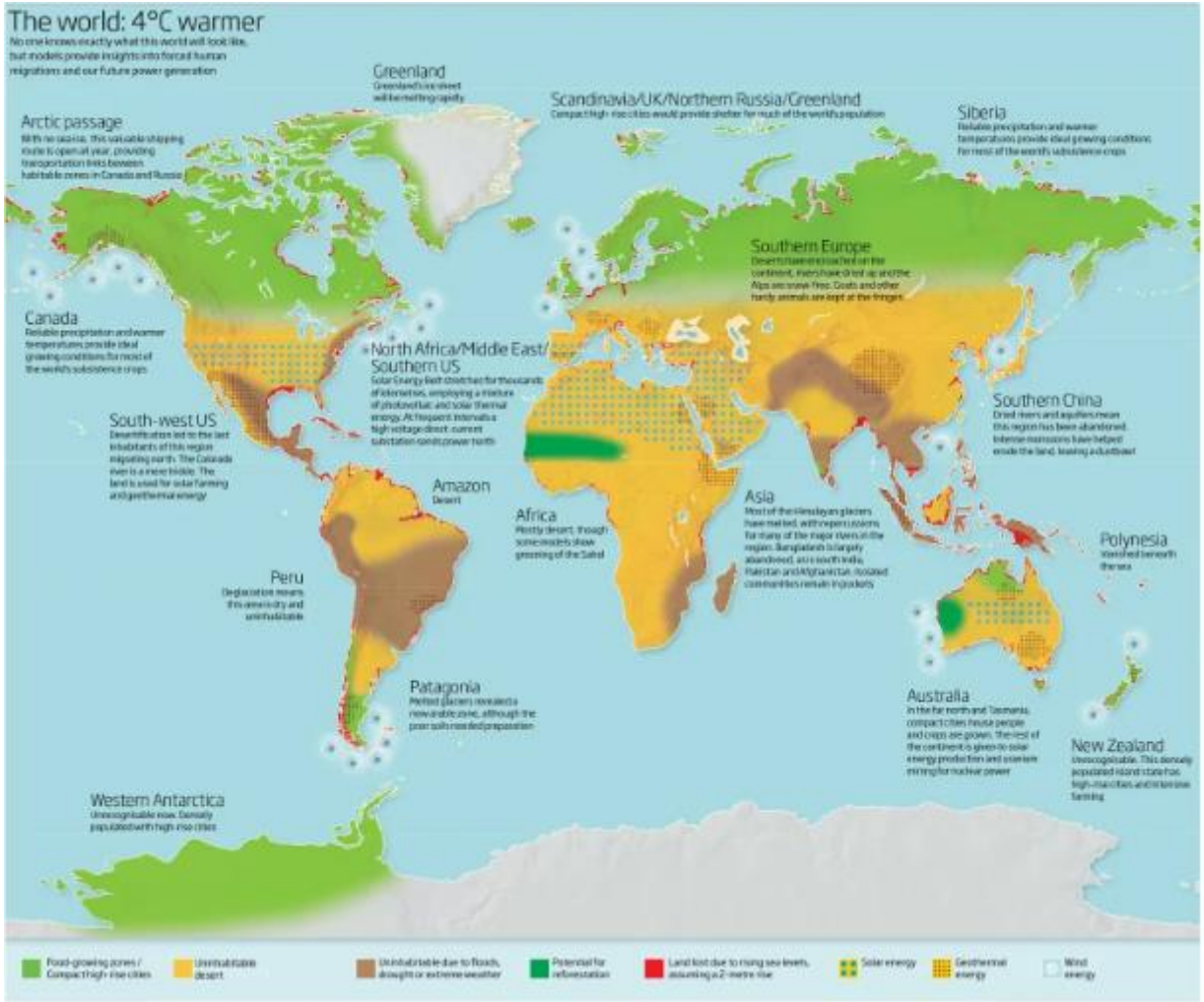


The map shows the countries most at risk and least at risk against... | Download Scientific Diagram (researchgate.net)



https://www.google.com/url?sa=i&url=https%3A%2F%2Fwww.eea.europa.eu%2Fdata-and-maps%2Ffigures%2Fprojected-impact-of-climate-change%2F&psig=AOvVaw3oD_lapCfgUmBV2wUQmXiq&ust=1669960238544000&source=images&cd=vfe&ved=0CBEQjhxqFwoTCKiQzenc1_sCFQAAAAAdAAAAABAE

What the world will look like 4°C warmer - Big Think

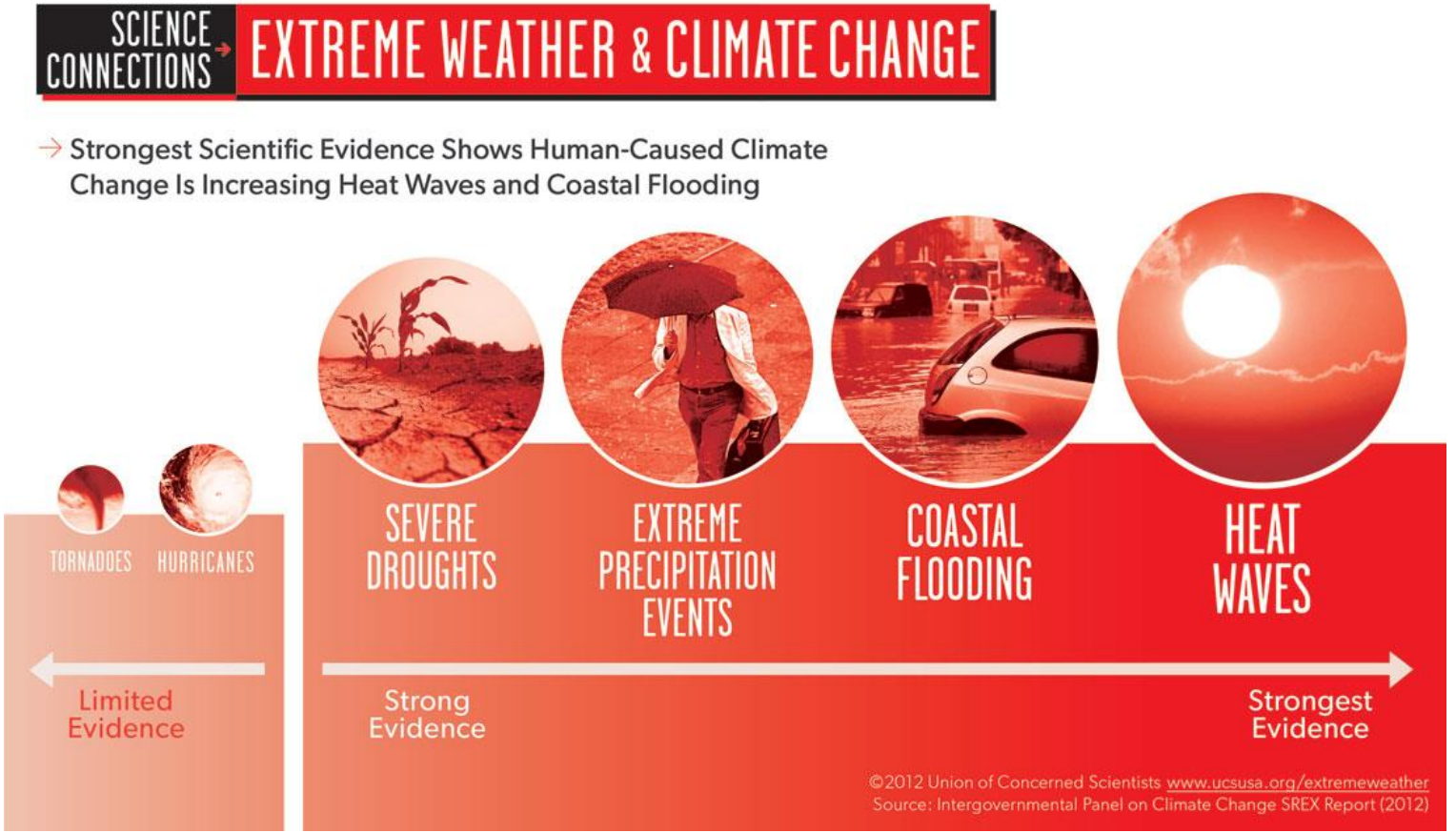


Brown - ‘Uninhabitable due to floods, drought or extreme weather’

Orange - ‘Uninhabitable desert’

Red - lands lost to the rising tide (assuming +4°C adds two metres to ocean levels)

Light-green - food-growing zones, and compact high-rise cities.



What's the Deal with Extreme Weather and Climate Change? Union Of Concerned Scientists Explains | The Narwhal

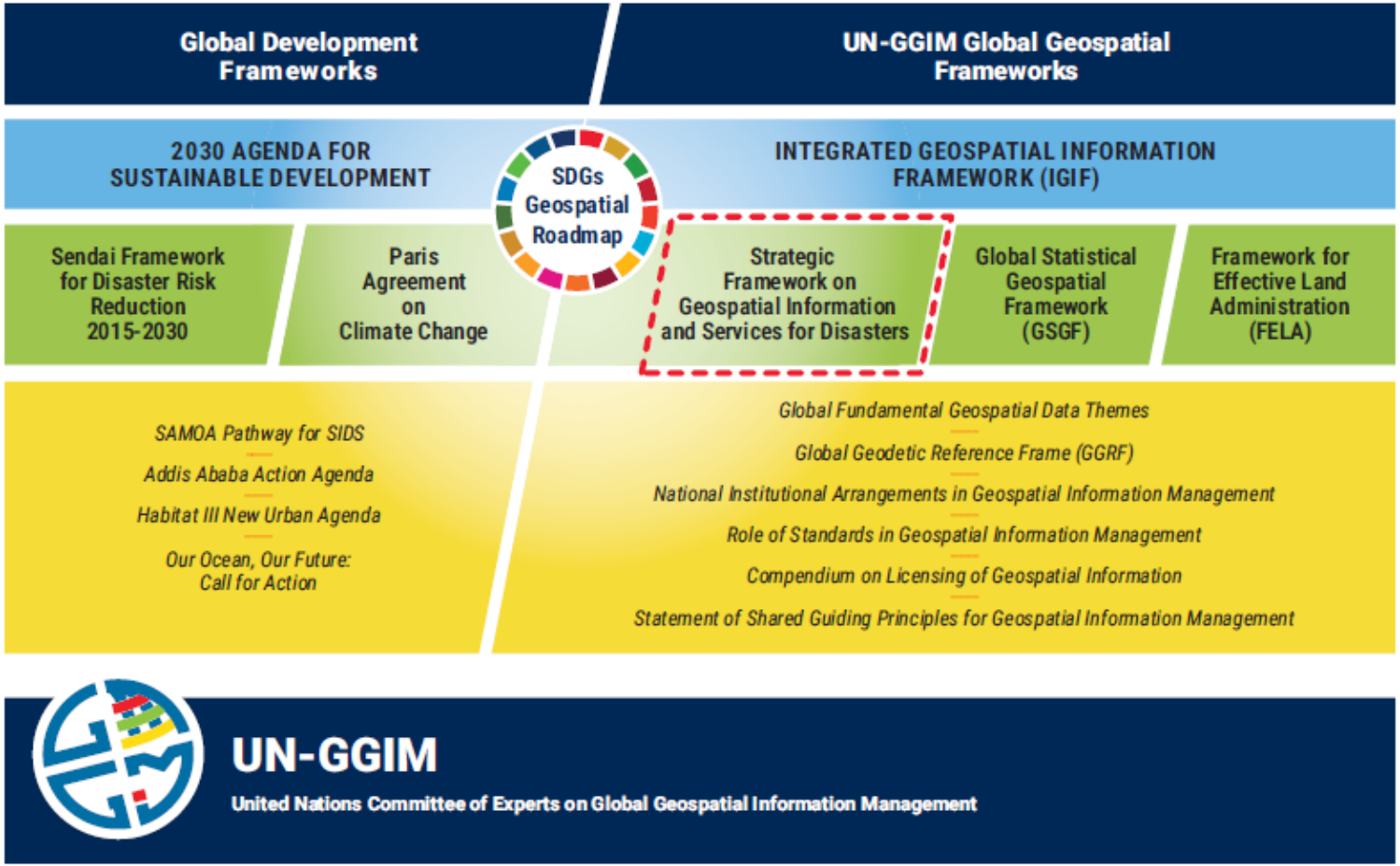
[Breaking down the cost of extreme weather events caused by climate change (nbcnews.com)]

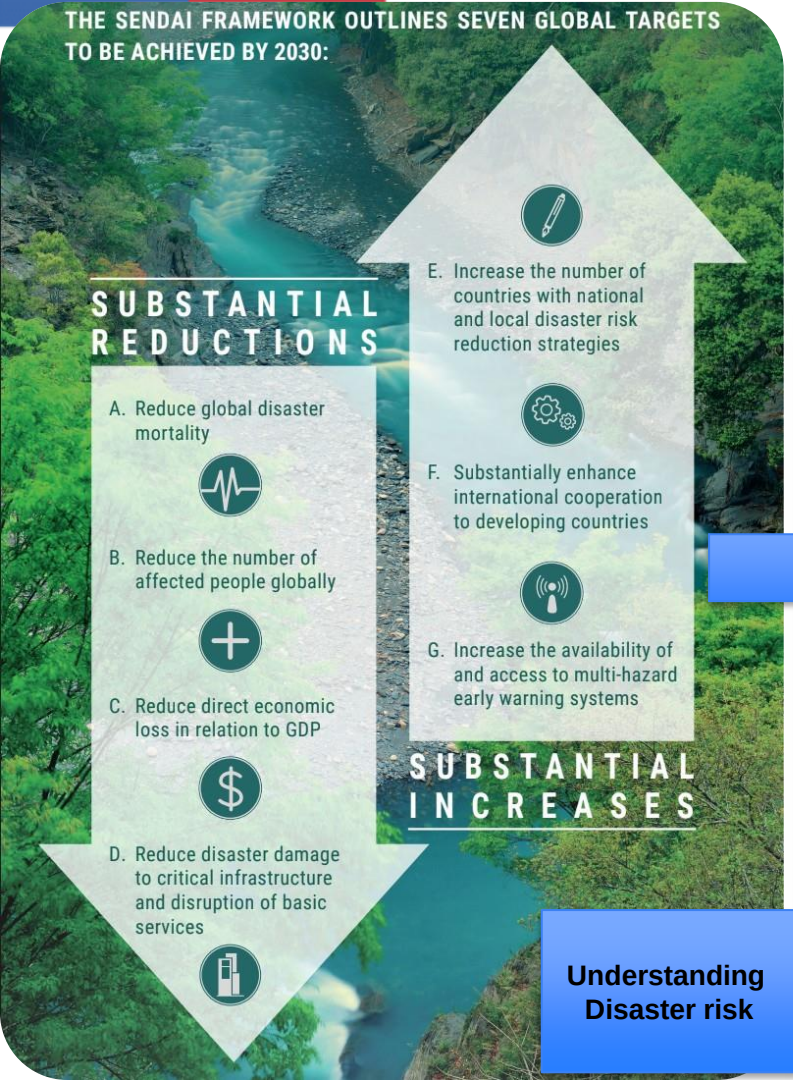
Major COP27 Outcomes

Countries reaffirmed their commitment to **limit global temperature rise to 1.5 degrees Celsius above pre-industrial levels**.

Governments took the ground-breaking decision to **establish new funding arrangements, as well as a dedicated fund**, to **assist developing countries** in responding to loss and damage.

THE STRATEGIC FRAMEWORK FOR DISASTERS WITHIN THE OVERALL GLOBAL AND UN-GGIM FRAMEWORKS





Endorsed by the UN General Assembly following the 2015 Third UN World Conference on Disaster Risk Reduction (WCDRR), and advocates for:

The substantial reduction of disaster risk and losses in lives, livelihoods and health and in the economic, physical, social, cultural and environmental assets of persons, businesses, communities and countries.

UNISDR

www.preventionweb.net/go/sfdrr
www.unisdr.org
isdr@un.org

Chart of the Sendai Framework for Disaster Risk Reduction 2015-2030

Scope and purpose

The present framework will apply to the risk of small-scale and large-scale, frequent and infrequent, sudden and slow-onset disasters, caused by natural or manmade hazards as well as related environmental, technological and biological hazards and risks. It aims to guide the multi-hazard management of disaster risk in development at all levels as well as within and across all sectors.

Expected outcome

The substantial reduction of disaster risk and losses in lives, livelihoods and health and in the economic, physical, social, cultural and environmental assets of persons, businesses, communities and countries

Goal

Prevent new and reduce existing disaster risk through the implementation of integrated and inclusive economic, structural, legal, social, health, cultural, educational, environmental, technological, political and institutional measures that prevent and reduce hazard exposure and vulnerability to disaster, increase preparedness for response and recovery, and thus strengthen resilience

Targets

Substantially reduce global disaster mortality by 2030, aiming to lower average per 100,000 global mortality between 2020-2030 compared to 2005-2015

Substantially reduce the number of affected people globally by 2030, aiming to lower the average global figure per 100,000 between 2020-2030 compared to 2005-2015

Reduce direct disaster economic loss in relation to global gross domestic product (GDP) by 2030

Substantially reduce disaster damage to critical infrastructure and disruption of basic services, among them health and educational facilities, including through developing their resilience by 2030

Substantially increase the number of countries with national and local disaster risk reduction strategies by 2020

Substantially enhance international cooperation to developing countries through adequate and sustainable support to complement their national actions for implementation of this framework by 2030

Substantially increase the availability of and access to multi-hazard early warning systems and disaster risk information and assessments to people by 2030

Priorities for Action

There is a need for focused action within and across sectors by States at local, national, regional and global levels in the following four priority areas.

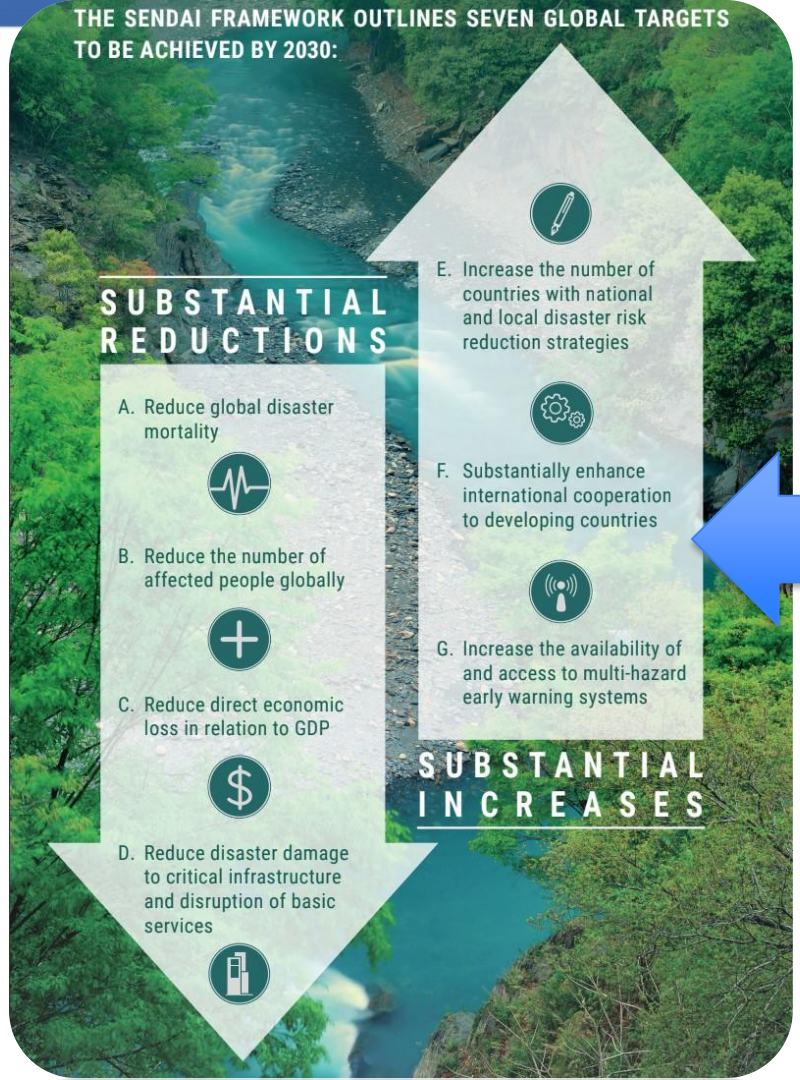
Priority 1 Understanding disaster risk

Priority 2 Strengthening disaster risk governance to manage disaster risk

Priority 3 Investing in disaster risk reduction for resilience

Priority 4 Enhancing disaster preparedness for effective response, and to «Build Back Better» in recovery, rehabilitation and reconstruction

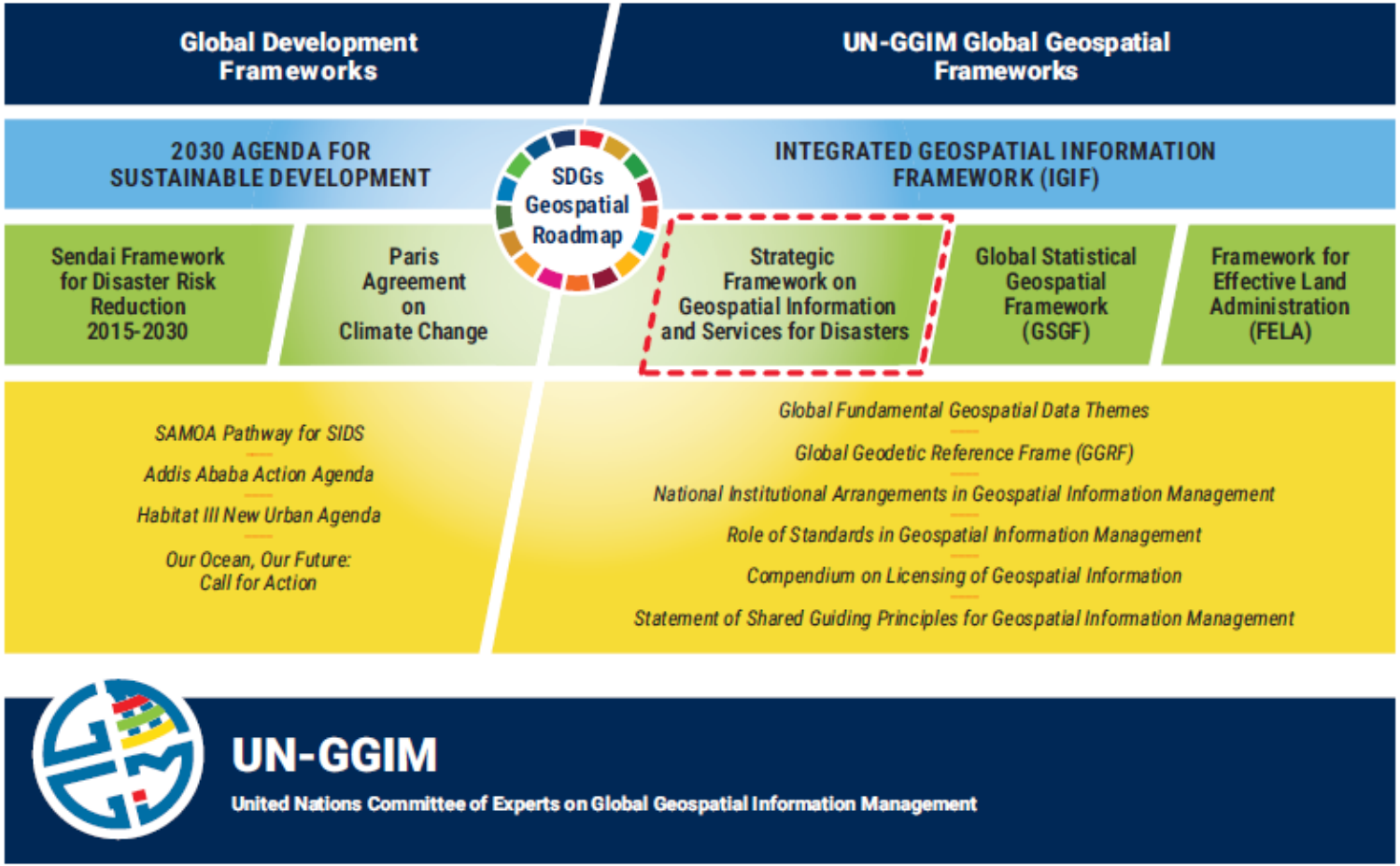
Understanding Disaster risk



Aligned

Provides Member States with concrete actions to protect development gains from the risk of disaster.

THE STRATEGIC FRAMEWORK FOR DISASTERS WITHIN THE OVERALL GLOBAL AND UN-GGIM FRAMEWORKS



UN-GGIM
WG Disasters

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UN-GGIM Working Group on Geospatial Information and Services for Disasters:

- Developed under decision 5/110 supported the proposal to establish a working group to further develop and implement a strategic framework for Disasters.
- Co-chaired by Jamaica and Japan

Provide a forum for dialogue and coordination among member states, UN system, DRR organizations etc.

Improve the availability, accessibility and timeliness of good quality geospatial information for DRR

Encourage greater coordination and collaboration on geospatial information activities for DRM

UN-GGIM Strategic Framework on Geospatial Information and Services for Disasters

SCOPE AND PURPOSE

Provides guidance for the management of Geospatial Information and services in all phases of DRRM[1]

EXPECTED OUTCOME

Prevented or reduced social, economic, and environmental risks and impacts

PRIORITIES FOR ACTION

1. Governance and Policies
2. Awareness Raising and Capacity Building
3. Data Management
4. Common Infrastructure and Services
5. Resource Mobilization

GOALS

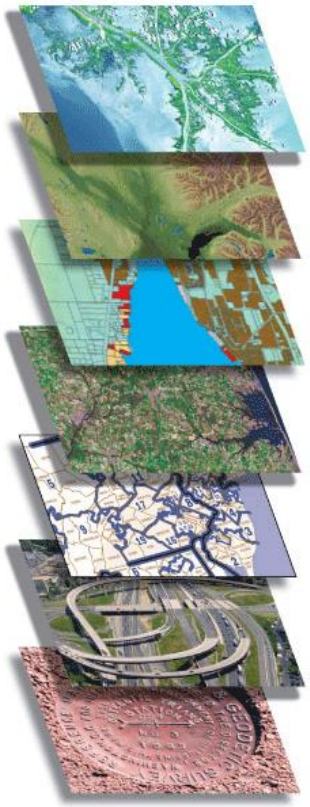
Geospatial Information and services are:

- Accurate
- Available
- Timely
- Current
- Accessible
- Coordinated

To support decision making and operations among all stakeholders, across all sectors and phases of DRRM[1]

[1] *Disaster risk reduction and management (DRRM)*

The Framework aims to guide Member States and other stakeholders in making available and accessible all quality geospatial information and services before, during and after disaster events.



Use of:

geospatial information & services

+

relevant statistical information

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better understand, formulate policies and manage risks and impacts of disasters

Member States

UN-GGIM: Americas

PRIORITIES FOR ACTION

1. Governance and Policies
2. Awareness Raising and Capacity Building
3. Data Management
4. Common Infrastructure and Services
5. Resource Mobilization

Category	Description
5	The initiative is fully implemented in my country
4	The initiative is currently being implemented in my country, with minor tasks still need to be done
3	The initiative is currently being implemented in my country, with major tasks still need to be done
2	The initiative is not yet implemented in my country
1	Unaware of the initiative, and its implementation in my country

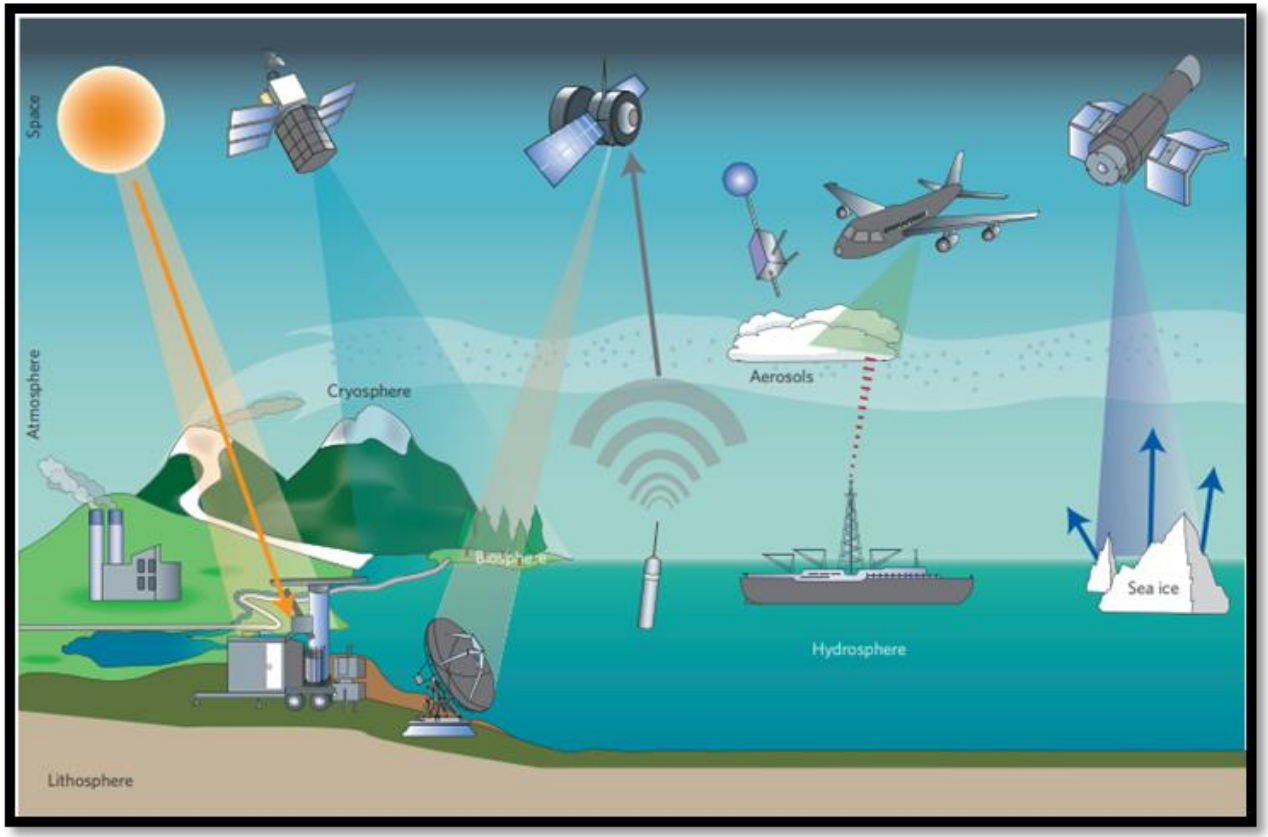
PRIORITIES

1. 
2. 
3. 
4. 
5. 

Application of Geospatial Technology in Climate Change Studies & Disaster Risk Reduction Management

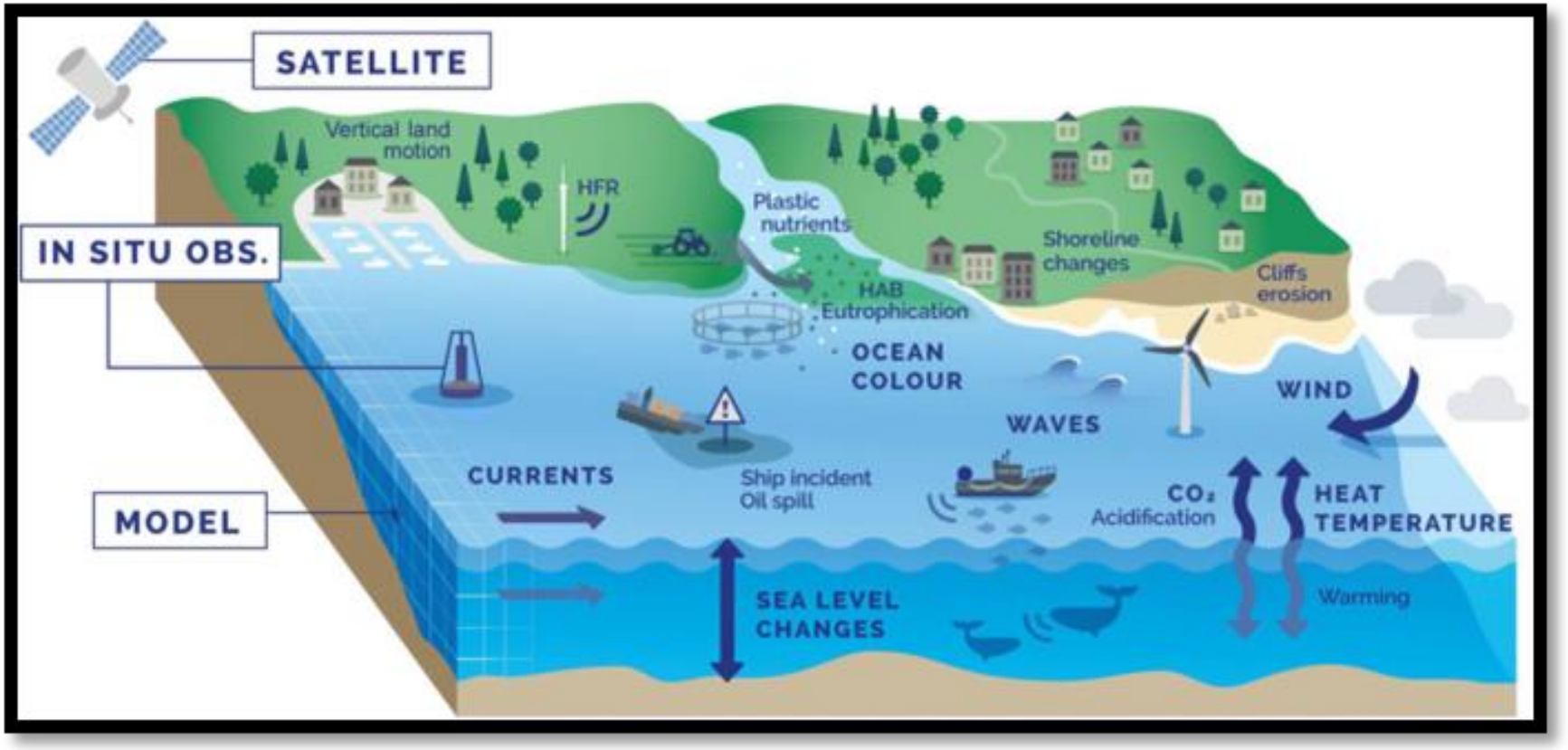
GI supports these global and local challenges.

Remote sensing of the climate system



https://www.satpalda.com/blogs/how-modern-geospatial-technology-can-be-an-asset-in-climate-change-studies

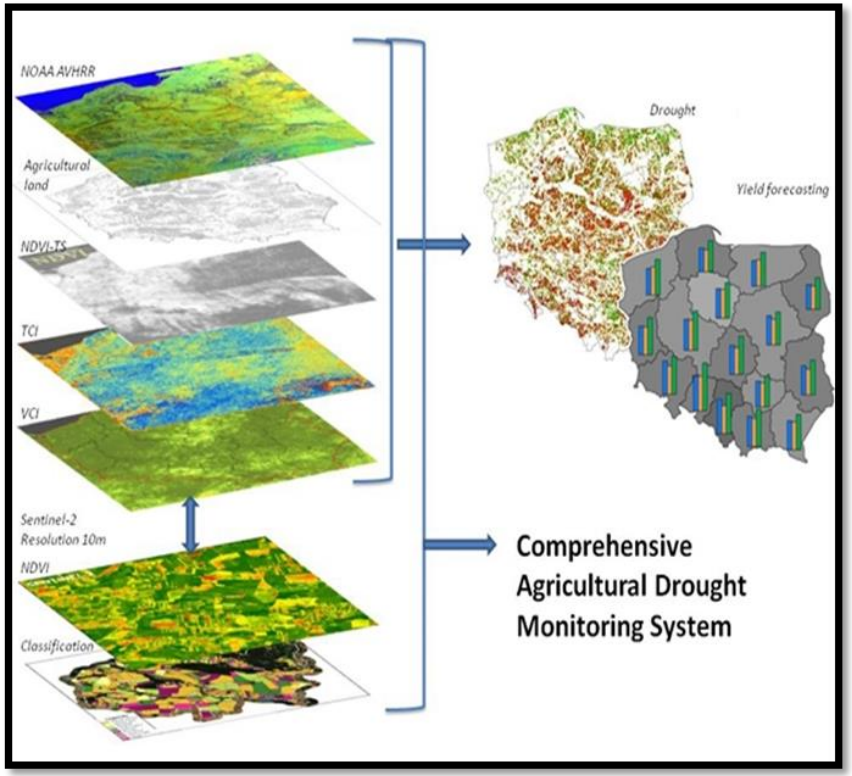
Coastal monitoring using satellites



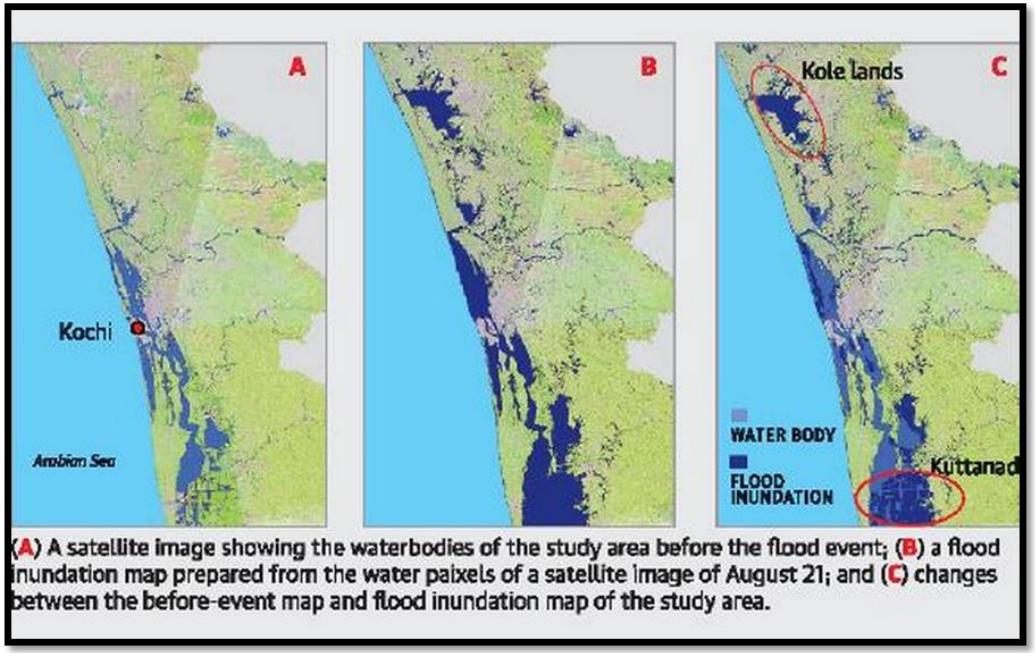
SATPALDA : How Modern Geospatial Technology Can Be An Asset In Climate Change Studies?

Modelling & Monitoring

Droughts

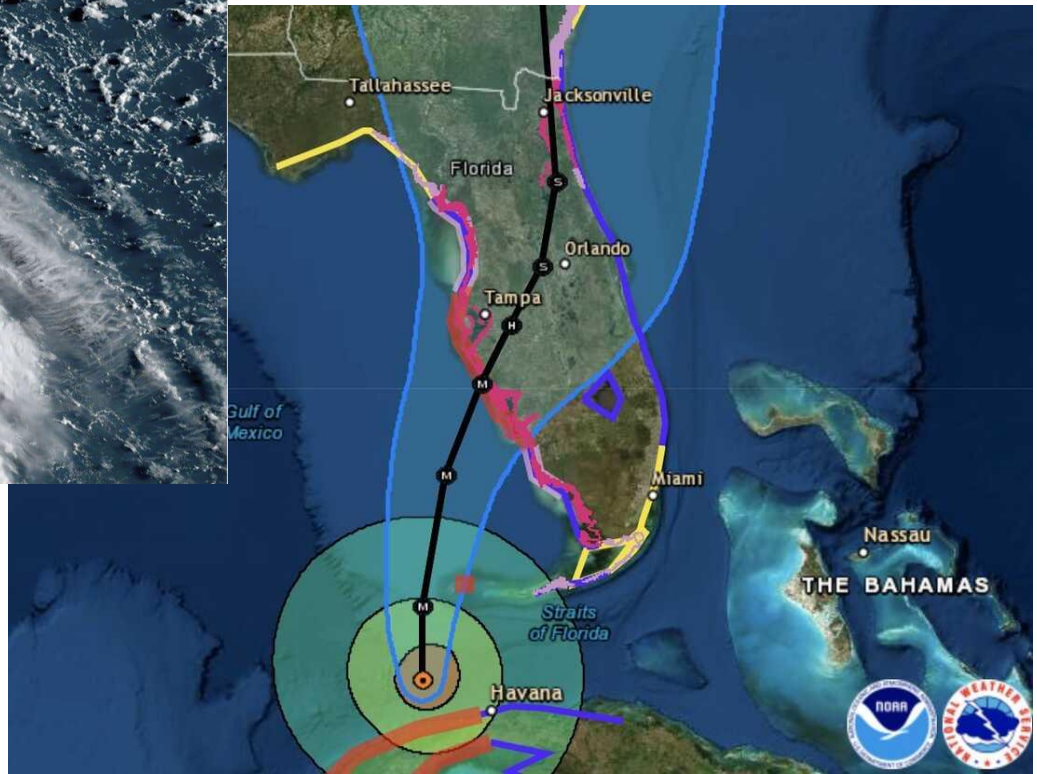


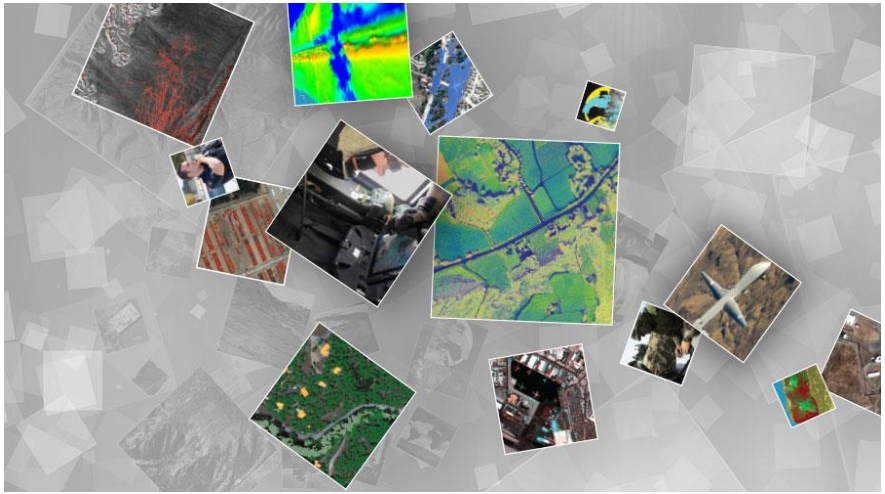
Floods



(A) A satellite image showing the waterbodies of the study area before the flood event; (B) a flood inundation map prepared from the water paixels of a satellite image of August 21; and (C) changes between the before-event map and flood inundation map of the study area.

Tracking Storms & Hurricanes





Monitoring of **oceans, weather, atmosphere, ice, and sea level** can easily be done with the help of satellite data and mapping executed using GIS tools.

Geospatial technology

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Geospatial tools

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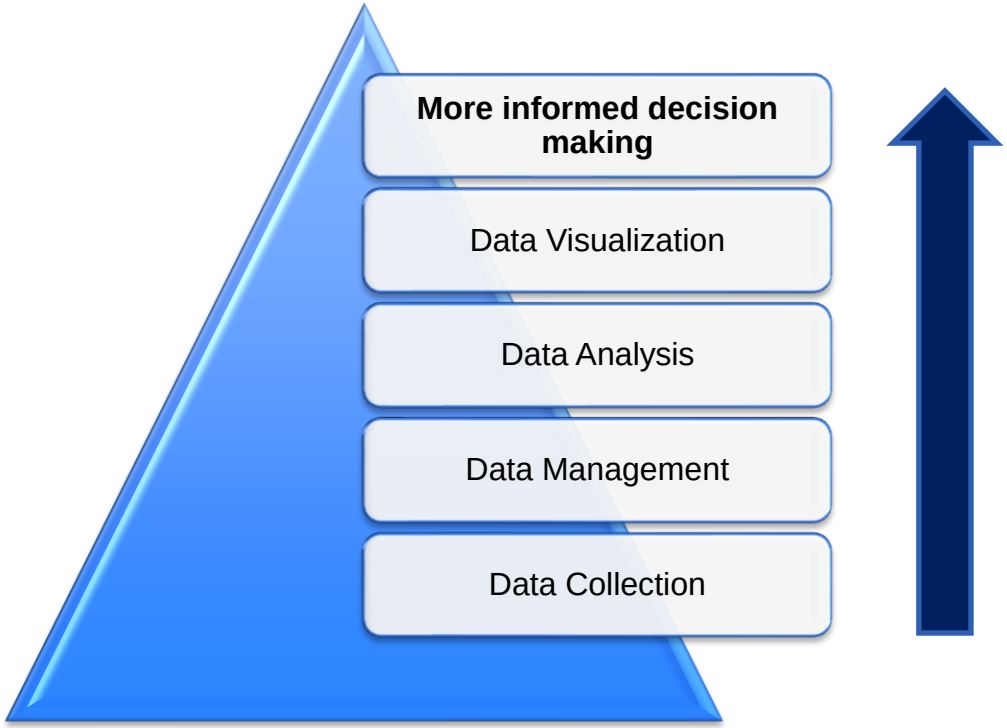
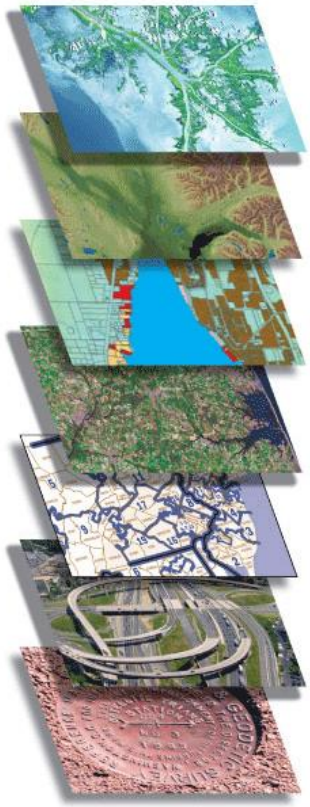
Geospatial data

→

Essential for climate change studies, monitoring, mitigation and adaptation

Geospatial is Essential





UN-GGIM
WG Disasters

Encourages Member States and other stakeholders to implement the ***Strategic Framework on Geospatial Information and Services for Disasters*** *towards understanding, guiding and making available and accessible all quality geospatial information and services before, during and after disaster events, especially within the context of ever increasing threats caused by climate change.*


Thank You!

Panel: Climate Change

“Geospatial Information Addressing Climate Change & Disasters”

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