MSOC – Marine Seismic Oversight Committee

RESEARCH TOPICS Theme Examples	CHIRP/3.5 kHz	P-cable	portable MCS	LARGE TUNED SOURCE 3D MCS	long offset (> 6km) 2D	active source (SP) OBS, +- 2D	OBS (passive, BB)	hydrophone
Active rifts and transforms midocean ridges, backarc spreading	--	--	--	C	U	C	C	C
Convergent margins subduction zones, accretionary wedge, arc volcanism e.g. Aleutians DCL	--	--	--	C	C	C	C	U
Passive margins genesis of ocean basins	U	U	U	C	C	C	U	--
Structure and evolution of the lithosphere source to sink (e.g. MELT, NO-MELT, Atlantic surveys); hotspots	--	--	--	C?	C?	C	U	--
Global seismology earth structure, mantle dynamics, core-mantle boundary	--	--	--	--	--	--	C	--
Stratigraphy and sediment architecture sea level; IODP	C	C	C	U	--	--	--	--
***Geohazards (cross-cutting)** earthquake potential, faulting and tsunamis, mass wasting, hydrate stability	C	C	C	C?	U	U	C	--
Other applications water column structure, plume tracking, lake-based seismology	C	--	C	--	--	U	U	--

- Marine seismic methods used by several disciplines
- Top 4 topics are ~80% of the overall geophysics science portfolio (gravity, geodesy, seismics, magnetic, etc.)
- Sustained activity and potential growth in the convergent margin area (e.g., subduction zone observatory workshop, Alaskan DCL, GeoPRISMS)

MSOC: represent the entire scope of marine seismic science and methods

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Background

- OCE/MGG is assessing its research portfolio in the context of the Sea Change report

- OCE/MGG has a broad science portfolio; 30-50% is marine geophysics (all inclusive); over the last few years about 65% of the funded marine geophysics projects have been sea-going projects.

The overall MGG science portfolio uses a wide range of marine seismic methods

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Committee responsibilities:

- Develop an ongoing mechanism for regional planning to inform NSF on research priorities based on U.S. community input

- Act to engage and coordinate international participation; identify international resources that might be available to U.S. researchers (an example might be engaging international partners on large-scale programs)

- Be proactive in outreach/feedback to the community

- Help to identify emerging directions in marine seismic studies

- Help to engage and train the next generation of marine seismic investigators

First step: Survey to assess community priorities

- How large/broad and engaged is the community that collects seismic data and/or uses the data
- Instruments/methods required
- Future science directions
- Committee membership representation