

Application of hydroacoustics and video to biological and habitat mapping surveys

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CRC for Coastal Zone
Estuary & Waterway Management



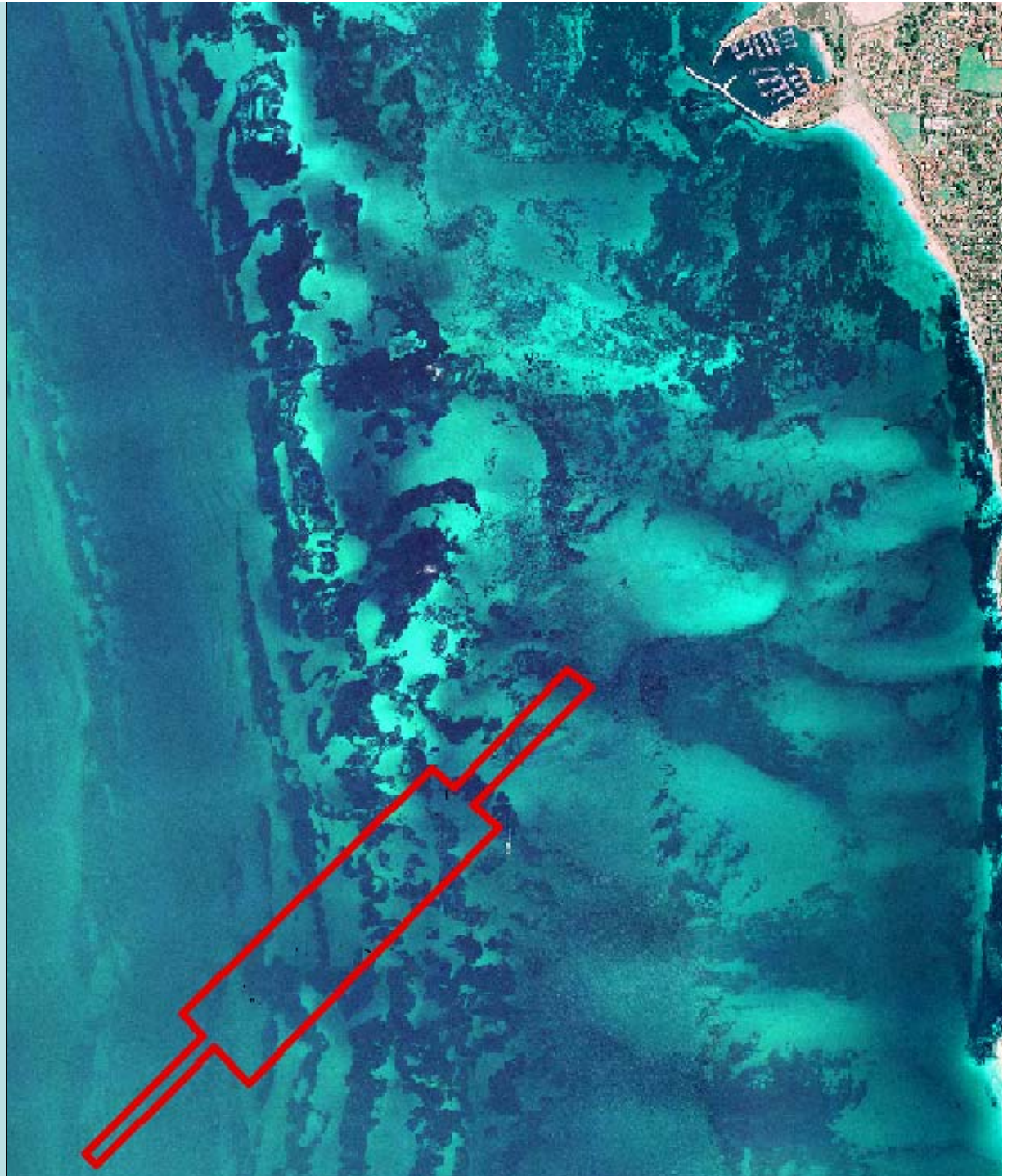
Location

- Within Marmion Marine Park
- Covers a range of bottom types

Depths

Exposure to wave action

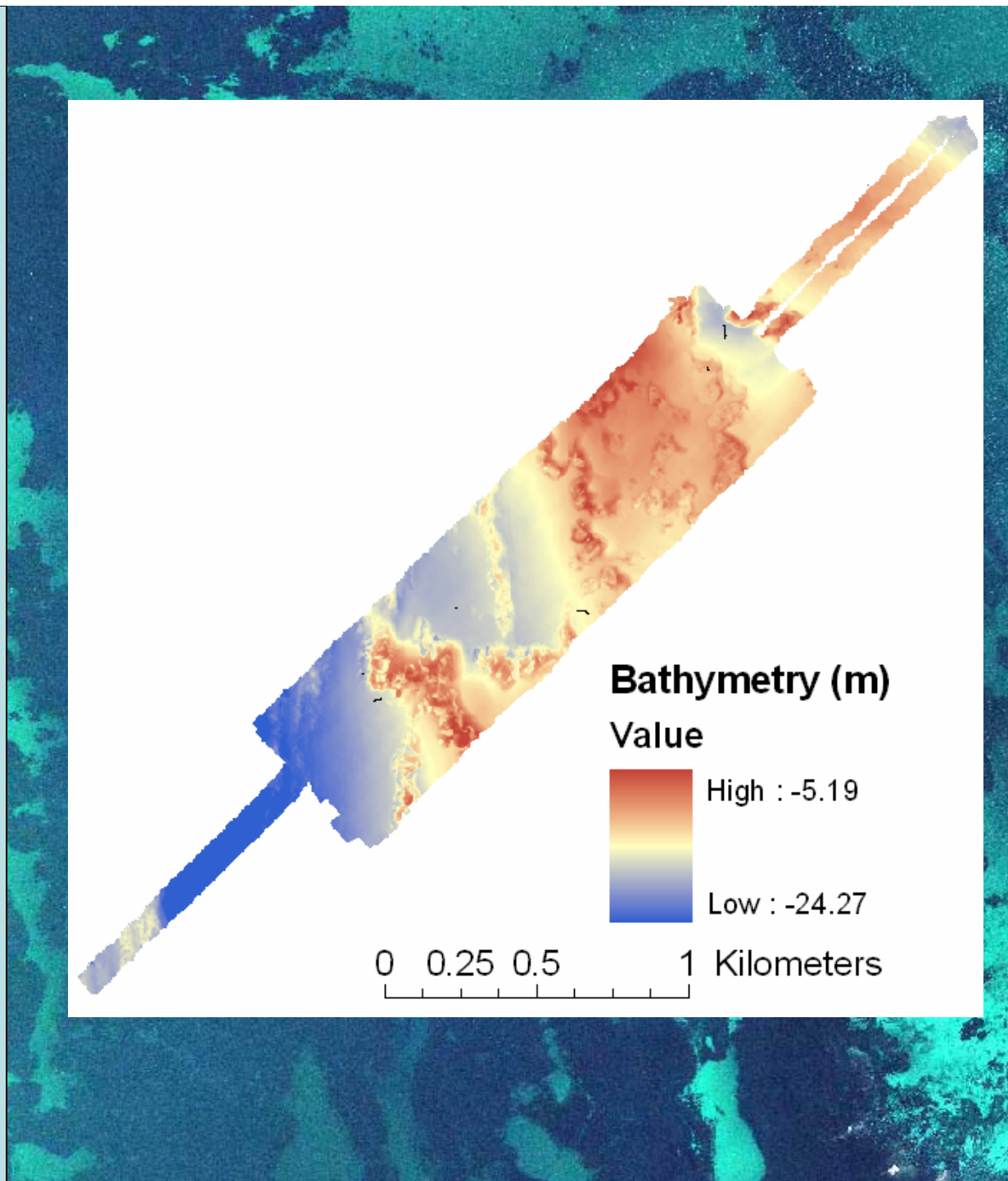
Various types of reef and other habitats



Hydroacoustics shows

From Multibeam

Changes in depth



Hydroacoustics shows

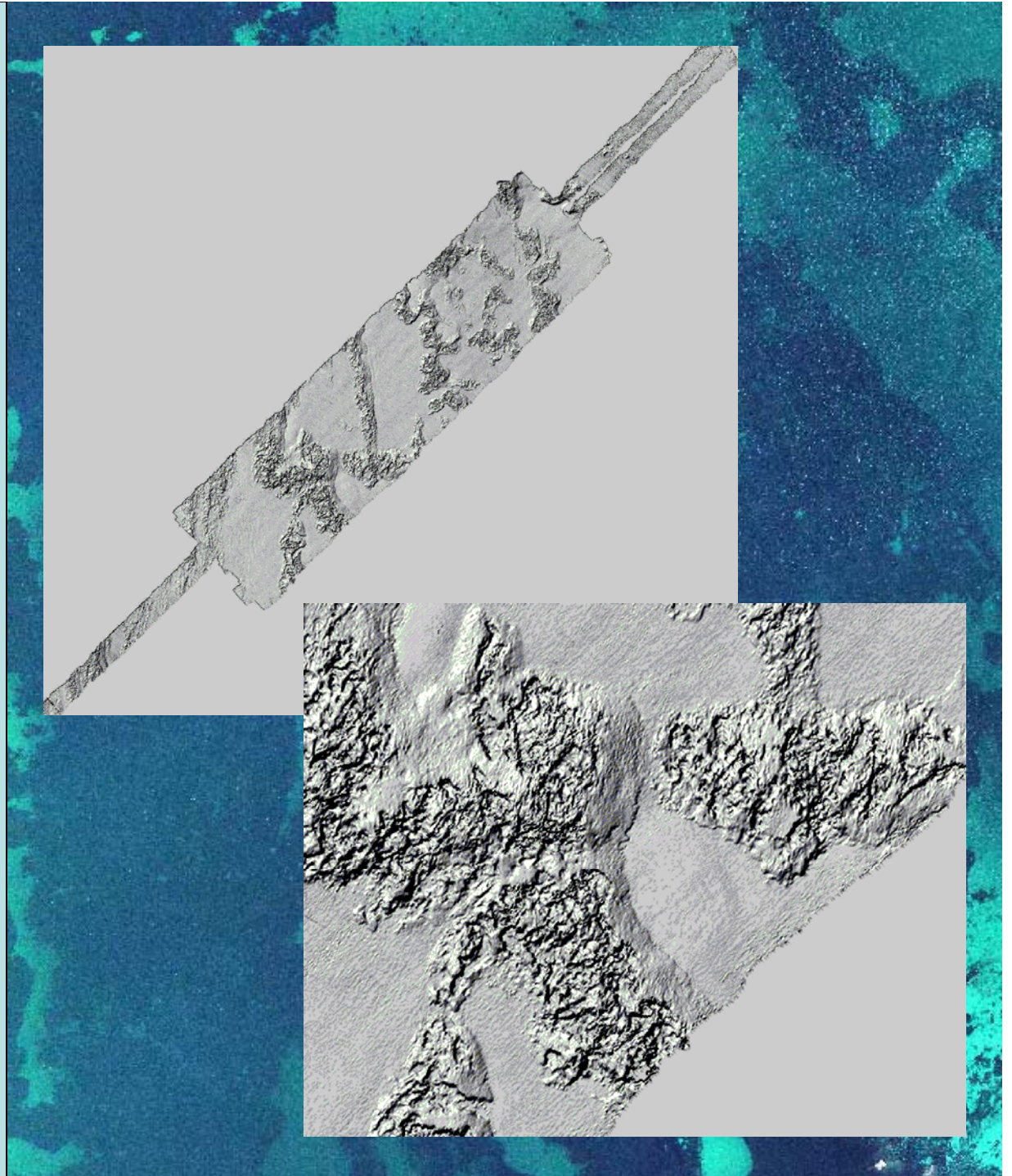
From Multibeam

Changes in depth

Changes in topography

Flat sediment

Reefs of different rugosity



Hydroacoustics Shows

From Multibeam

Changes in depth

Changes in topography

Flat sediment

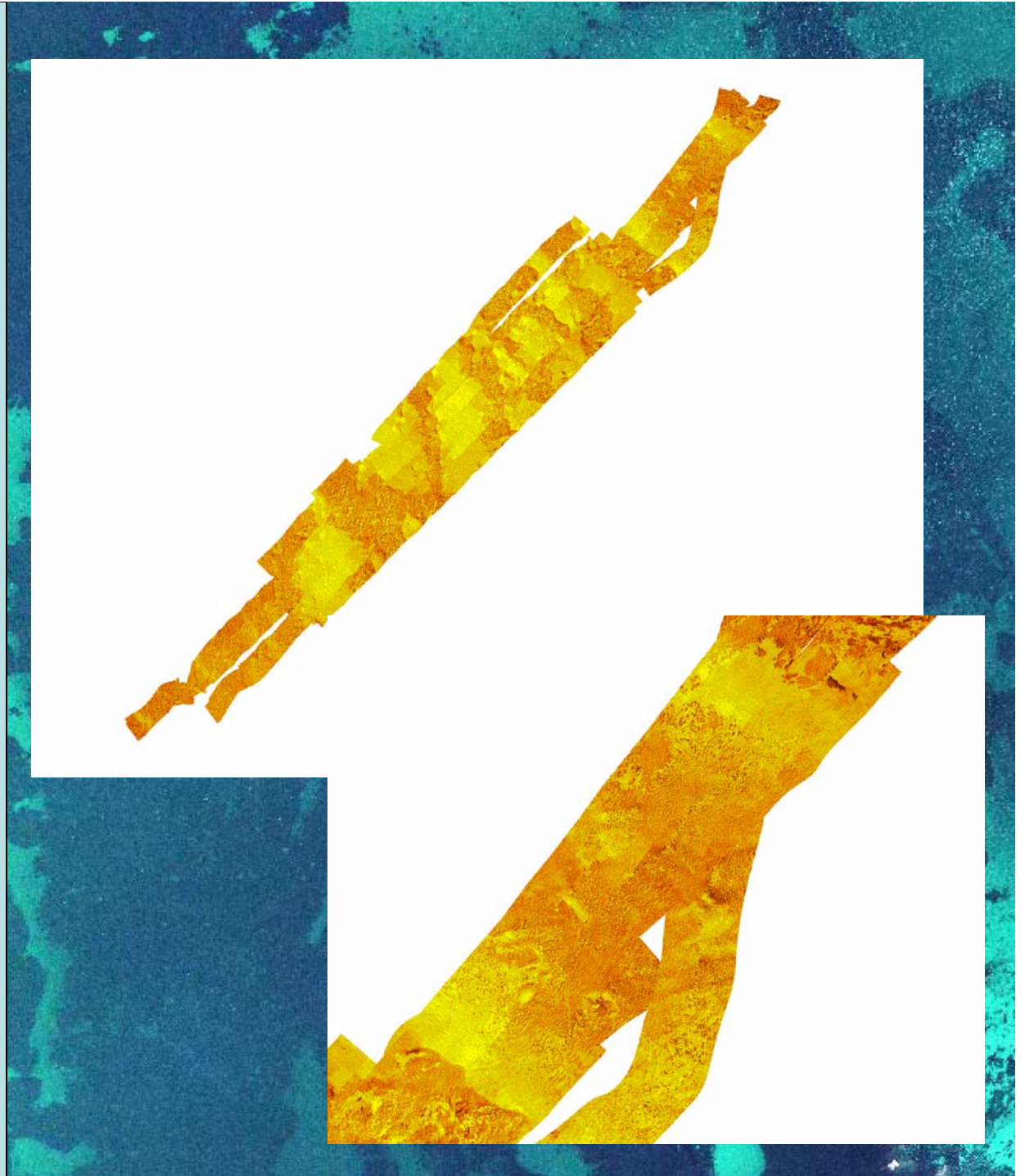
Reefs of different rugosity

From Sidescan

Changes in texture

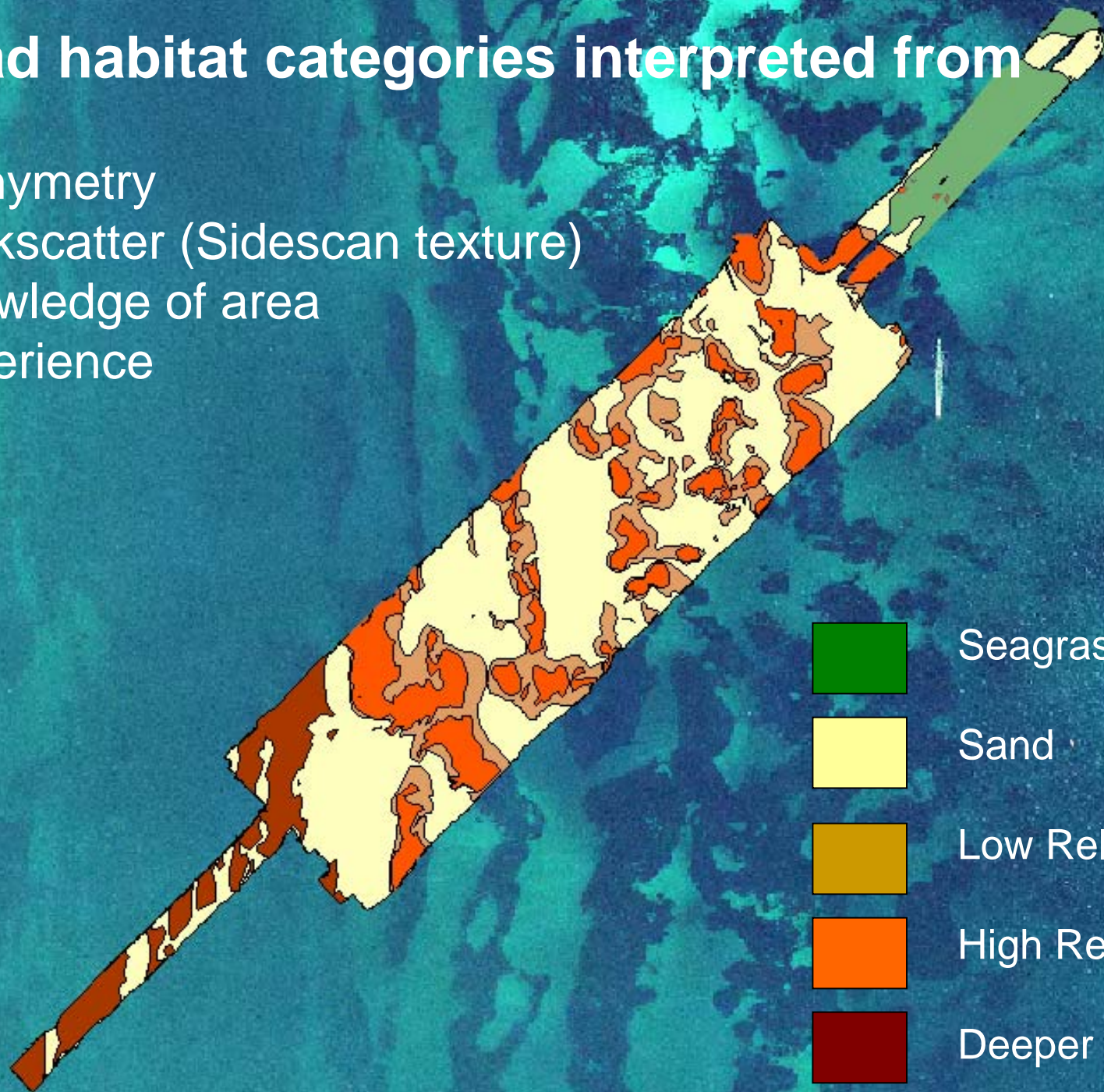
Delineates reefs
seagrass
sediments

(detailed examples
to be shown)

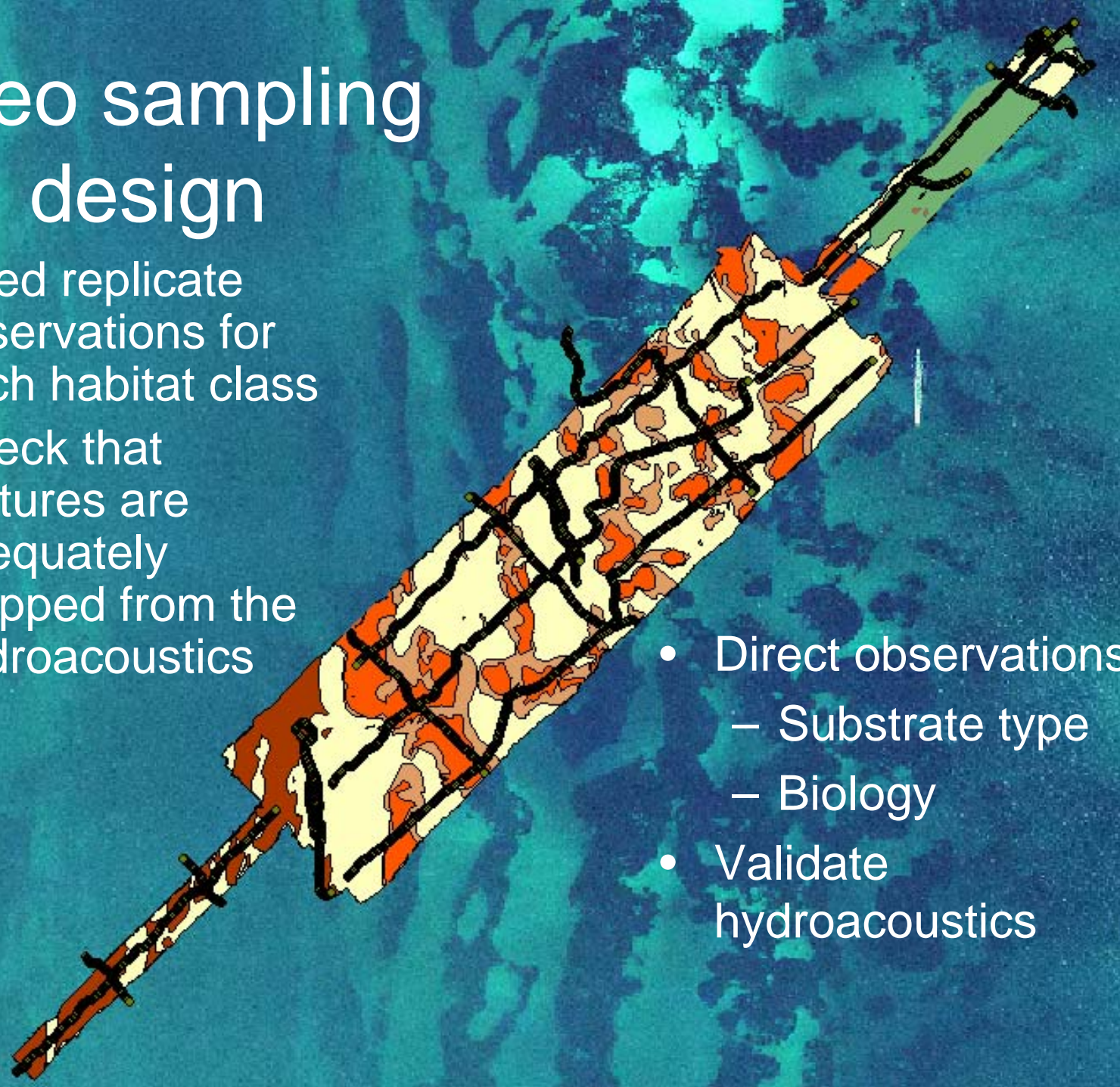


Broad habitat categories interpreted from

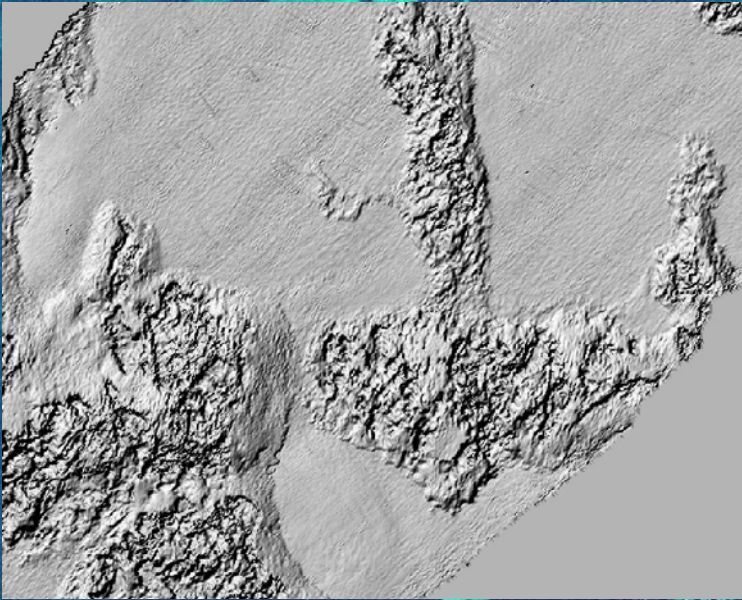
- Bathymetry
- Backscatter (Sidescan texture)
- Knowledge of area
- Experience



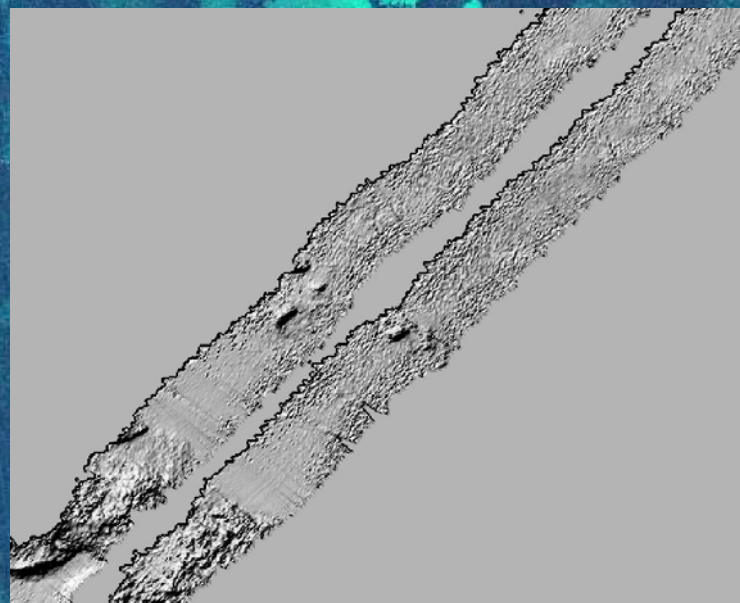
Video sampling design

- Need replicate observations for each habitat class
 - Check that features are adequately mapped from the hydroacoustics
 - Direct observations
 - Substrate type
 - Biology
 - Validate hydroacoustics
- 

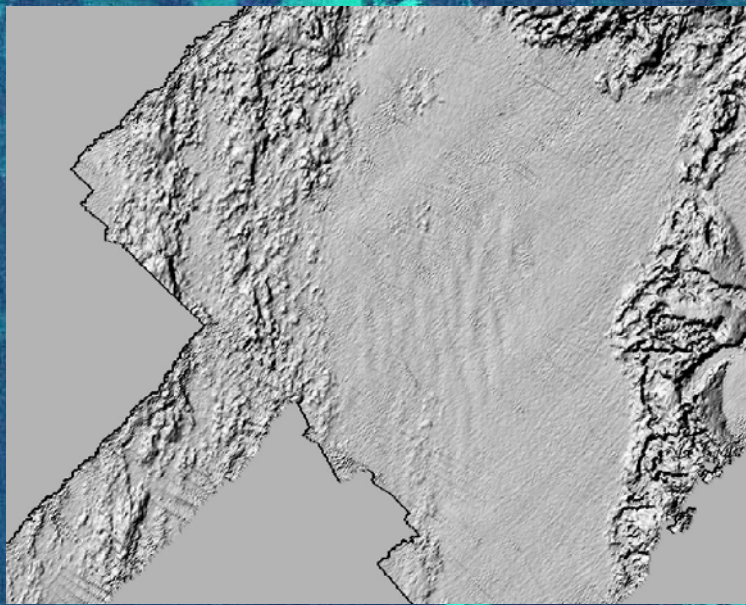
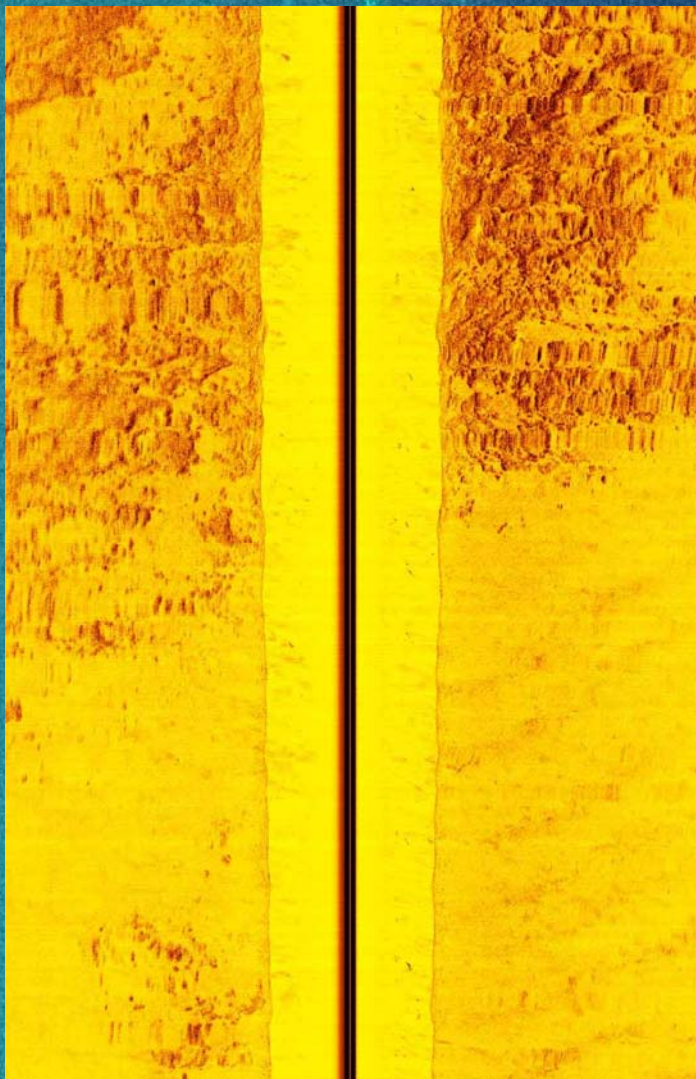
Low and High Profile Reef



Seagrass



Deeper Reef



Applications for marine habitat maps

- Document full range of marine habitats
- Meaningful selection of representative research sites
- Targeting unique areas
- Gather baseline information for long-term monitoring
- Assist in appropriate zoning recreational and commercial activities