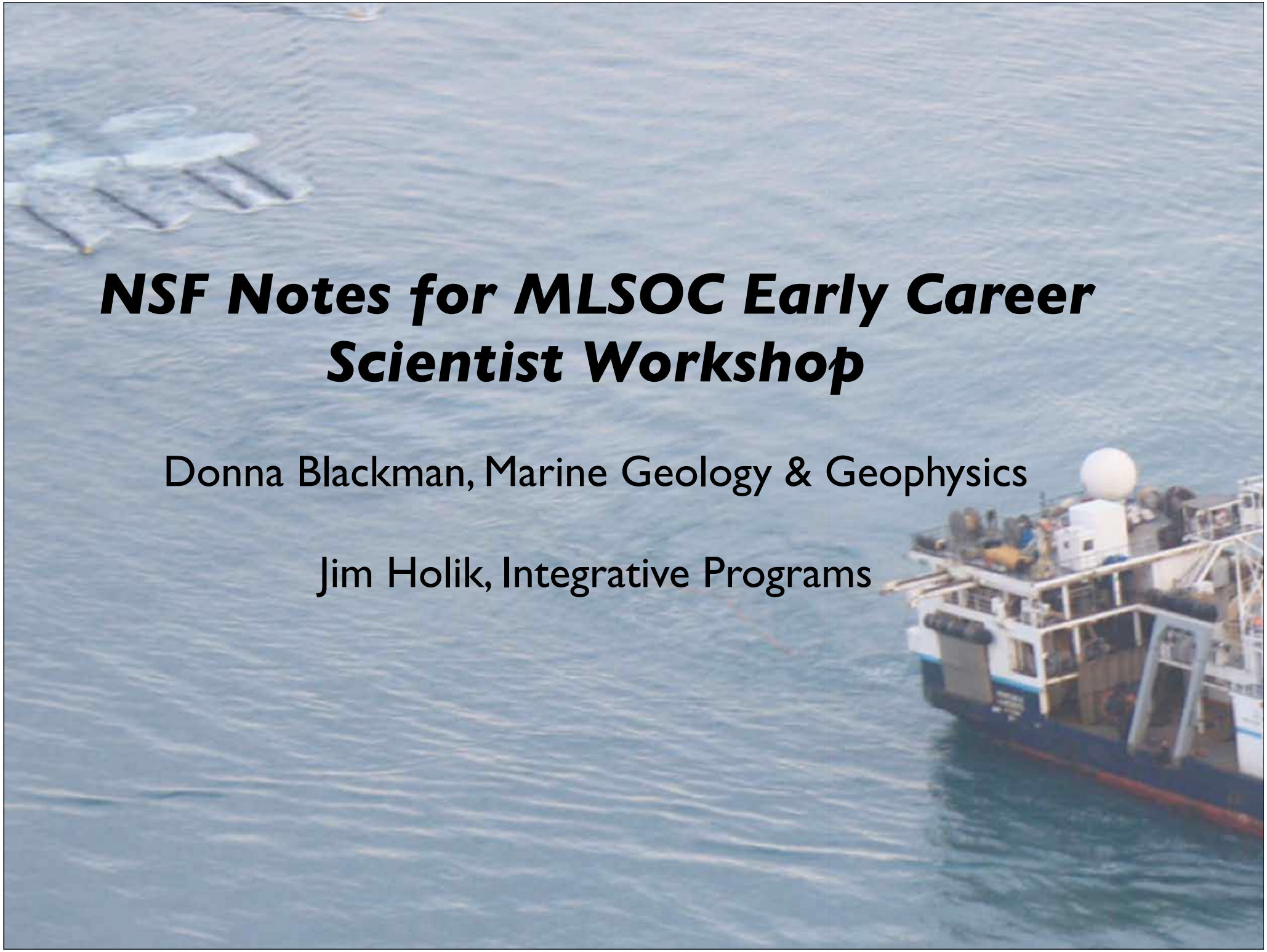
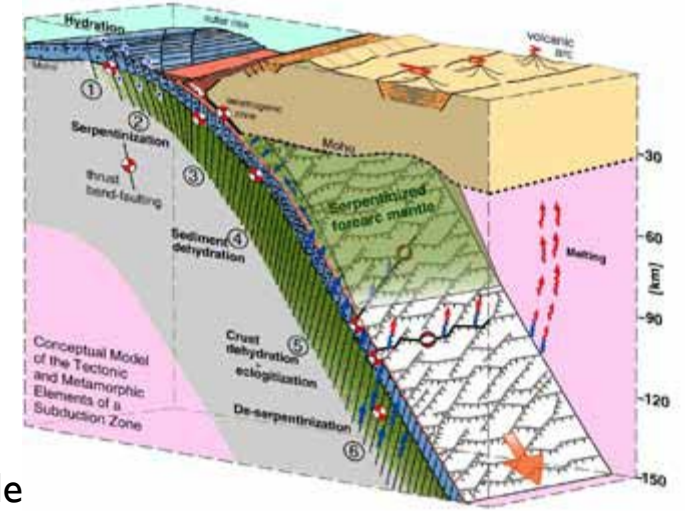


NSF Notes for MLSOC Early Career Scientist Workshop

Donna Blackman, Marine Geology & Geophysics

Jim Holik, Integrative Programs

How things work:



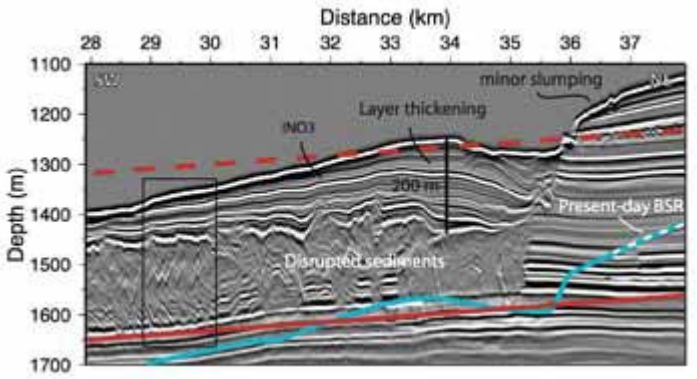
- Define the study
  - clearly state the problem & why its interesting
  - justify use of marine seismic data; specifically, what key questions will the data/analysis answer, and how well? do the data already exist?
  - design experiment/analysis: what coverage needed? is this feasible
  - select PIs (team?): review tasks, expertise needed, extent of analysis planned (stages for this?), designate archive duties
- Proposal Process
  - Submit: UNOLS ship request form, (OBSIP cost estimate if using Ocean Bottom Seismometers), Project Description, Budget, Data Management Plan
  - expert 'Mail' reviews, broader 'Panel' evaluation, Program decision
  - revise & re-submit if not funded on first try
- Programs to Consider
  - Marine Geology & Geophysics (MGG)
  - Geodynamic Processes at Rifting and Subducting Margins (GeoPRISMS)
  - Integrated Earth Systems (IES), Paleo Perspectives on Climate Change (P2C2)
  - Polar Programs, Hazard SEES (Science, Engineering and Education for Sustainability)

How things work:

When high priority for Program, AND funds are available, AND scheduling within 1-2 yrs is possible, Program will recommend an award

- Project Steps

- double check shiptime request
- environmental compliance review
- scheduling
- cruise: precruise planning with ship operator; at sea (possible adjustments to plans due to onsite conditions?); cruise assessment
- data processing, analysis, handling for archive
- award reporting
- publication of results
- data open for use by others



Funding Models:

The major recommendations adopted at the Lake Tahoe workshop

Open-access, community programs. Establish a hybrid model that maintains standard, PI-driven cruises for smaller projects, but that incorporates and encourages new modes of cooperative projects that create open-access, rapidly released data sets available to the entire community.

NSF considers all of these types of requests

- Individual PI or Collaborative Research with a couple PIs
- Open Access data
  - Cascadia 2-D COAST (Steve Holbrook, 2012)
  - New Jersy Shelf 3-D (Greg Mountain, 2014)
- Community Experiment ('buy-in' must be strong & process must be open)
  - Eastern North America Margin (Harm van Avendonk, 2014)

actual community use & outcomes yet to be seen

There are many exciting scientific opportunities

OCE and MGS continue to recognize that marine seismic studies contribute in unique ways to new understanding of Earth Systems

Yes, there are notable challenges to managing these facilities, directly and within science programs that use them

- maintaining sufficient funds availability each field proposal cycle
  - minimize out-yr mortgaging
  - trim costs/improve efficiency of MGG-supported infrastructure
    - (IEDA, core repositories, OBSIP)
- environmental compliance
- scheduling in support-limited context

We are working to improve our process:

- once a yr field request guidance, OBSIP Management Office, coordinated decisions (Program, scheduling, environmental; potential projects outlook)

NSF Report

MLSOC, December 2013

Donna Blackman, Marine Geology & Geophysics

maintaining outlook,

Jim Holik, Integrative Programs

Many exciting scientific opportunities

OCE and MGS continue to recognize that marine seismic studies contribute in unique ways to new understanding of Earth Systems

Yes, there are notable challenges to managing these facilities, directly and within science programs that use them

- maintaining sufficient funds availability each field proposal cycle
  - minimize out-yr mortgaging
  - trim costs/improve efficiency of MGG-supported infrastructure-
    - (databases, community software, core repositories, OBSIP)
- environmental compliance
- scheduling in support-limited context

We are working to improve our process:

- once a yr field request guidance, OBSIP Management Office, coordinated decisions (Program, scheduling, environmental; potential projects 'outlook')

A few things relatively firm, now

IPS continues to have ship and technician funds for ~180 days of Langseth work per year (less if 3-D seismics planned for a given year)

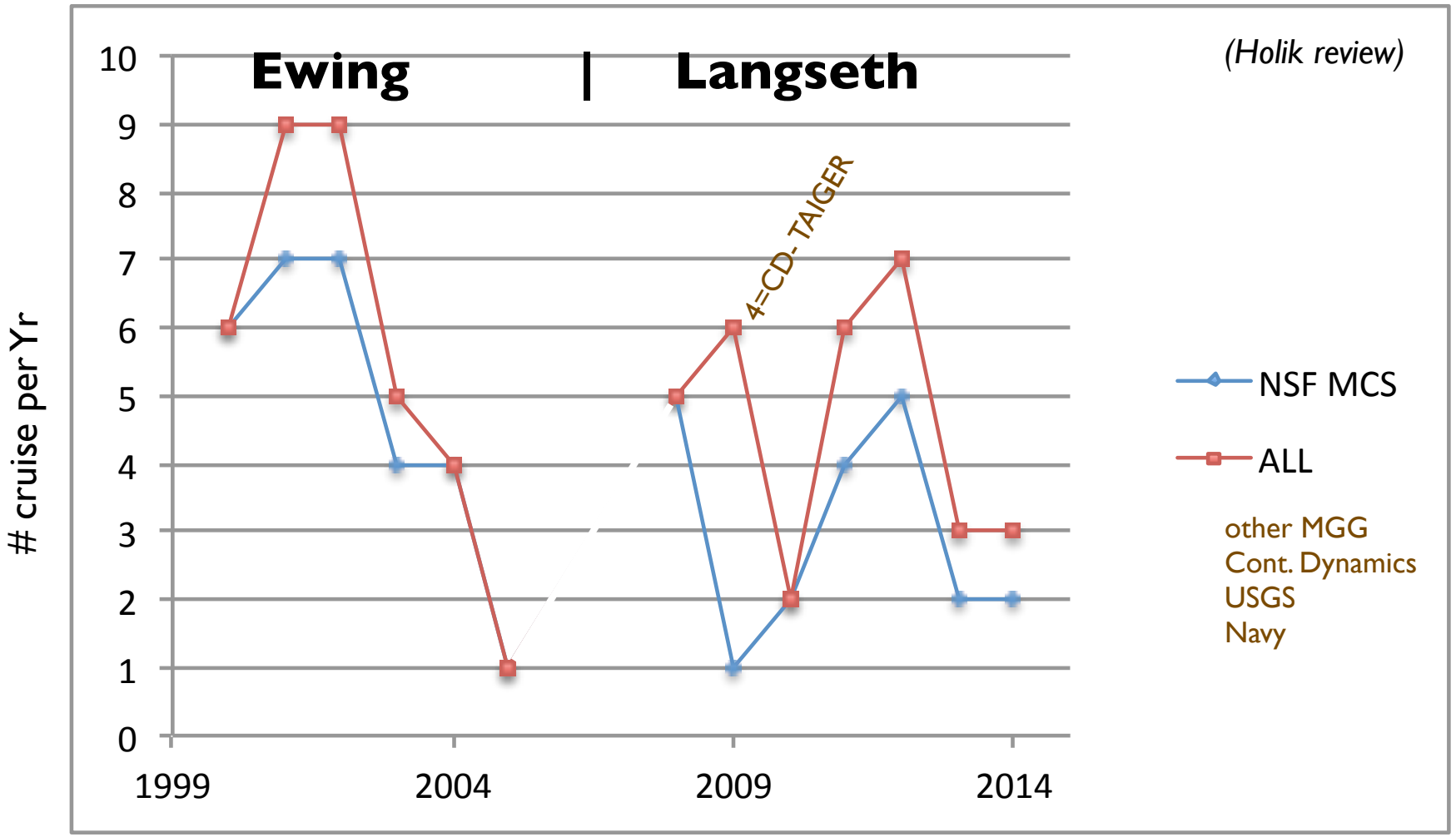
MGG/MARGINS has supported 50-150 days/yr on Langseth since 2008 *(Holik review)*

NSF-supported 2014 schedule appears on the low side of this average

Prospects for 2015- likely slimmer but subsequent year/two look like they could be strong

- combination of scientific readiness, region of highest priority projects, ongoing large geophysics-heavy projects
- 'outlook' regions currently in view
  - Additional Atlantic/Mediterranean region prospects
  - SW Pacific, Eastern Indian Ocean, Central & N Pacific

Seismic Ship Use



Recent MCS Funding
MGG (incl GeoPRISMS) 2008-2013

2042 Total # proposals

316 (15%) seismic proposals (MCS, OBS, hydrophone, onshore; anal & exp)

163 (8%) MCS proposals: 52% of seismic proposals; 82 projects

27-30% annual success rate (by # proposals, slightly lower PI rate)

24 (15%) 3-D MCS proposals

28 (17%) MCS + OBS refraction

24 (15%) portable or hi-res system

39 (24%) analysis of existing data

45 MCS PIs (4.2% of all 2008-2013 PIs)

Points to Consider

We are still learning about the strengths, challenges, and outcomes for Community Experiments

assessment is needed (planning process, acquisition, data provision, pace of analyses & number involved, impact of findings, publications)

just moving into post-acquisition phase for COAST (and Cascadia Initiative); Do have record for IRIS GSN/Passcal/DMC but does specific community matter?

Projects that can (sensibly) leverage other assets/funds could extend the scope of research that NSF supports

Multiple NSF programs have science objectives that can advance via use of MCS

- Marine Geology & Geophysics (MGG)
- Geodynamic Processes at Rifting and Subducting Margins (GeoPRISMS)
- Integrated Earth Systems (IES), Paleo Perspectives on Climate Change (P2C2)
- Polar Programs, Hazard SEES (Science, Engineering and Education for Sustainability)