

Academic Marine Reflection Seismology in the U.S.

- Activity levels remain stagnant
 - expectations of science planning not met
 - narrowing user base
- Usable only by most technically able
 - further narrows user base and science diversity
- NSF funded workshop held October, 1999

Seismic Activity Levels

- Presently:
 - long-cable MCS ~3 months per year
 - high-resolution MCS ~2 months per year
 - high-speed SCS ~2 months per year
- Spend \$1.2M for acquisition, \$3M for ships
- 13 systems operated by 10 groups
- Next decade requires:
 - more diverse set of 'tools'
 - potentially 6-8 times present levels of activity

Workshop Recommendations

- Establish facilities to improve performance, quality and access
- Create a seismic data center to improve access and broad use of data sets
- Support a multi-national program for commercial-level MCS
- Plan new UNOLS seismic vessel post-2010

National Facilities

- Innovations to improve quality and access
 - Portable Seismic Facility (academic ships)
 - community based input to operations, quality and upgrading
 - consolidate management of technical support and equipment
 - move towards short multi-streamer 3-D capability
 - Single-Ship MCS Facility (Ewing)
 - community based input to operations, quality and upgrading
 - 8 km streamer, multi-source, multi-cable capable
 - capability to tow up to 4 shorter streamers
 - Data Center Facility
 - enfranchising more scientists
 - allowing for more effective science and education

The Rise of Reflection Seismology

- Activities will be expanding consistent with major program plans (2x, 4x ?)
- Simplifying seagoing activities
 - develop standards of quality and deliverables
 - establish 'facilities' to implement these goals
- Improve data access
 - create a data center to assure ease of access to data
- Plan for a post-2010 UNOLS seismic ship

Table 6: Projected seismic acquisition needs for the next decade

Summary (Usage Months)	Core	IODP Non-Riser	IODP Riser	MARGINS	MESH	RIDGE/NEPTUNE	EarthScope	Total Months	\$K
Chirp	0	2.5	5	6					
High-resolution MCS	10	2	7	10					
High-resolution 3-D SCS 30 ² km	0	2	7	6					
High-speed SCS	15	10	0	0					
2-D MCS Ewing	20	7	8	51					
3-D MCS Ewing 700 ² km	0	1	5.5	3					
3-D MCS Commercial	0	0	5	5					
4-C Bottom Cables	0	1	0	6					
TOTAL (\$K)	7,640	4,496	22,426	36,443					

Other requirement total \$22M/10 years
(MESH, RIDGE/NEPTUNE, EarthScope)

Present Activity Levels