

Lesson: Impacts from Climate Change This lesson explores the impacts of climate change, focusing on how the phenomenon is assessed and the key climate-sensitive sectors affected.

Climate Risk Framework: Climate risk is a combination of hazards, exposure, and vulnerability. Increasing any of these factors elevates the overall climate risk, as outlined by the IPCC's Climate Risk Framework.

Regional Impacts:

- Polar Regions:** Permafrost thawing, coastal sea ice melting, rising sea levels, increased weather intensity, and faster temperature increases than other regions.
- Small Islands:** Sea-level rise inundating low-lying areas, changing rainfall patterns, warming and acidification of coastal waters, storms and flooding, land erosion, changes in the global water cycle, saline intrusion, ecosystem degradation, and climate-induced diseases.
- Oceans:** Rising sea surface temperature and heat content, sea-level rise due to thermal expansion and melting ice, changes in ocean circulation, ocean acidification, changing salinity, and decreasing oxygen concentration.
- Mountains:** Stronger temperature increases than over the ocean and at high latitudes, shifting snow lines and freezing lines, changing precipitation patterns, and more frequent and intense extreme events.

Impacts on Humans and Economies: The **Warsaw International Mechanism for Loss and Damage** aims to minimize and avert climate change-related losses. The **ECLAC methodology** quantifies impacts of climate events on various sectors (social, productive, and infrastructure) by assessing damage to assets and converting it into economic losses.

Climate-sensitive sectors:

- Food and Agriculture:** Crop region shifts, impacts on global food supply.
- Health:** Waterborne, vector-borne, and airborne diseases.
- Energy:** Impacts on energy systems and challenges for transitioning to renewable sources.
- Human displacement:** Inundation of low-lying areas forcing people to relocate.

Gender, age, and economic well-being influence the way individuals and communities experience climate change impacts.

Activity: Examine a map of weather and climate events for 2018 to understand how your region has been affected.

What You've Learned: The IPCC's climate risk framework highlights the diverse aspects of climate change impacts. We need to understand how social, economic, and ecological systems can adapt to these impacts and implement appropriate measures.

Think about: What measures would you like to see in your region to address climate change impacts?