

Kapiti Coast Accretion

Larry Paul

Not a coastal erosion expert

Lived on Raumati beachfront 50+ years

Marine fisheries scientist 40+ years

(Marine Dept, MAFFish, NIWA)

Included some work on oceanography, climate variability, climate change impacts on marine ecosystem

7 slides

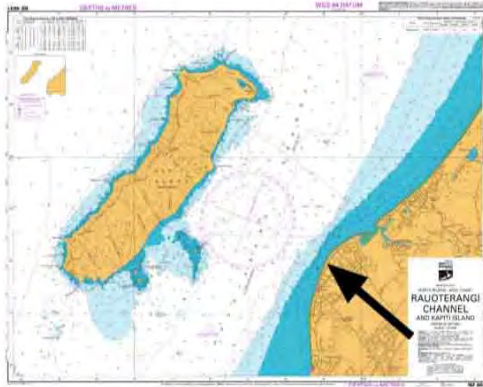
Not able to assess the science in the Shand Report.

Will focus on just one point, which I suggest has not been well covered in the Report and the commentaries on it.

Why is there -

- Accretion in the north?
- Stability/variability centrally?
- Episodic erosion in the south?

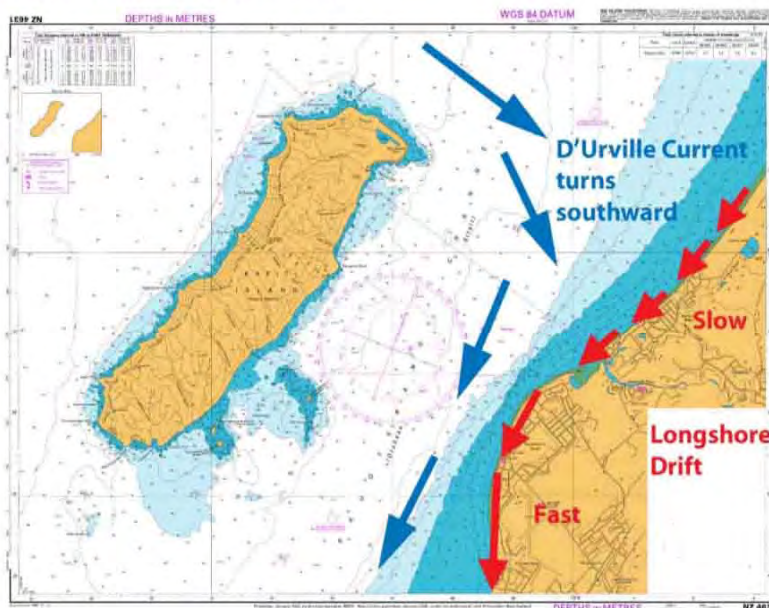
Cuspate foreland



We now all know this term.
Cuspate forelands vary. Stable. Grow. Migrate
and/or erode – upcurrent or downcurrent.

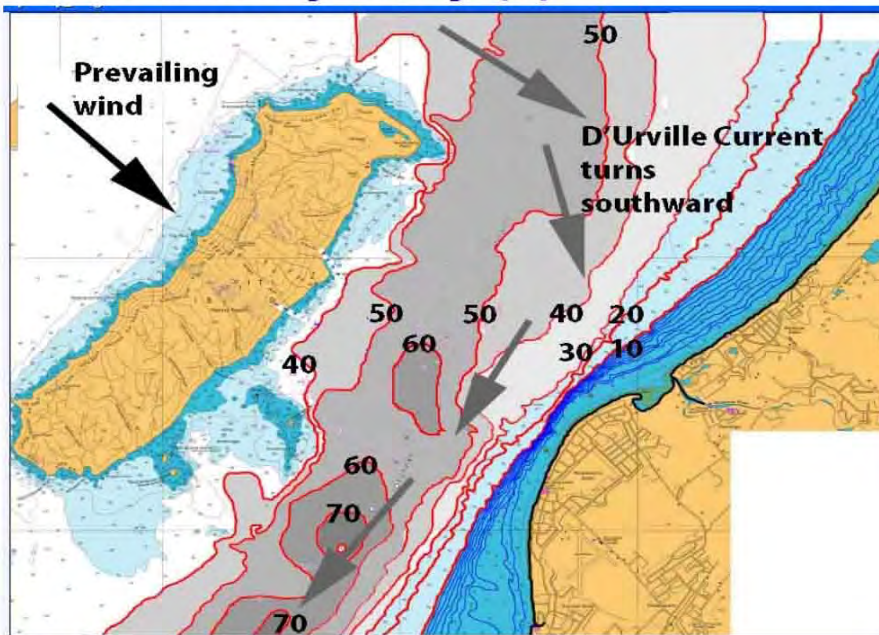
Drivers: **Coastal currents. Inshore bathymetry.**
Sediment supply. Wind.

Coastal currents



I suggest that the current's direction, relative to the shoreline, influences the speed of Longshore Drift.

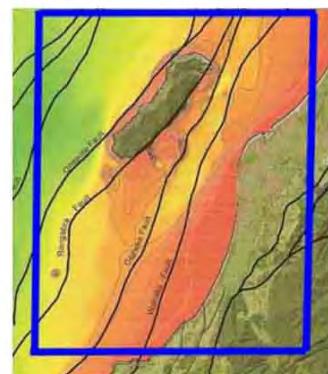
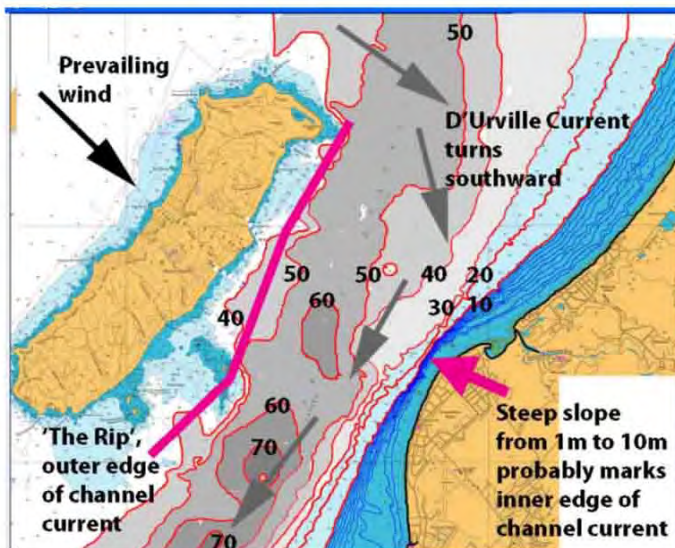
Inshore bathymetry (1)



Contours at 1m out to 10m, then at 10m intervals

I suggest a difference in the wave energy reaching the 'northern' and 'southern' beaches.

Inshore bathymetry (2)



At this scale, no clear sign of Gibb's 'sediment bank'.

No submarine extension of Paraparamu Point.

Strong channel current. Equilibrium? But, at the Point, short-term, storm-driven, accretion/erosion events.

Summary

1. There seems to be a reasonable explanation for the north/south difference in accretion.
2. I suggest the underlying oceanographic features are unlikely to alter greatly under climate change scenarios.
3. I would like the Expert Panel to consider whether the causes of accretion, and the likelihood of regional changes in these causes, should be incorporated in a predictive study of hazard zones.

Seawalls vary in effectiveness, and can be destructive



E.g., seawall across beach at Wharemauku Stream mouth deflects waves from the north-west to erode the northern bank and dune. *Photo at high tide.*