

Safe Landings LHA; Sea level rise working group

The SLR working group is seeking partner institutions among the MCR to help focus efforts to develop a set of geographically-aware sentinel signals designed to help communities track their sea level rise risk. We would ask the partners to share information about regional priorities and goals related to flooding and to review sentinel signal development to ensure that it is communicated in a useful and actionable manner.

Goal: Coastal protection practitioners and decision makers require localized actionable science information to manage adaptation measures to future sea-level rise. This comprises projections of regional sea-level, storm surges and cyclones, all of which can have high uncertainty in the future and vary geospatially. The challenge in moving from climate science to adaptation science is the need to identify and convey actionable information to practitioners on relevant geographic and temporal scales. Sentinel signals (“signposts”) are a suite of sea level rise drivers, relevant to the region, that can be monitored. Changes in these sea level rise drivers would foreshadow the need to alter a regional planning pathway, particularly when exceedance of a tipping point in a global process would essentially rule out lower projections of sea level rise and enhance the likelihood of moderate to higher projections. In concept, regional adaptation plans can be made for multiple projections, with a strategy for moving from one plan to the next as a particular projection becomes more likely. By anchoring adaptation plans to such signposts of physical change, we can simultaneously guide adaptations to better manage the greatest risks, while also making adaptation more predictable so that it can be incorporated into projected future global pathways. A regionally targeted “signposts” approach would escalate local responses based on specific changes in remote drivers, for example Atlantic meridional overturning, Antarctic sea ice, Antarctic surface temperature, and Antarctic ice shelf integrity.

Potential activities could include:

- Identification of regional vulnerabilities with consideration for a social/communities ability to adapt.
- Identification of potential cascading impacts.
- Identification of key processes affecting region (e.g. ocean circulation change, changes in cyclone/TC tracks/severity/etc, subsidence, etc?).
- Discussion of timescales for adaptation.