

Workshop

PLANNING FOR STORM SURGE AND RISING SEA LEVEL

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Background

Sea level rise is projected to continue for several centuries even with effective greenhouse abatement. This is due to time lags in the ocean-atmosphere system and the slow warming process of deep ocean basins. This rise is initially experienced as 'storm surge' when a number of factors result in temporarily elevated sea levels during severe storms.

Discussion

In the short term, vulnerable sections of the coastline are first inundated by storm surge during extreme storm events. In SE Queensland, the highest observed storm surge is 2m in Moreton Bay.

Wave run up contributes to a higher surge on the ocean coast with the possibility of a surge up to 6m. In Far North Queensland, the highest surge known since European settlement was 15m during the Bathurst Bay Hurricane in 1899 (estimated to be Cat 5 Tropical Cyclone).

In the longer term rising sea level, possibly at an accelerating rate, will result in the coastline moving inland. During the last 180 years the moving coastline has breached seaward meander bends of coastal rivers and waterbodies, resulting in permanent openings and the formation of new barrier islands.

Legislative and common law is an organised system suitable for long period issues such as sea level rise. However, it is presently not in a position to provide a coherent framework for long term policy implementation on the issue due to conflicting interests, such as the rights of landholders.

Questions

What type of institutional system should we be considering to adequately deal with long term inundation of coastal land?

How would such a system be integrated with present legislation, common law, planning, real estate markets, property security (mortgages) and insurance?