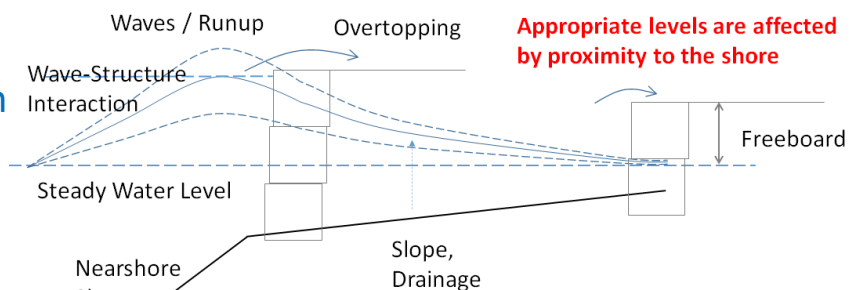
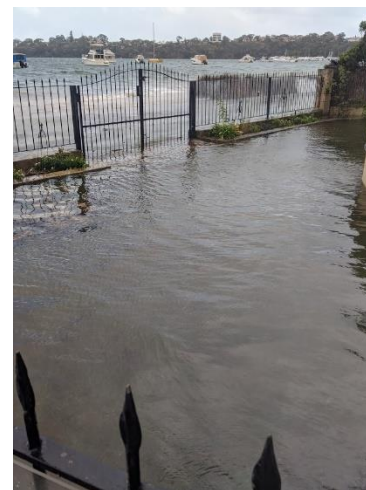
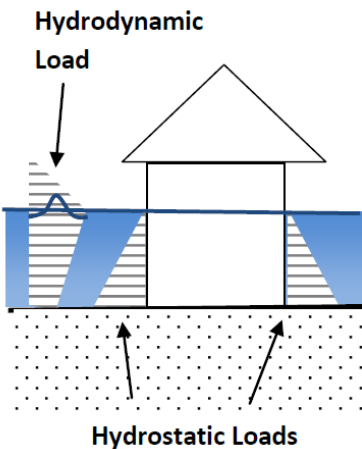
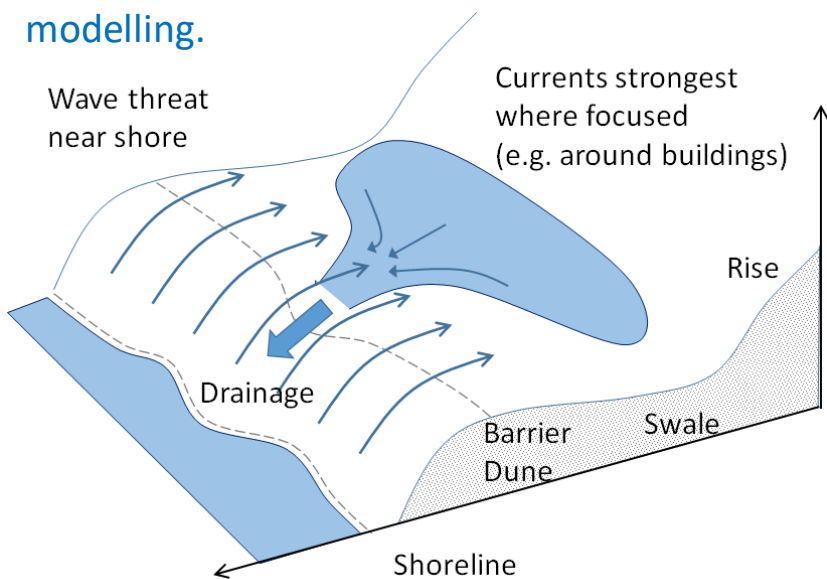


Coastal Flooding Hazard – Breaking Some Old Habits

Coastal flooding hazard in Western Australia has often been managed simply through setting a minimum finished floor level, based upon historic water levels, plus a nominal freeboard. However, this approach is a significant simplification, based heavily on previous limitations of available information.

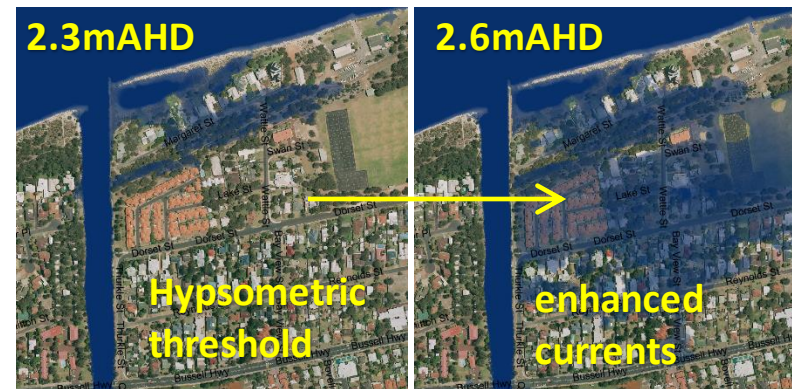
Flood damage, as well as risk to safety, is developed through a combination of hydrostatic and hydrodynamic loads. The latter are commonly caused by overland waves and currents.

Tools for estimation of overland wave propagation are limited, with offshore measurements and limited validation of nearshore transformation modelling.



A consequence is the flood hazard contribution from waves is often neglected, despite its importance. Estimation of overland wave propagation requires care, as it is largely a runup process, rather than a function of depth limitation. Structure slope and permeability can have very high influence.

Consideration of overland currents is also often limited. Historically, this has been a restricted by coarse topography. However, the advent of high-



resolution surveys enables identification of features that are likely to amplify currents, such as 'basins' above high tide, or significant gradients in flood level-area distribution (hypsometric thresholds). Hazard developed by these features is not apparent if flooding is only considered as a water level.



Flow focused through existing channel