

# RIE and Other Research Initiatives: NSF, IODP, and USGS

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US Geological Survey, Woods Hole

Coastal & Marine Geology (Gas Hydrates Project)

## Context

MIT: continental rifting

WHOI: marine analogs

Georgia Tech professor (1994 to 2006) --switched fields  
to hydrates/hydrogeology

NSF rotater in Ocean Sciences (2003-2006)

USGS Gas Hydrates project since 2006

work/manage programs with industry, govt agencies  
academics

ODP/IODP panel service: 1997 to 2009

# National Science Foundation and IODP

No stake in outcome of this meeting (other than wanting to see your community successful), so no political motivation for what I will say.

May be worthwhile to hear straight talk from someone who has inside-NSF and inside-ODP/IODP experience and who spent a long time as an academic and has now gone over to government science.

# National Science Foundation

I cannot and do not speak for NSF

LISTEN to what you are hearing regarding:

- funding streams (OCE & EAR) and how to tap them
- focusing science themes

acknowledge/learn from shortcomings of RCL

PRIORITIZE: mesh most compelling problems

with those you can truly make progress on

- choosing a geographic focus

dispel this community's reputation for parochialism

be an open-minded NSF reviewer—don't kill projects that are  
justifiably outside the mandated area

- acknowledging political realities

international geopolitical situations/security

situation within NSF and those between NSF and outside  
bodies that control NSF's budget

# National Science Foundation

In ideal world, good science sells itself, and you have the luxury to work only on *fundamental* science problems.

In pragmatic world, you need to be astute and strategic in competing for tight dollars and have an understanding of the context (“broader impacts”) for your science. Broader impacts are not just something you write to check off a box in proposal preparation.

Program managers know things that you don't and that they can't directly tell you.

# Integrated Ocean Drilling Program

Currently 7 years into IODP (ends in 2013)

planning documents now being written for next program (2013-2023)

Currently 3 ways of drilling

- riser drilling on the Chikyu (Japan)
- riserless drilling on the US vessel JOIDES Resolution
- mission specific platforms provided by the Europeans for specialized programs

Proposal Process

- formulated by proponent groups
- shepherded through multiyear science review/ranking process
- the “best” proposal doesn’t necessarily get drilled
- not “funded” in traditional sense
- proponents not necessarily the leaders if project is drilled
- “labors of love”

# Integrated Ocean Drilling Program

Very little rifted margin drilling in IODP or ODP

- Iberian margin and Newfoundland conjugate (including deep hole)
- Woodlark basin
- New Jersey margin
- Canterbury basin

“Mission” proposal on rifting in 2007

- Reviewed by Science Advisory Structure & external group
- Community effort to lay out multiyear, multileg drilling
- No mission proposal (of 3) was approved, but several components of the hotspot and monsoon climate proposals were ultimately drilled
- Fundamental issue was lack of focus and prioritization

New IODP science plan for 2013-2023

- No focus and barely a mention of rifting or conjugate margins
- One line on the Gulf of Mexico rifted margin

# Integrated Ocean Drilling Program

Although this program is proposal-driven, the program plan is the template for the science that will be done. More than most other programs, the plan is constantly consulted to ensure programmatic balance and progress in all science areas.

**If ocean drilling is important to RIE, this community should comment on the science plan as it is being revised/rewritten in the coming months. This is your last chance.**

## **Remember ICDP---very different structure**

PI driven, large sums directly from national funding agencies

More agile scientific evaluation approach



# U.S. Geological Survey

- Science agency only; no regulatory responsibilities
- Applied focus; no science for the sake of doing science
- USGS is only rarely a funding source, mostly offers collaboration, access to data and field areas, and large-scale, multiyear capabilities beyond the reach of academe
- USGS projects often planned on a 5 to 10 yr timeframe; opportunity to do “big science”
- International work possible and sometimes encouraged, but we do represent the US government
- FY2011 reorganization has eliminated disciplines (Geology, Geography, Water) in favor of missions (hazards, energy, climate...)

## Coastal & Marine Geology

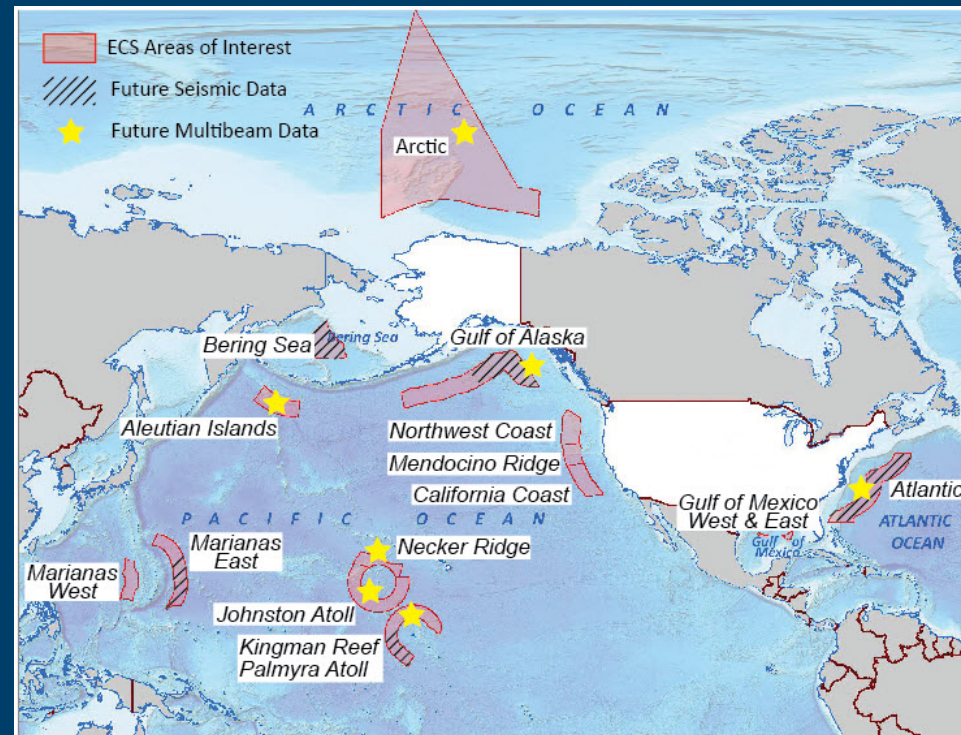
- Under Hazards, but does much more than hazards
- Due to lack of large ship support, focus on coastal zone
- Director is encouraging more deepwater research
- Seeming push to work more with NSF assets

# U.S. Geological Survey

## *Law of the Sea/Extended Continental Shelf project* (USGS, NOAA, Dept. of State)

Lead USGS scientist: Debbie Hutchinson (Woods Hole)  
See article in MARGINS newsletter/your meeting folder

- **Arctic Ocean:** US-Canadian cruises have provided significant new insights into Arctic rifting/rifted margins
- **Atlantic Margin:** Planned for 2013 or 2014 (depending on *Langseth* schedule)
  - Amphibious seismic array for simultaneous OBS deployment?



# U.S. Geological Survey

## Salton Seismic Imaging Project

G. Fuis collaboration with Caltech, Virginia Tech, and others

### *Gulf of California opening*

Faunal evidence—K. MacDougall

Climate impact—J. Barron





# U.S. Geological Survey

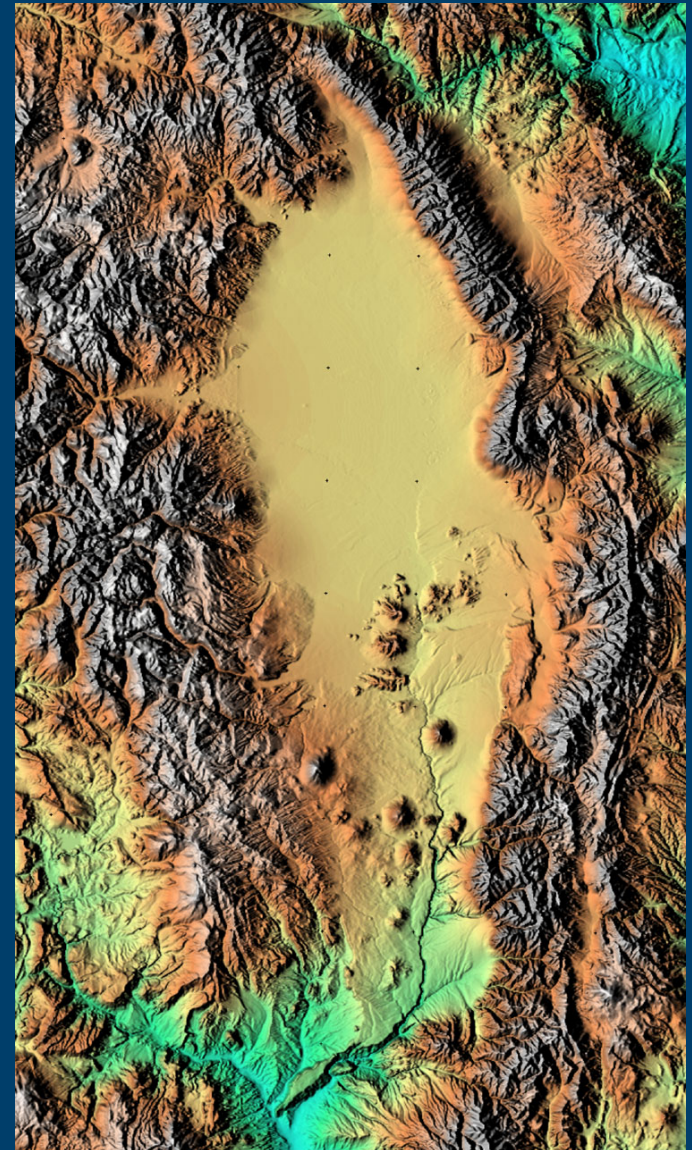
## *Rio Grande Rift*

National Cooperative  
Geologic Mapping Program

Integrated tectonics, geology, hydrology,  
geophysics, hazards

## *Basin & Range*

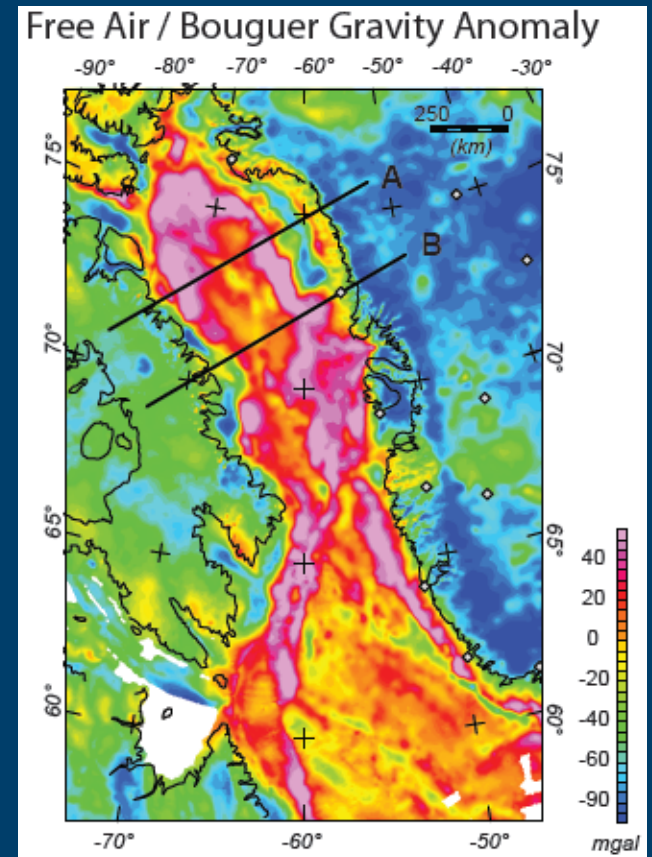
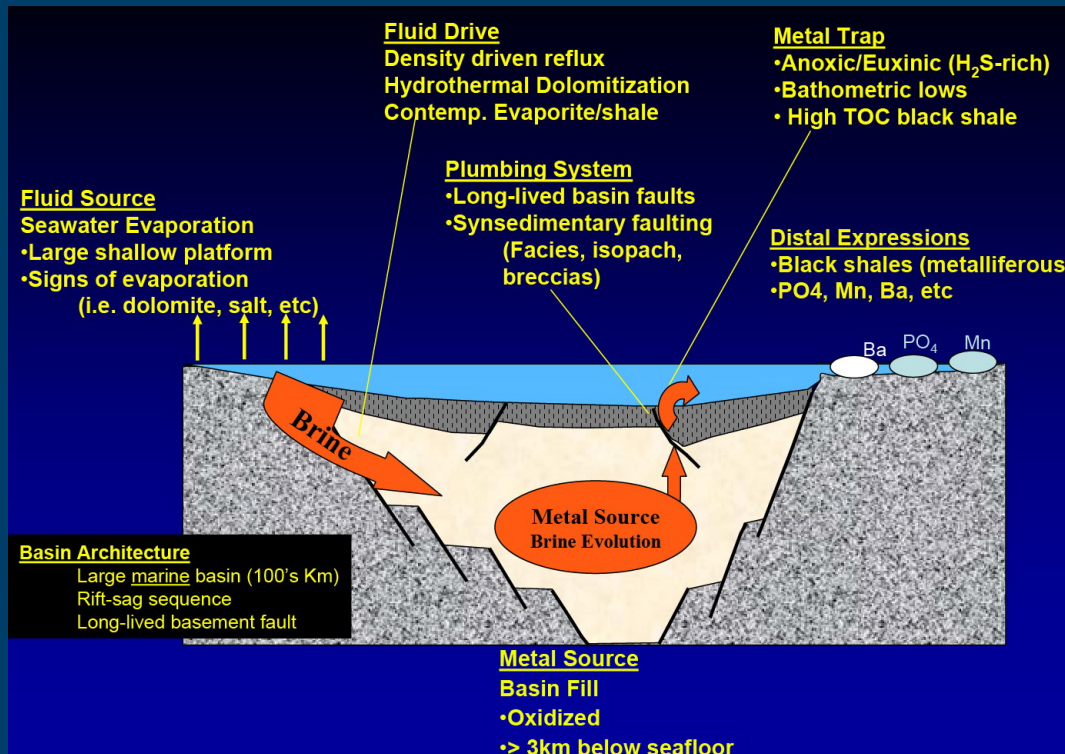
National Cooperative Geologic  
Mapping Program & Minerals  
Program



# U.S. Geological Survey

## Energy studies

Long-term projects on oil, gas, and mineral assessments that require good data on rifted basins and margins





# U.S. Geological Survey

## *Rifting and submarine slide studies*

U. Ten Brink (Woods Hole)

Dead Sea Rift

West Antarctic Rift

Atlantic Margin

Hazards on rifted margins

Seismotectonics

