Long Core Repositioning

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- R/V *KNORR* will be retired from service by the Navy in 2014
- Initial WHOI study on Long Core (LC) re-positioning and discussions with FIC in March 2011
- Determined that *LANSGETH* would be the best option for accommodating the LC for the following reasons:
  - Good alignment with other geophysical work on *LANGSETH*
  - Potential to increase *LANGSETH* utilization
  - Ability to accommodate the longest possible LC length on the starboard main deck for available platforms.
  - No negative impact on remaining general-purpose, global ships
- Detailed design study for *LANGSETH* (through LDEO) to further refine the findings of the initial WHOI study.

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- *LANGSETH*'s ability to safely and effectively operate as a general-purpose platform proven in 2012:
  - Line Islands coring cruise (Spring 2012/Lynch-Stieglitz)
  - JASON cruise (Summer 2012/Tivey)

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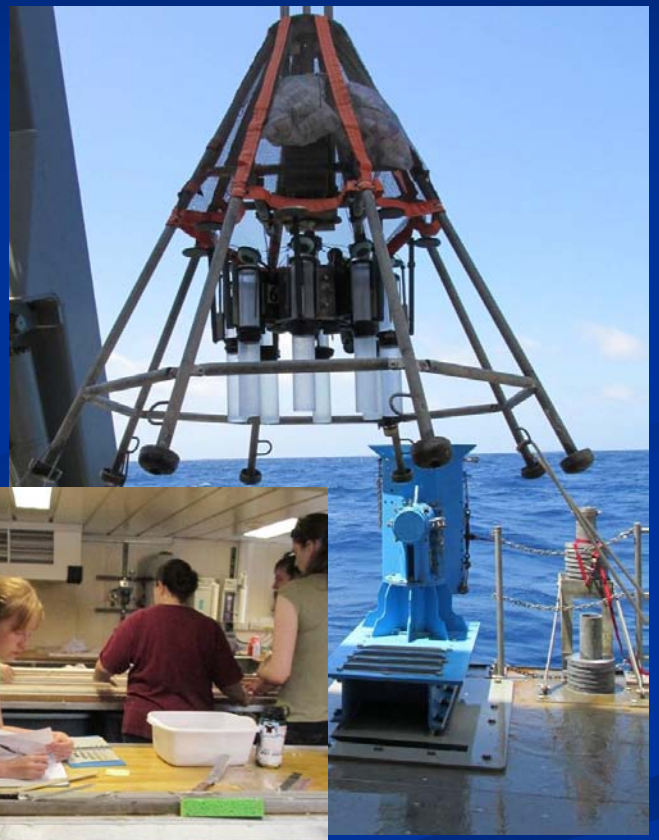

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Phase II LC Study Boundary Conditions

- No negative impact on existing seismic capability
- Aligned with broader *LANGSETH* winch replacement plan
- No reduction in fuel capacity
- No further tank restrictions (significant already)
- If possible, use LC system without having to de-mob seismic equipment.

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Findings from Phase II Study

- Trim, stability and Load Line are the limiting factors for *LANGSETH* – particularly aft trim and damage stability.
- Two solutions investigated:
  - Remove OBS deck and mammal tower; exchange LC and seismic gear
  - Install sponsons
- Based on initial boundary conditions, NSF believes the best solution is to install sponsons
- Estimated Cost: $6.1M (Probably Low!)

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Sponsons

- Pro's:
  - Able to accommodate BOTH Long Core and seismic equipment simultaneously
  - Eliminates tanks restrictions for stability
  - More fuel carried on departure (greater endurance)
  - Solution to wet decks
- Con's:
  - Some loss in speed and/or increase in fuel consumption (requires further investigation)
  - Higher cost

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Other Long Core Costs

- Long Core Technical Support is funded through NSF Technical Services (~$18K/day at sea; $1.4M in 2010 for 77 days)
- Long Core LHS components are funded through the East Coast Winch Pool - "Hot Stand-by" Status
  - 2009 = ~$500K in required up-grades & repairs
  - 2010 & 2011 = ~$50K
  - 2012 = $0

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Question to the Science Community

- UNOLS-hosted Webinar?
  - Past and potential Science Users
  - Conduct prior to the end of 2012
- Topics/Questions:
  - What is best model for using the LC in the future (pre/post 2014)?
  - Enough science need for LC capability to justify repositioning the system to another ship?
    - Six (6) LC cruises funded in 2009 & 2010
    - One (1) LC cruise proposed and none funded in 2011 & 2012
  - How important is it that the US academic fleet maintain long coring capability?
  - Are there reasonable alternatives to the LC? (R/V *MARION DuFRESNE*)
  - Foreign use of US LC?

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Total STRs Requesting JPC, Long Core and OSU Coring Facility (2008-2014)

Request Year	JPC	Long Core	OSU Coring
2008			1
2009		1	3
2010	2	5	7
2011	3		6
2012	5	1	22
2013	6	1	13
2014	2	1	1
Grand Total	18	9	53

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