

Is the balance between shelf accommodation space and sediment supply such that the slope is the dominant depocenter, and how has this evolved since the LGM?

Approach: Identify zones of active deposition. (today and since LGM)

- 1) Short cores w/ Be-7, Pb-210, Cs-137 and tephra chronology.
- 2) Chirp sonar coverage

Are sediment-gravity flows a significant mechanism of off-shelf sediment transport in flood-dominated, anthropogenically altered dispersal system?

Approach: Evaluate modern sediment supply and escape.

- 1) as above
- 2) CTDT casts before and following events
- 3) Moorings with current meters, sed traps, thermistors, transmissometers
- 4) Surface plume transport investigations with satellites and ground-truth
- 5) Develop 3D models slope transport processes

Do intraslope sources dominate slope sediment flux on an actively deforming margin?

Approach: Quantify and model intra-slope transport

- 1) As above
- 2) Multibeam and Chirp
- 3) Process-based modeling of submarine gully erosion
- 4) Develop 3D and integrated models of slope-erosion processes