

Adding value to existing datasets to inform management decisions



Tanya O'Neill, Pierre Roudier, Fraser Morgan, Simon C. Cox

R Roper-Gee c. 2004



THE UNIVERSITY OF
WAIKATO
Te Whare Wānanga o Waikato



**Landcare
Research**
**Manaaki
Whenua**



THE UNIVERSITY OF
AUCKLAND
Te Whare Wānanga o Tamaki Makaurau
NEW ZEALAND



**GNS
SCIENCE**
TE PŪ AO



Antarctica New Zealand



UC
UNIVERSITY OF
CANTERBURY
Te Whare Wānanga o Waitaha
CHRISTCHURCH NEW ZEALAND

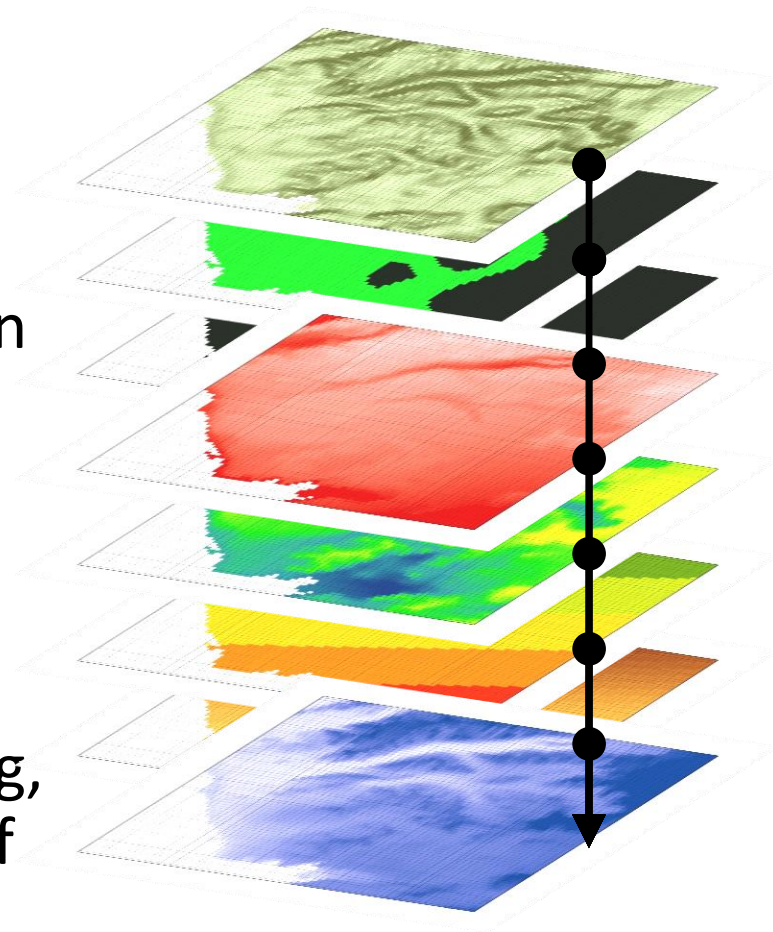


Australian Government
Department of the Environment
Australian Antarctic Division

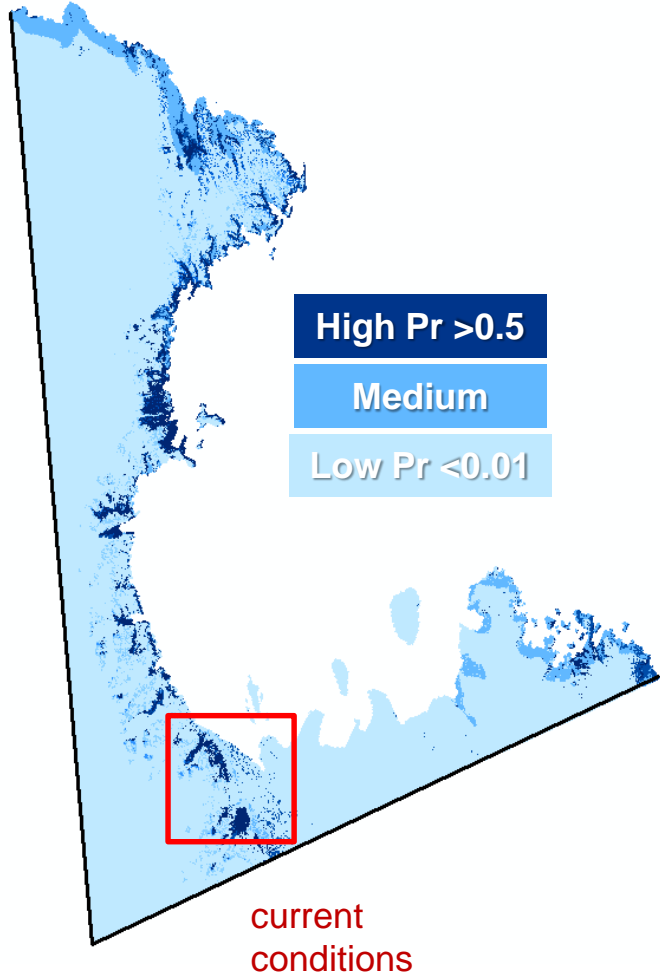


Terrestrial Data Analysis for the Ross Sea region

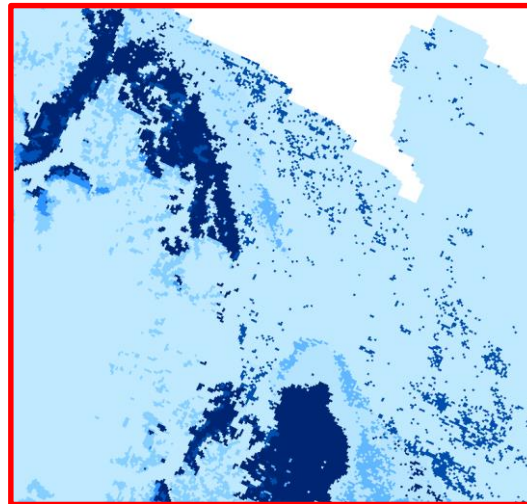
- NZ Government, 4-Yr Research Programme
 - Objective 1: Data harmonisation
 - Objective 2: Data analyses
 - Objective 3: Development of a Regional-scale tool for reporting, monitoring and management of the Ross Sea region



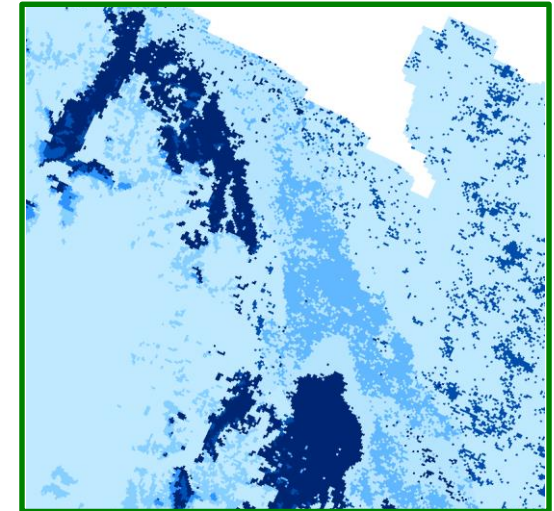
Example: Models of **present** and **future** melting using GeoMap and MODIS layers



Present *probabilities* of water being present central TAM



Future Scenario
LST +2°C and GDDx1.3



Assumption: that 2003-2015 temps are representative of the time of melting.
Refrozen meltwater ponds may be much older.

Slide and data analysis by Simon Cox

Data visualisation to include:

- Recent historic climate (MODIS LST)
- IPCC forecasted climate
- Human activity (1958 until present)
- Infrastructure locations
- Liquid water availability (current and predicted)
- Soil attributes (soil C, pH, EC)
- Bioregions
- Geology (GeoMap)
 - And 2° and 3° products like trampling risk, invasive species risk

The end product

- ❖ End product: management tool to assess regional-scale EIA for Ross Sea region
- ❖ Provides evidence to support the user (such as an Environmental Manager) in reviewing, analysing, and visualising spatial information
- ❖ Enables user to investigate the effects of different scenarios



To make a more effective decision