

Loss and Damage: IPCC scientific assessment

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losses and damages

- harm from observed impacts and projected risks
- can be economic or noneconomic

1. Losses and damages are already being cLIMATE experienced

Global warming of 1.1°C has <u>already</u> caused dangerous and widespread losses and damages, led to disruptions in nature as well as affected the lives of billions of people, despite efforts to adapt

- increased heat-related human mortality, warm-water coral bleaching and mortality, increased drought-related tree mortality, increases in areas burned by wildfires, adverse impacts from tropical cyclones
- Widespread deterioration of ecosystem structure and function, resilience and natural adaptive capacity, as well as shifts in seasonal timing have occurred due to climate change
- millions of people exposed to acute food insecurity and reduced water security, with the largest impacts observed in many locations and/or communities in Africa, Asia, Central and South America, Small Islands and the Arctic



Observed impacts of climate change on ecosystems







Observed impacts of climate change on human systems





Source: AR6 WGII Figure SPM. 2b



Non-economic loss and damage (NELD) associated with climate hazards attributed to climate change with background on the global vulnerability



Source: AR6 WGII Figure 8.10

2. Future losses and damages will rise with increased global warming





With increasing global warming, losses and damages increase and become increasingly difficult to avoid, while strongly concentrated among the poorest vulnerable populations

- Risks are highest for nature and people in regions experiencing the highest temperatures, those living along coastlines, in the frozen parts of the world, along rivers and where other threats exist, but these can be moderated to some extent
- Sea level rise will put people living in coastal cities and settlements at greater flood risk and low-lying coastal ecosystems will be submerged and lost
- The number of people at risk from climate change and associated loss of biodiversity will progressively increase
- Reducing GHG emissions to limit global warming to 1.5°C would substantially reduce climate-related losses, but they cannot be eliminated completely

3. Losses and damages are unavoidable and analytics are unequally distributed

Adaptation does not prevent all losses and damages, even with effective adaptation.

- Losses and damages are
 - unequally distributed across systems, regions and sectors
 - not comprehensively addressed by current financial, governance and institutional arrangements, particularly in vulnerable developing countries
- In Small Islands:
 - 1.5°C is a critical threshold for losses and damages
 - Sea level rise poses an existential threat
 - Loss of terrestrial, marine and coastal biodiversity and ecosystem services
 - Loss of lives and assets, risk to food security and economic disruption due to destruction
 of settlements and infrastructure
 - Economic decline and livelihood failure of fisheries, agriculture, tourism and from biodiversity loss from traditional agroecosystems
 - Reduced habitability leading to increased displacement
 - Risk to water security in almost every small island





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