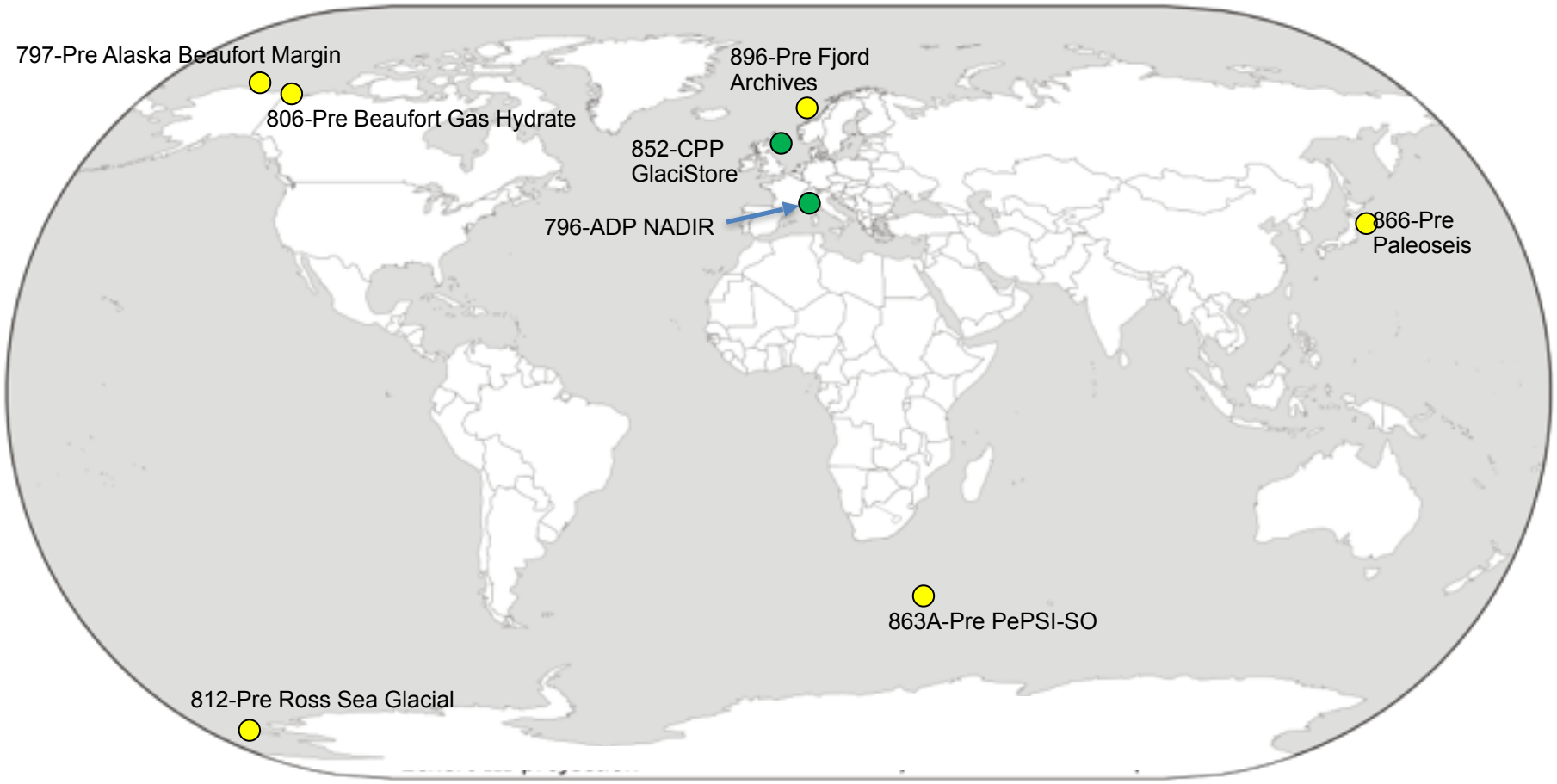
Active MSP proposals at SEP

Status: June 2016



Summary of MSP proposals at SEP (part 1)

Status: June 2016

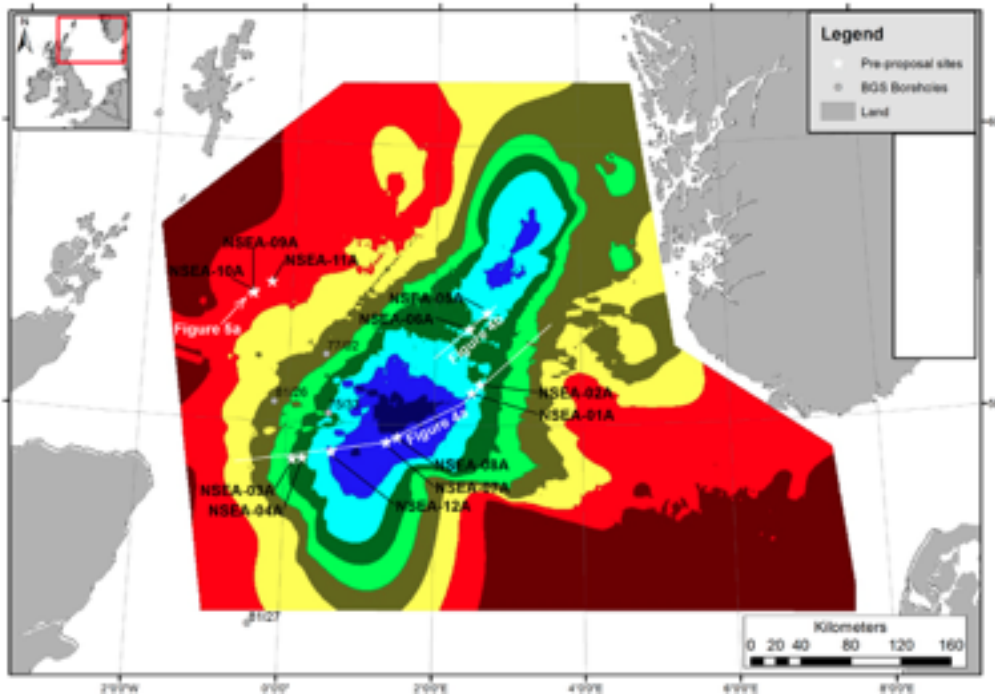
order is according to relative maturity (top is more mature than bottom)

Proposal	Short Title	Proponent	Country	Ocean	Drill Platform	Status
852-CPP2	North Sea GlaciStore	Stewart	USA	Atlantic	drill rig	07/15: revise
ADP / 796-Full	NADIR Nice Amphib. Drilling Ligurian Landslide	Kopf	Germany	Mediterr.	geotech rig; MeBo	01/15: subm. to ICDP 07/15: revise
866-Pre	Japan Trench Paleoseismology	Strasser	Switzerl.	Pacific	long-piston coring	01/15: submit full prop.
863A-Pre	PePSI-SO: Pleistocene Paleoc.- SW Indian sector, SO	Crosta	France	Southern	long-piston coring	New daughter prop for 863 MDP 04/16 submitted
797-Pre	Alaska Beaufort Margin	Ruppel	USA	Arctic	drill rig (or JR)	05/12: submit full prop. or MDP with 806
806-Pre	Beaufort Gas Hydrate	Paull	USA	Arctic	geotech rig	05/12: submit full prop. or MDP with 797
812-Pre	Ross Sea Glacial History	Wilson	USA	Southern	seabed drill	12/12: submit full prop.
896-Pre	FANA: North Atlantic Fjord Sediment Archives	Giraudeau	France	Arctic	Long piston-coring	04/16 submitted

MSP 852-CPP: North Sea GlaciStore (Stewart)

IODP Theme: Climate and Ocean Change

Region: North Sea (NE Atlantic)



Objectives:

- Investigate how shallow Neogene and Quaternary sediments form overburden and seal to underlying CO2 storage reservoirs.
- Establish a depositional and chronological framework for multiple cycles of glacial advance and retreat preserved in the center of the North Sea Basin.
- Characterise the pore fluids (dissolved gases, salts and isotopes) to identify fluid history, age, and degree of mixing.
- Determine the measurable impact on the geomechanical properties (porosity, rock stiffness, in-situ stresses, pore pressure) of underlying strata caused by cycles of glacial loading and unloading.

Drilling:

- 4 primary & 8 alternate sites, 100-180 m WD, 30-800 m penetration depths
- drill rig (why not JR?)
- ECORD cost category: medium to high
- possible CPP or industry support?

Site survey data: ●

Needed: Reprocessing of existing MCS data to yield higher resolution, nav, bathy, backscatter, velocity, seafloor samples

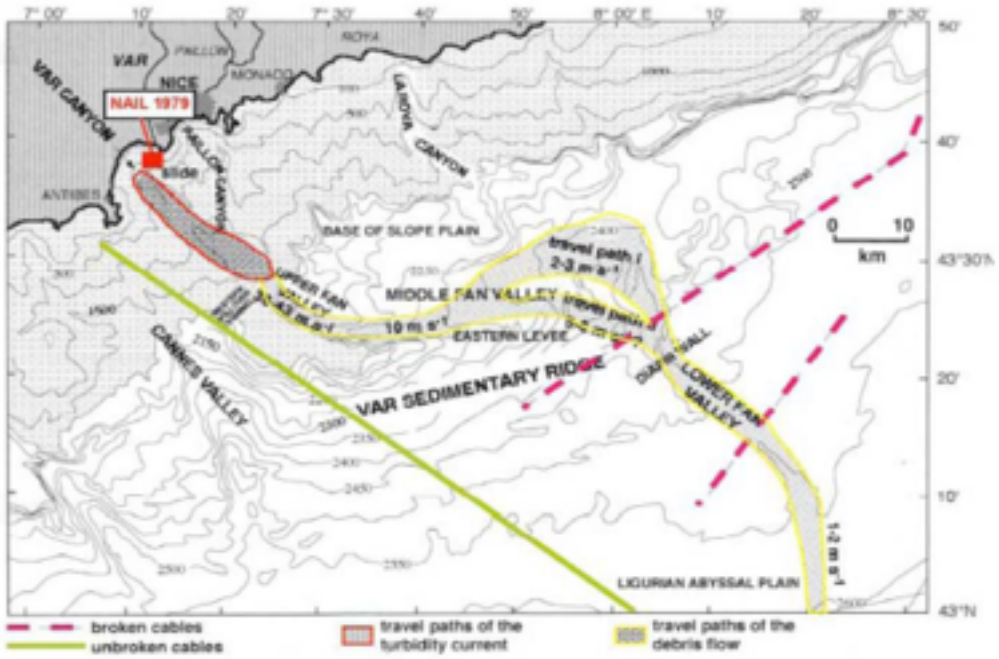
Current status at SEP:

04/2016: CPP2 received

MSP 796-Full: Ligurian Landslide / ADP: Nice Amphib. Drilling (Kopf)

IODP Theme: Earth in Motion

Region: Mediterranean Sea (France)



Drilling (offshore part):

- 4 primary & 4 alt. sites, 20-104 m WD, 60-150m penetration depths
- geotech rig or seabed-drill
- ECORD cost category: low

Objectives:

- Study factors governing slope failure in an area with multiple triggers
- Identify permeable layers in Plio/Quaternary rocks onshore, glacial and postglacial delta deposits and underlying Pliocene rock offshore to define their role in the aquifer system as well as in slope failure
- Sample prominent discordant contacts and test whether they may serve as failure and sliding surfaces
- Utilize core samples for deformation and permeability experiments and relate them landslide risk/societal threat

Site survey data: 3 ●

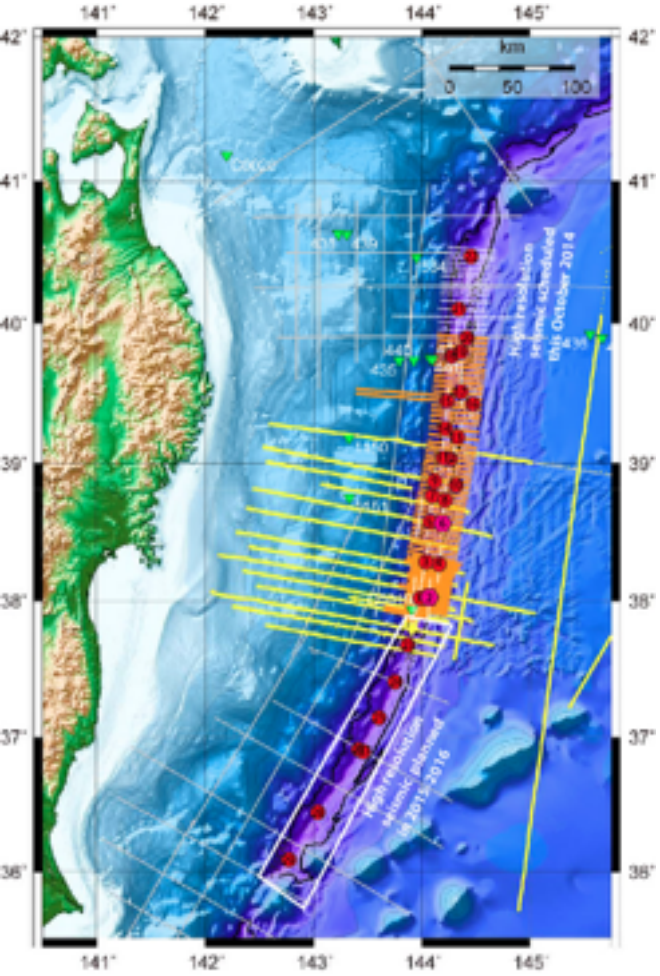
Good data exist, but items missing, poorly organized, and inconsistent interpretations

Current status at SEP:

07/2015: Revise;

Proponents submitted ADP to ICDP in 01/15

MSP 866-Pre: Japan Trench Paleoseismology (Strasser)



IODP Theme: Earth in Motion

Region: NW Pacific (Japan)

Objectives:

- Identify sedimentological, physical, chemical, and biogeochemical proxies of event deposits in the sedimentary archive that allow for confident recognition and dating of past earthquakes

- Explore the spatial and temporal distributions of such proxies and investigate how they relate to fault characteristics and rupture areas of great earthquakes across the entire Japan Trench subduction system

- Elucidate the long-term recurrence pattern of events similar to 2011 Tohoku earthquake (together with Chikyu proposal 835-Full - Japan Trench Tsunamigenesis)

Drilling:

- 25 sites (plus 2 Chikyu sites), 6800-8000 m WD, 50 m penetration depths

- long-piston corer

- ECORD cost category: low

Site survey data: 3 ●

Some data in SSDB: Needed: high-res subbottom profiler data; bathy maps

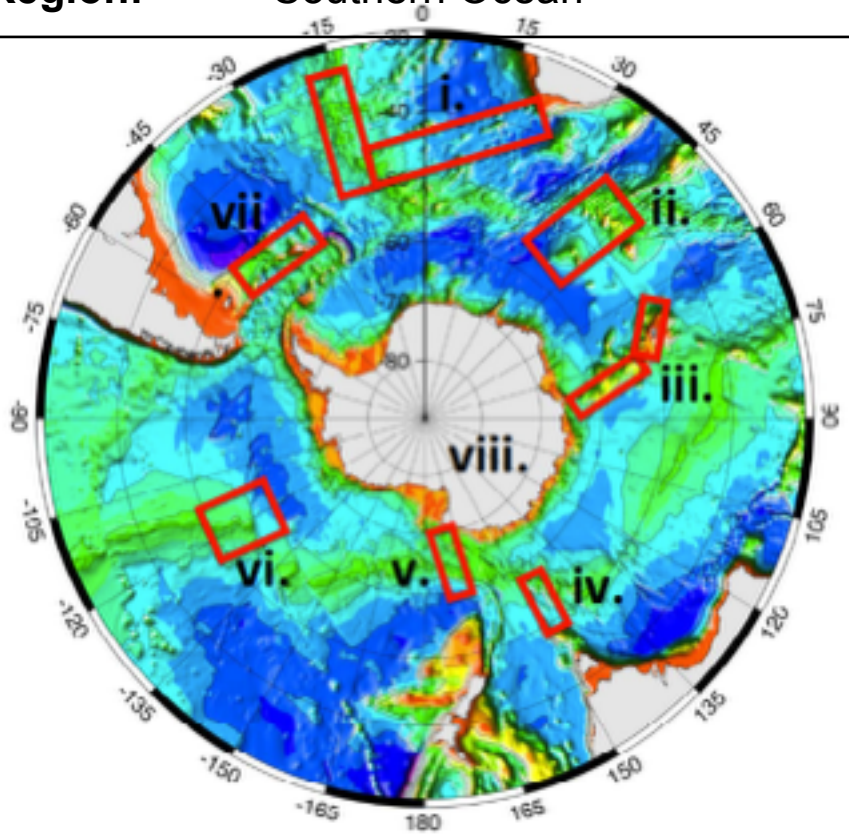
Current status at SEP:

01/2014: Submit full proposal

MSP 863A-Pre: Pleistocene Paleoceanography, SW Indian sector of SO (Crosta) – daughter proposal to 863-MDP

IODP Theme: Climate and Ocean Change

Region: Southern Ocean



Drilling:

- 8 primary sites; 900-5290 m WD, 60 m penetration depths
- long-piston coring
- ECORD cost category: low

Objectives:

- Fluctuations of the ACC and ocean fronts and ensuing inter-ocean surface and deep water transports during periods of rapid climate change;
- Variability of latitudinal sea-ice extents, westerly wind strength and dust deposition, and the biological pump and their implications for air-sea gas exchange and CO2;
- Biogeochemical inventories of CDW and their relation to biological fluxes;
- Import of Northern Hemisphere waters to the CDW at a location proximal to the primary entrance of North Atlantic Deep Water to the Southern Ocean.

Site survey data: 4 ●

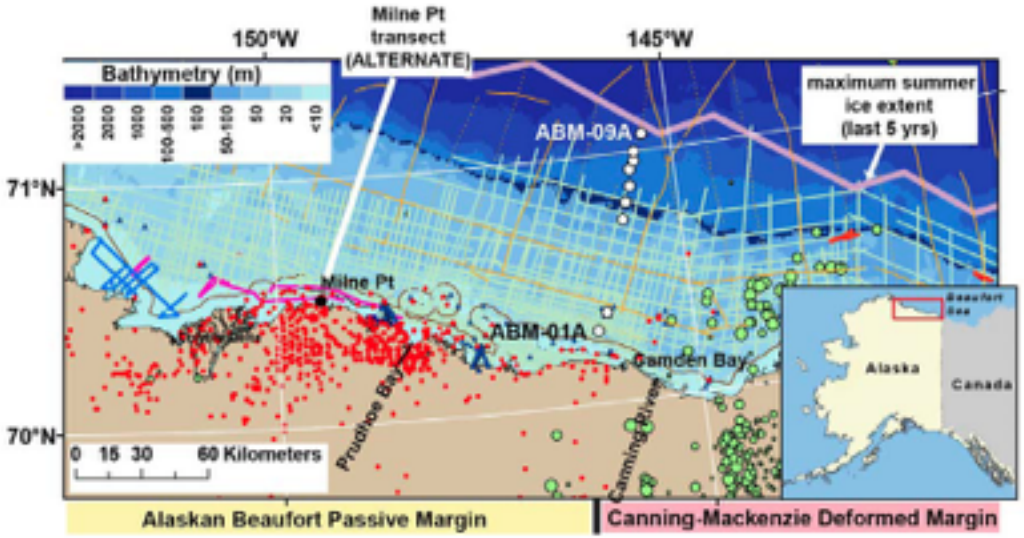
Some data in SSDB; not yet reviewed by SEP

Current status at SEP:

04/2016: submitted; not yet reviewed

MSP 797-Pre: Alaska Beaufort Margin (Ruppel)

IODP Theme: Climate and Ocean Change
Region: Alaska - Arctic Ocean



Objectives:

- Constrain how climate change that commenced at the end of the Last Glacial Maximum (warming and sea level rise) has affected climate-sensitive (permafrost and hydrate-bearing sediments) deposits in two Arctic settings that are also considered highly vulnerable to contemporary and future climate change.
- Obtain a much-needed regional sea level curve by recovering the full thickness of Holocene and Late Pleistocene sediments.
- Determine the contributions of hydrate dissociation, new methane generation, and methane migration from depth to total methane and inform predictions of future methane emissions.

Drilling:

- 3 primary MSP sites, 20-80 m WD, 600 m penetration depths
- drill rig for MSP sites (JR for 6 other sites)
- ECORD cost category: low to medium

Site survey data: 5

Needed: 2D MCS grid, 3.5 kHz, interpretations, velocity, bathy, backscatter, seafloor samples; no data in SSDB

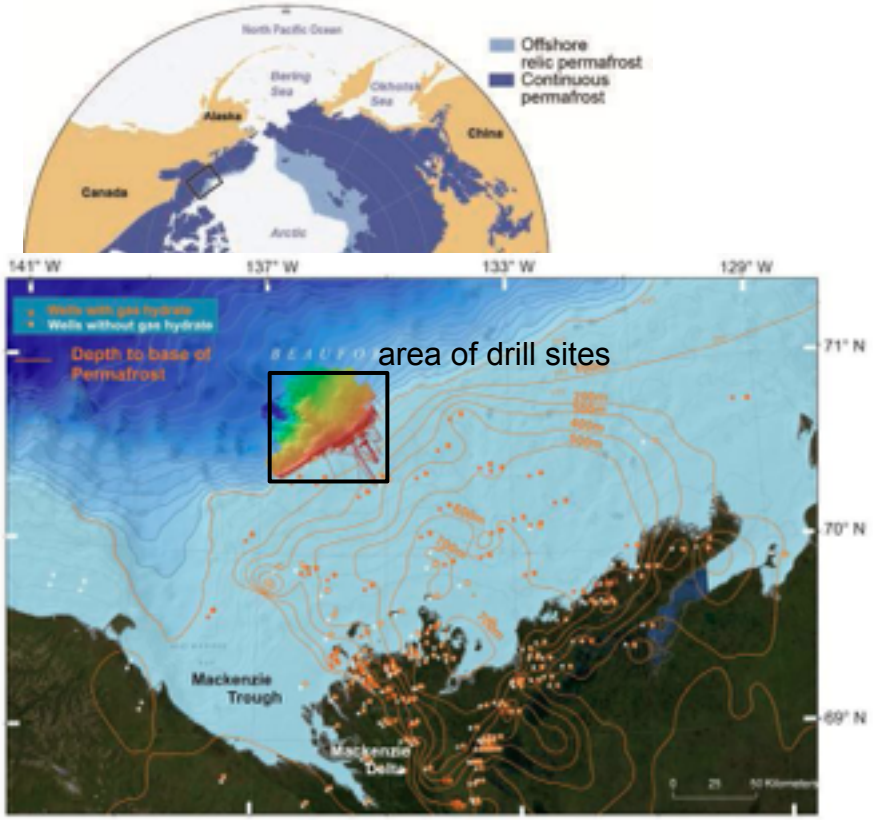
Current status at SEP:

05/2012: submit full prop. or MDP with 806

MSP 806-Pre: Beaufort Gas Hydrate (Paull/Dallimore)

IODP Theme: Climate and Ocean Change

Region: Alaska - Arctic Ocean



Drilling:

- 5 primary sites, 50-300 m WD, 100-300 m penetration depths
- geotech rig or seabed drill
- ECORD cost category: low to medium

Objectives:

- Document the rapidly changing transitional geologic environments of the southern Beaufort Sea from the mid shelf to upper slope.
- Reconstruct the Quaternary transgression-regression history of the shelf including sea level fluctuations and evidence of glacial ice cover, ice shelves and a Younger Dryas outburst flood.
- Development and verification of a geothermal model which can then be used to estimate the sensitivity of this setting to future climate warming linkages.
- Study the stability marine gas hydrate in this setting and geologic processes responsible for the formation of large-scale sea floor expulsion features.

Site survey data: 5

Needed: Crossing 2D MCS lines, 3.5 kHz data, interpretations, velocity, bathy, backscatter, seafloor samples, nav. No data in SSDB

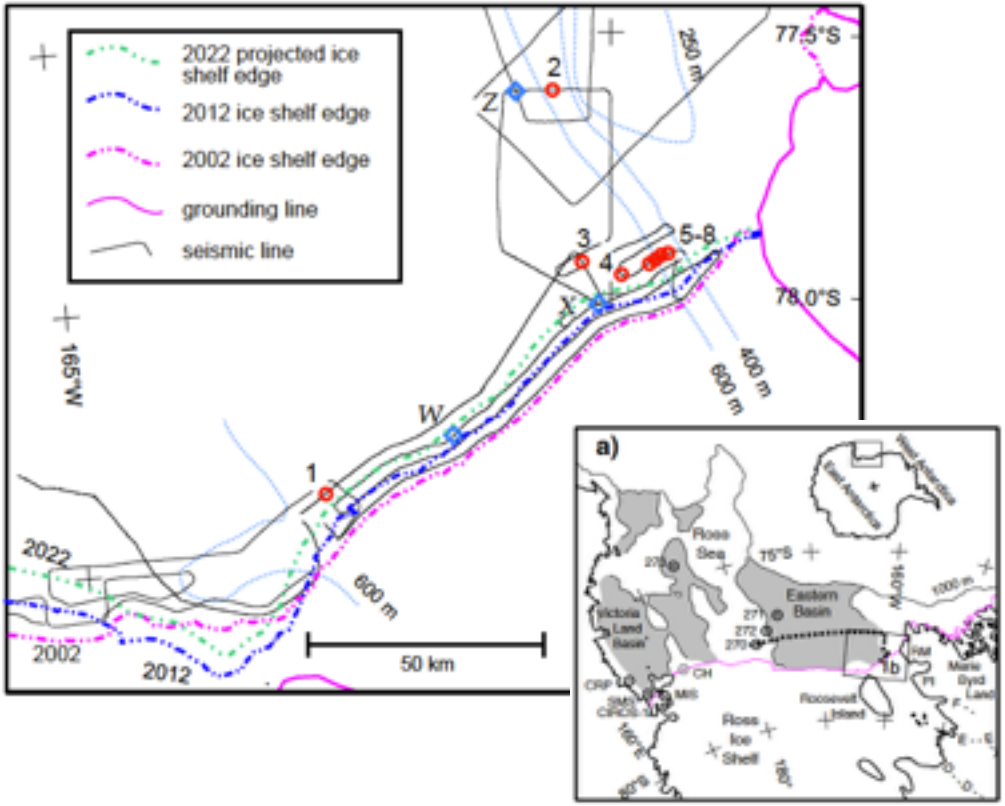
Current status at SEP:

05/2012: submit full prop. or MDP with 797

MSP 812-Pre: Ross Sea Glacial History (Wilson)

IODP Theme: Climate and Ocean Change

Region: Ross Sea (Southern Ocean)



Drilling:

- 8 primary sites, 566-698 m WD, 60-80 m penetration depths
- seabed drill
- ECORD cost category: low

Objectives:

- Obtain geologic evidence of the earliest history (Oligocene - early Miocene) of the West Antarctic Ice Sheet by drilling buried suspected glacial sequences;
- Confirm glacial nature of probable Oligocene deposits from ice sheets that must have been sourced in West Antarctica;
- Improve dating of sequences;
- Improve understanding of Oligocene glacial variability;
- Recover record of Eocene-Oligocene
- Investigate greenhouse-icehouse transition.

Site survey data: 5 

Needed: High-res MCS or SCS data, subbottom profiler data, bathy, backscatter, seafloor samples, nav. No data in SSDB.

Current status at SEP:

12/2012: submit full proposal

MSP 896-Pre: North Atlantic Fjord Sediment Archive (Giraudeau)

IODP Theme: Climate and Ocean Change

Region: Norwegian Sea

Coring:

- 22 primary sites, 857-90 m WD, 12-70 m penetration depths
- Long piston core
- ECORD cost category: low

Objectives

-(Sub)decadal and (sub)centennial scale variations of the marine and continental climates.
- Dynamics of the Western Scandinavian and Svalbard ice-sheets and tidal glaciers.
- Role of oceanic and atmospheric circulation changes, and sea-level changes.
- land-to-marine transfer of inorganic and organic material in modern and past glaciated and non-glaciated coastal environments.
- Modern changes of coastal environment
- Nature of past mass movements in fjord systems (mass failures, slides, turbidity currents).
- Role of climatic and local and regional tectonic events on the occurrence, nature and frequency of coastal geohazards.
- Impact of offshore megaslides on mass transport deposits in Norwegian fjords.

Site survey data: 5

Needed: High-res MCS or SCS data, subbottom profiler data, bathy, backscatter, seafloor samples, nav. No data in SSDB.

Current status at SEP:

04/2016: submitted

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