Activities of the MSROC and NSF regarding replacement of Langseth seismic capabilities

Seismic Working Group White Paper: Broad Characteristics of an Academic Active-Source Seismic Capability to Replace that previously provided by the R/V Marcus G. Langseth

NSF- IDEAS Lab meeting: FMMS March 20-21

Expected outcome: set of recommendations to NSF on operational models

Winter 2020 community workshop (like the OBSIP workshops, ~ 100 participants, science)

Compilation of international capability and contacts

Required Capability from SWG doc

- Installed compressors
- Capability to support a tuned linear airgun array 6600 in3 source
- 12-15 km long streamer
- Streamer birds
- Data logging and navigation

SMR survey

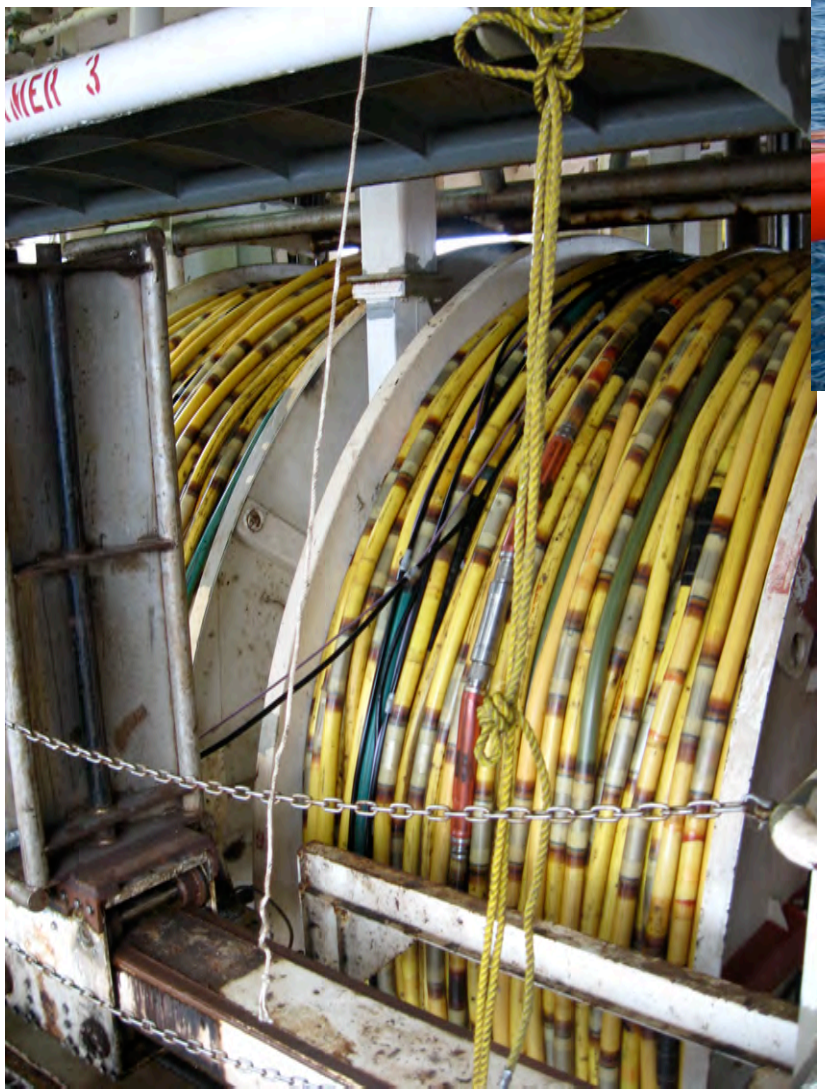
- 33% of respondents emphasized the need for any future global class ship to support seismic acquisition and in particular deep penetration seismics, and both reflection and refraction.
- Includes capability for 3D surveys, as well as for long-offset streamer (8-12 km) studies.
- Built in compressors, large linear airgun source arrays (6000 cu in), space for streamer reels and streamer/airgun handling gear with sufficient deck space will be needed.
- Ability to deploy portable shallow seismic penetration high-resolution systems and for P-cable studies.
- Capacity to deploy bottom streamers with accoustic and 3-component sensors, and vertical streamers for seismic imaging.
- Discussion of current availability of large seismic vessels for cheap due to recent industry downturn and collapse of the seismic prospecting industry.

- Need for high-res subbottom systems- Topas or SB21

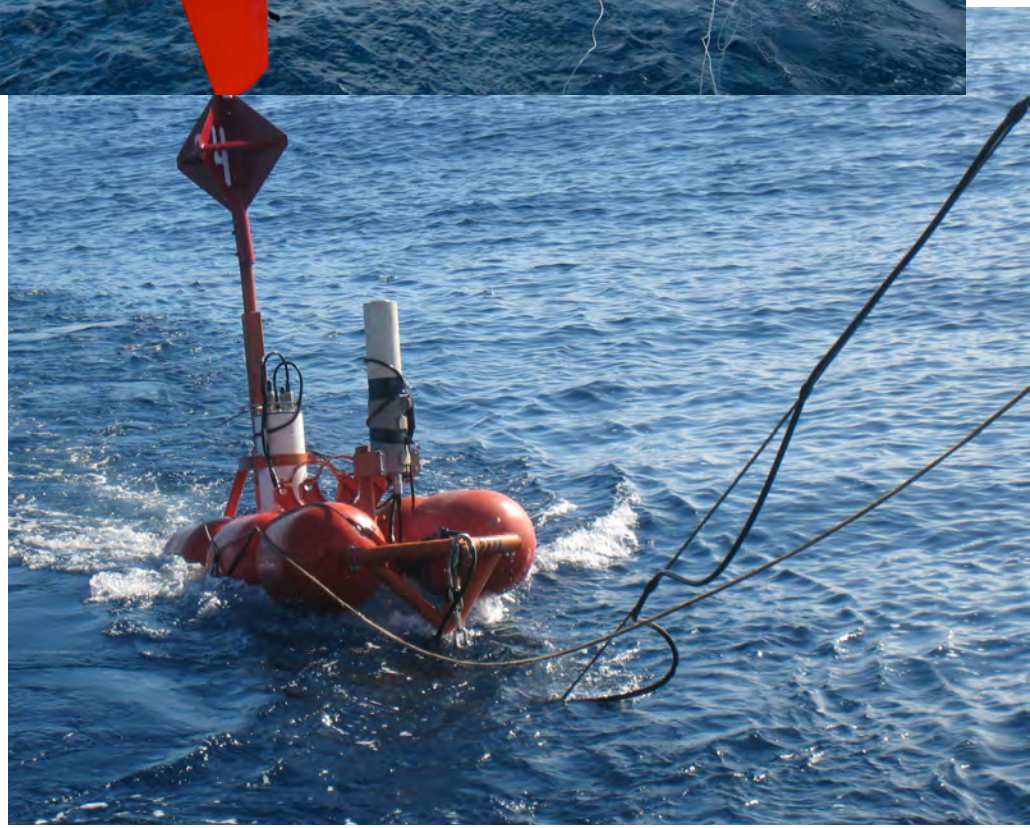
Coring

- Many comments on need for enhanced coring capability, in particular for long coring (50m) as well as capability to easily acquire 20-25 m piston cores.
- Coring with coincident high res seismics

Streamer on reel



Streamer Birds



Tail buoy

Airgun deck & deployment