

# AOSIS Research Related Needs in Relation to Loss and Damage

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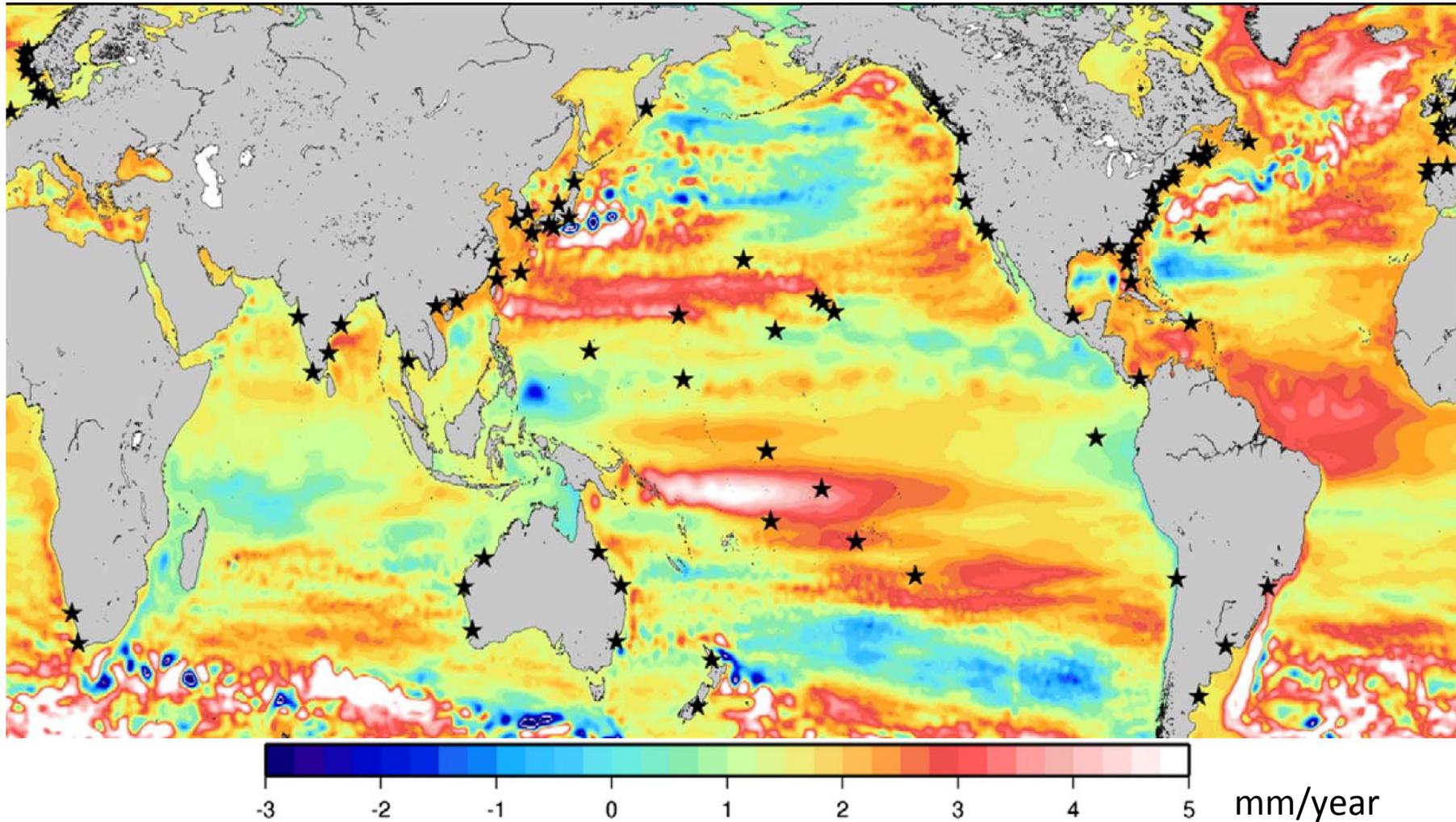
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# Impacts are already being felt in SIDS

- **Reduction in precipitation** of between 5 and 20% per century in the tropical western Pacific region.
- **Coral bleaching** events due to ocean warming
- **Tropical storms have become more frequent and stronger** in the southwest Pacific region
- Due to **more frequent El Nino weather patterns** some regions have experienced significantly drier and warmer climate while others are experiencing more intense rainfall

# Regional sea level trends relatively large for SIDS, especially in the Pacific

Map of reconstructed sea-level trends 2050-2009



At Funafuti the total rate of rise is  $\sim 3$  times larger than the global mean.

Role of El-Nino likely.

Becker et al., 2012; Meyssignac et al., 2012



# SIDS Challenges

- **Under-financing**
- Insufficient financing and investment for **concrete adaptation and mitigation projects and activities**
- **Limited access to domestic resources and limited capacity** in SIDS.
- **Size matters**– Small populations and markets represent a barrier to the mobilization of private investment
- High vulnerability to **external economic shocks**
- **Absence of tools to measure the true economic costs associated with adaptation and address the loss and damage from the unavoidable consequences of climate change**

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## Possible research related areas

- **Dangerous Impacts:** e.g. extreme weather events, sea level rise, changing precipitation patterns, coral bleaching, coastal erosion already occurring
- **Evidence of accelerating impacts:** eg distribution of cyclones in the Pacific
- **High dependence sectors directly impacted by climate change:** e.g. tourism, agriculture and fisheries
- **Regionalized risk assessments and management for specific regions and sectors,** including related to SIDS and LDCs, for different levels of warming
- **Research related to rehabilitation**

# Research Relevant to SIDS

- An assessment is needed of the implications of global and regional research findings for smaller countries
- This should be done in light of local geographical, climatological, ecological and socio-economic circumstances and vulnerabilities, including the uncertainties in such findings, ***especially when large-scale data needs to be interpreted for policy development at a smaller spatial scale***
- Assessment of impacts, costs, damages and adaptation needs.

# Sea-level rise and ocean acidification

- Sea level rise risk assessments based on multiple lines of evidence including:
  - the paleo-record,
  - contemporary ice sheet responses,
  - process model based projections, and
  - semi-empirical approaches.
- Assessment of ocean acidification:
  - The interplay between acidification, ocean-surface warming, sea-level rise and local environmental issues that determine resilience and long-term survival of coastal and continental-shelf ecosystems and livelihoods.