

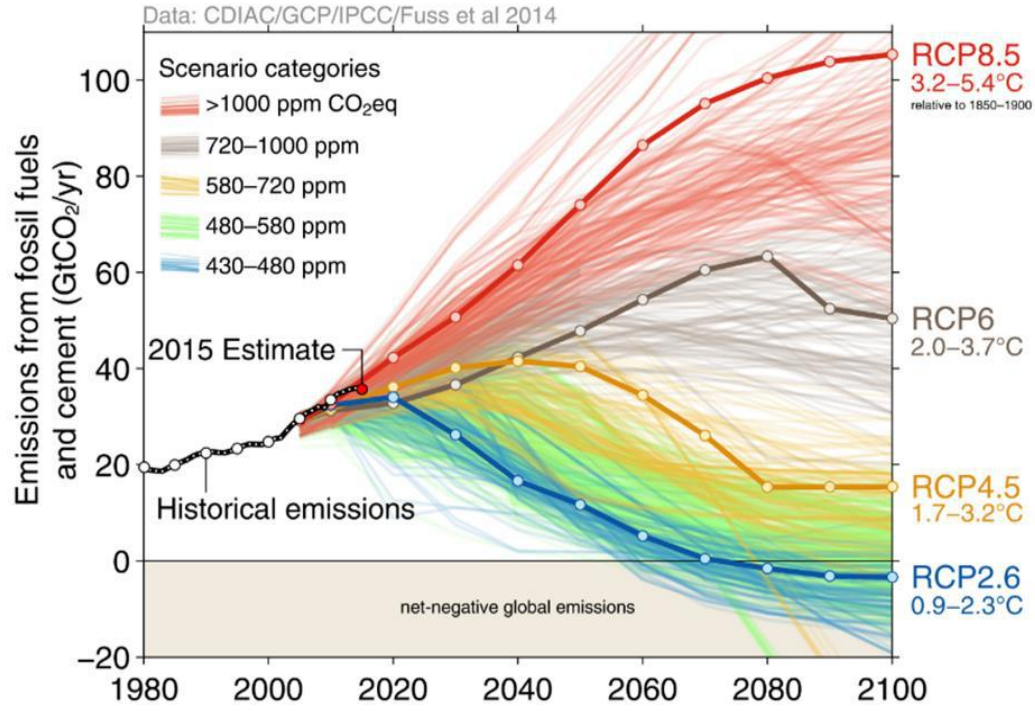
# Latest SLR projections and implications for storm tides

Rob Bell - NIWA, Hamilton

## Research Aim 2: Coastal Context - SLR & storm-tide

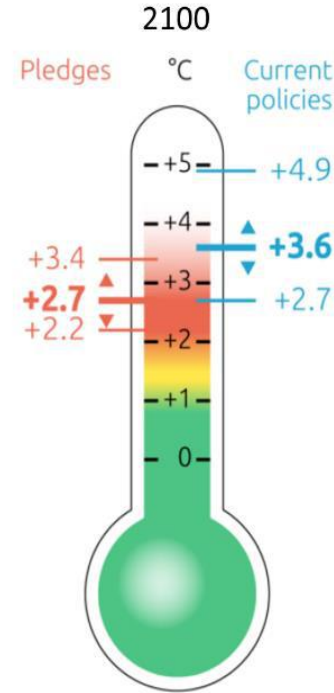
- Provide a consistent set of SLR projections spanning the RCPs and planning timeframes for the coastal and lowland case studies
- Determine a representative storm-tide level to combine with SLR and river floods (use a 1% AEP storm-tide level at Tararu gauge)
- Derive inputs to the modelling simulations - primarily the Waihou River case study

# RCPs, emissions and global sea-level rise

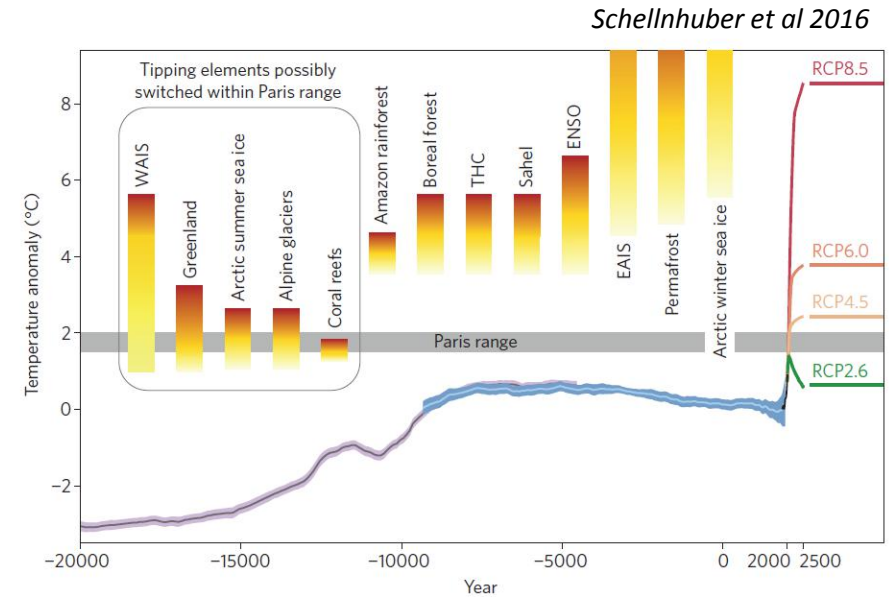


Over 1000 scenarios from the IPCC Fifth Assessment Report are shown  
Source: Fuss et al. 2014; CDIAC; Global Carbon Budget 2015

Global Carbon Project



COP21-Paris (Dec 2016)  
Climate Action Tracker

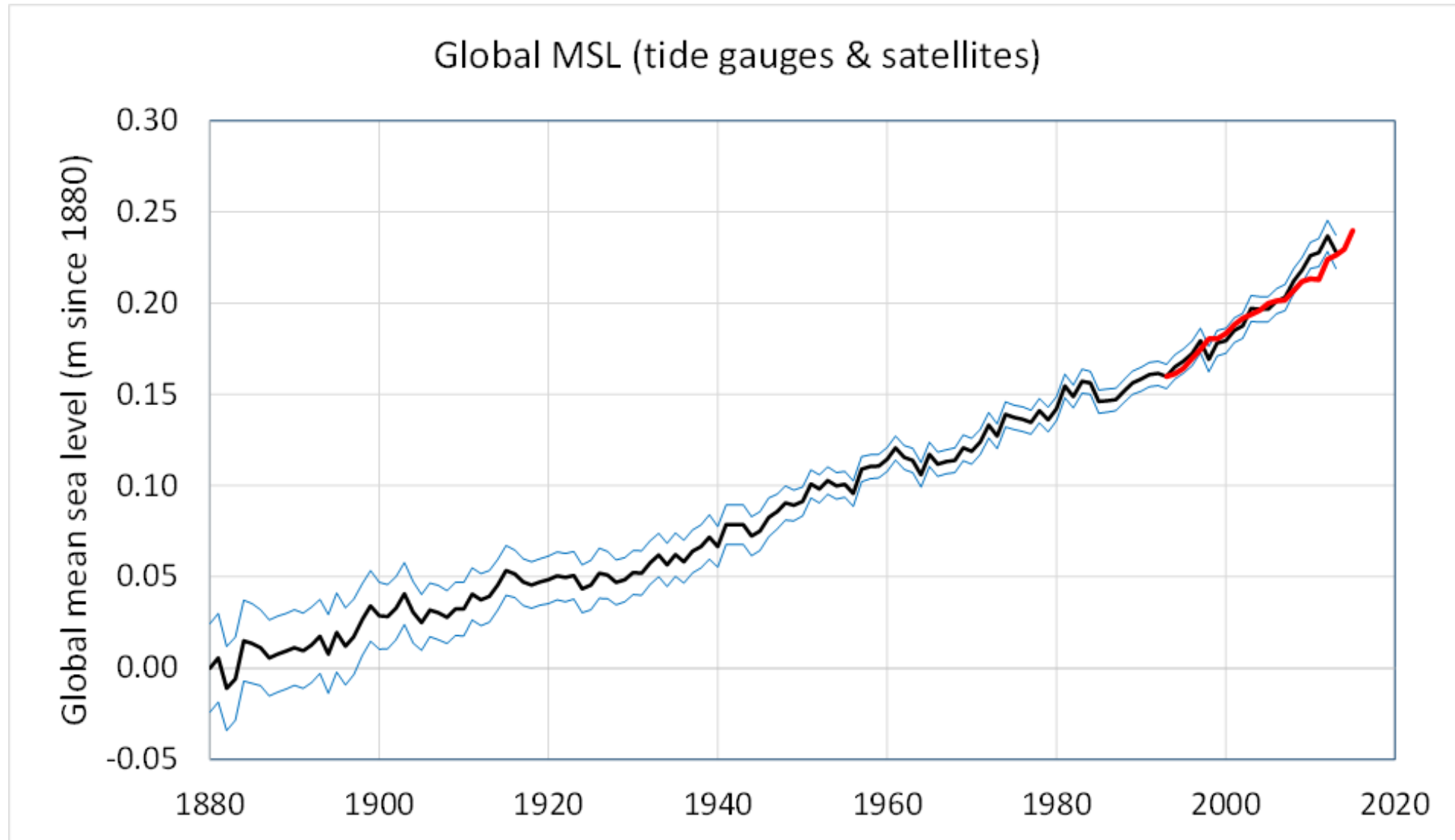


## IPCC AR5: 4 RCPs



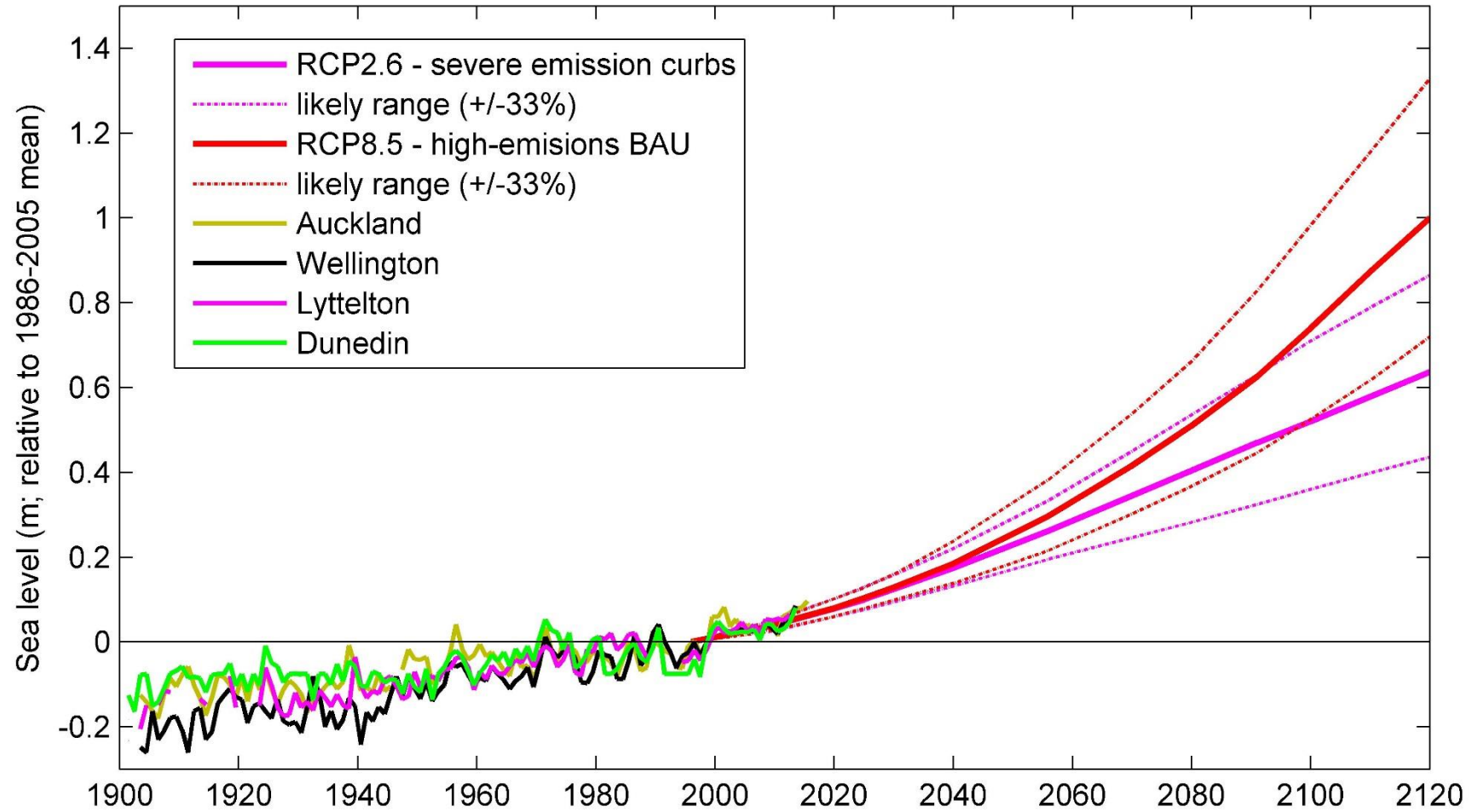
- RCP 2.6 (severe curbs on emissions to net zero)
- RCP 4.5 (moderate – gradual mitigation)
- RCP 6.0 (moderate – initial curbs, then increase)
- RCP 8.5 (BAU with no effective mitigation scenario)

# Historic global sea-level rise



1.4 - 1.9 mm/yr since 1900; **Red line**: 3.3 mm/yr since 1993 (satellite era)

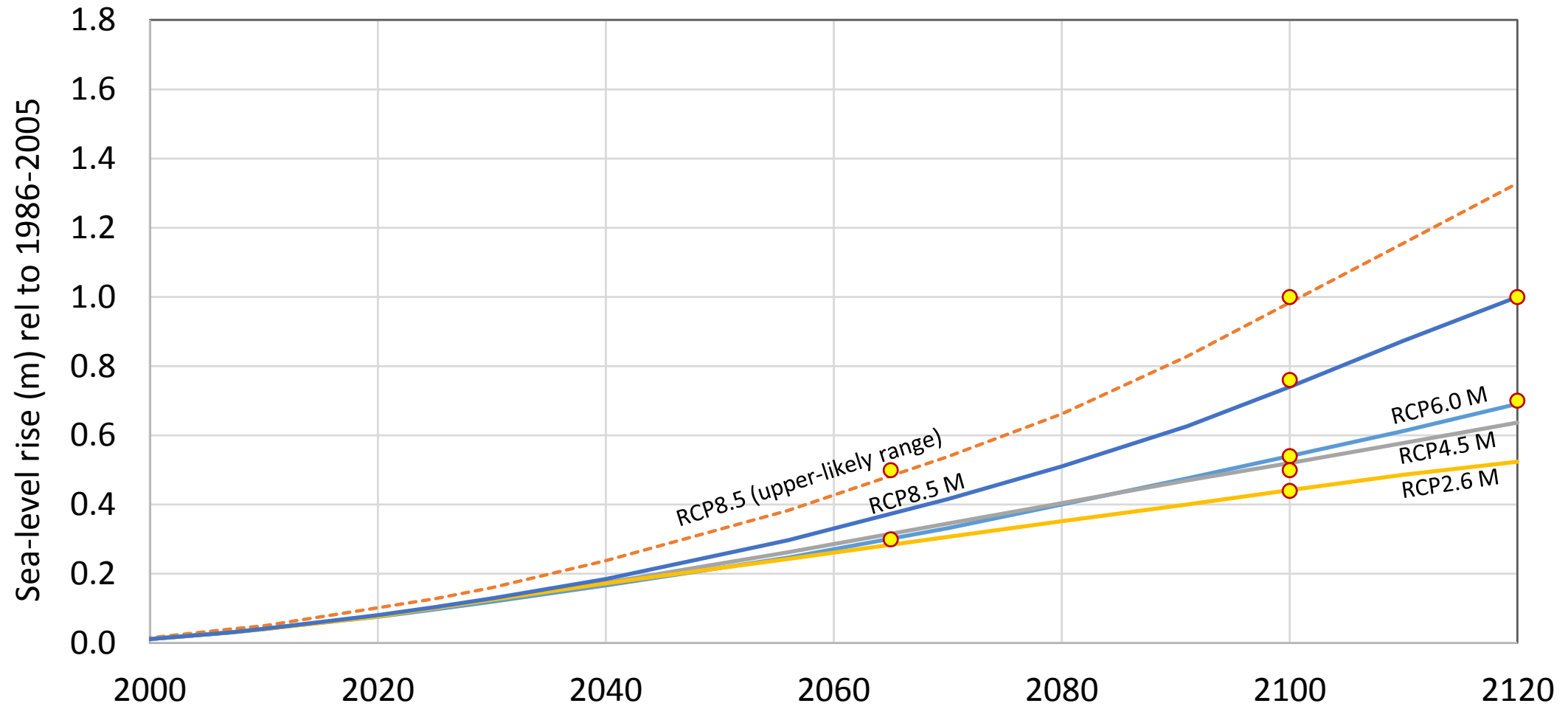
# Tale of two centuries



NZ 4 main ports, RCP2.6 and RCP8.5 global MSL projections

# Sea-level rise scenarios for case study

RCP8.5 to RCP2.6: SLR scenarios used in coastal case study



Thanks very much!