

DSL-120A & IMI30 Update

*HAWAII MAPPING RESEARCH GROUP
UNIVERSITY OF HAWAII AT MANOA*

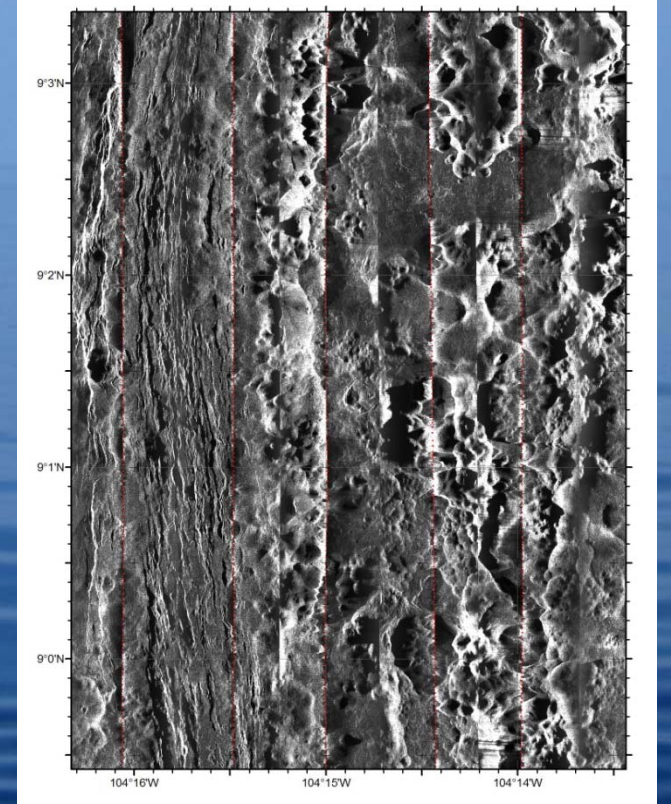


DSL-120A & IMI30 Update

- *DSL-120A*
 - 2007 Status
 - August 2007 Field Operations
 - Future Equipment Upgrades
- *IMI30*
 - New upgrades (hardware and software) to the system
 - 2007 Status
 - Fall 2007 Field Operation

Status of the 120A

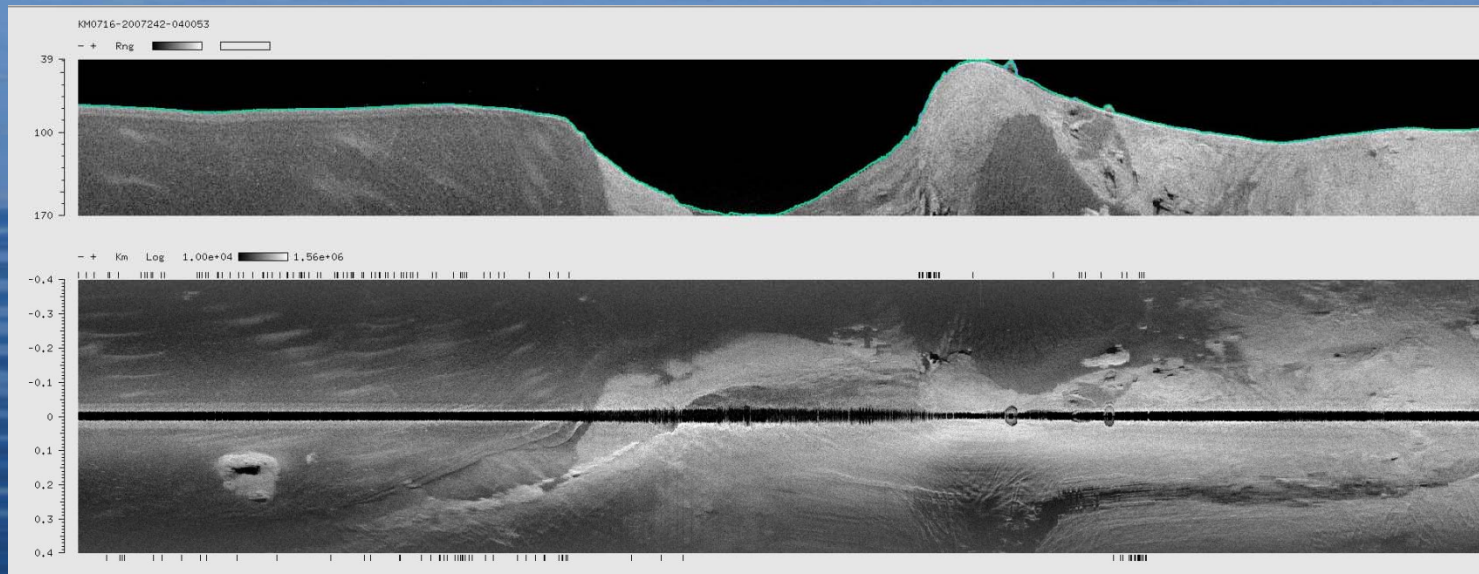
- The *DSL-120A* sonar was deployed at two sites on the East Pacific Rise, at 9°50'N site and at the 9°N Overlapping Spreading Center during March of 2007 for a Klein/White/Perfit cruise.
- The *120A* collected roughly 7 days of data for site reconnaissance before Jason was deployed for sampling.
- The system worked extremely well collecting sidescan, phase bathymetry, and *SM2000* multibeam bathymetry.
- Following the cruise, control of the *120A* was transferred from DSL to HMRG.
- The *120A* was then operated in August 2007 by HMRG for a survey around Oahu



DSL-120A August Deployment

- Funded by the University of Hawaii and the U.S Department of Defense.
- High resolution survey of seafloor south of Oahu looking for unexploded ordinance.
- 7 days of survey using the *DSL-120A* , *EM120*, and *EM1002*.
- HMRG's 1st solo operation of the *DSL-120A*.
- High resolution sidescan and bathymetry were collected for the entire survey area.

August 2007 DSL-120A Survey



Future *DSL-120A* Equipment Upgrades

- It is necessary to modify the telemetry of the *120A* in order to make it compatible with the other HMRG towed mapping systems. This would allow for a common spares kit for all of the towed sonar vehicles.
- Ability to collect data at the depressor weight (chemical sniffers, sub-bottom from *IMI30*, etc.) and transmit it in real time to the surface (necessary for the 2008 spring Martinez cruise).
- The *Ixsea Octans* was not transferred to HMRG from DSL as it is a spare for *Jason*. Replacement are still considered a VERY HIGH PRIORITY as high quality mosaics require very high precision attitude information.

IMI30 2007 Status

- HMRG has purchased a new magnetometer and CTD and integrated them into the *IMI30* system (both can be used with the *DSL-120A* as well).
- New layback software has been written allowing HMRG's real time mosaic display for sidescan and bathymetry to work (this code will also work with the *120A* for future surveys).
- Multiple day cruises around Oahu were conducted to verify the field worthiness of the *IMI30*.
- Fall 2007 HMRG conducted a cruise for NIO.

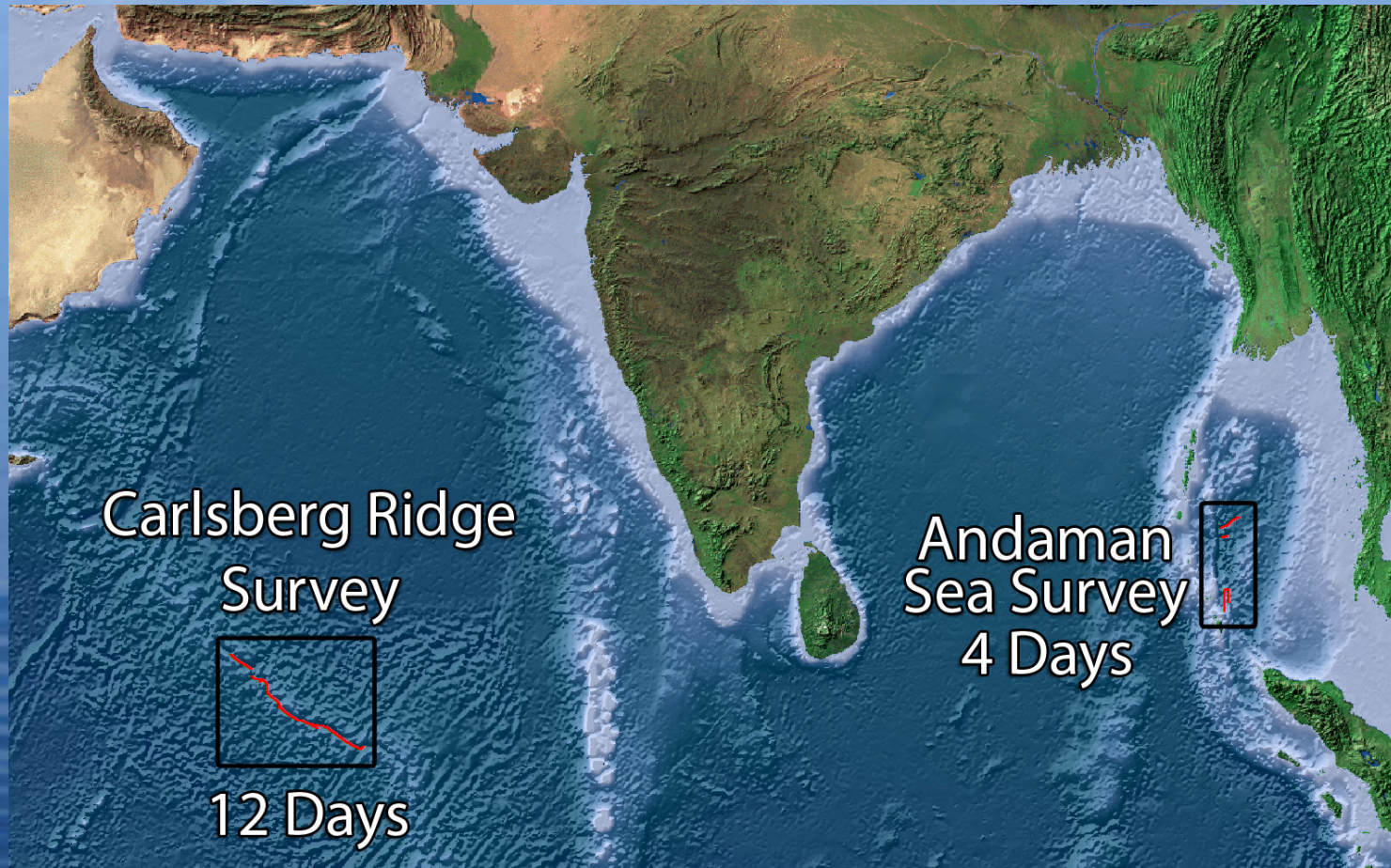


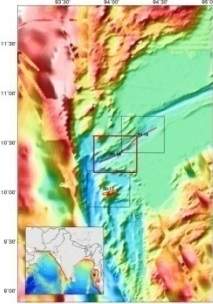
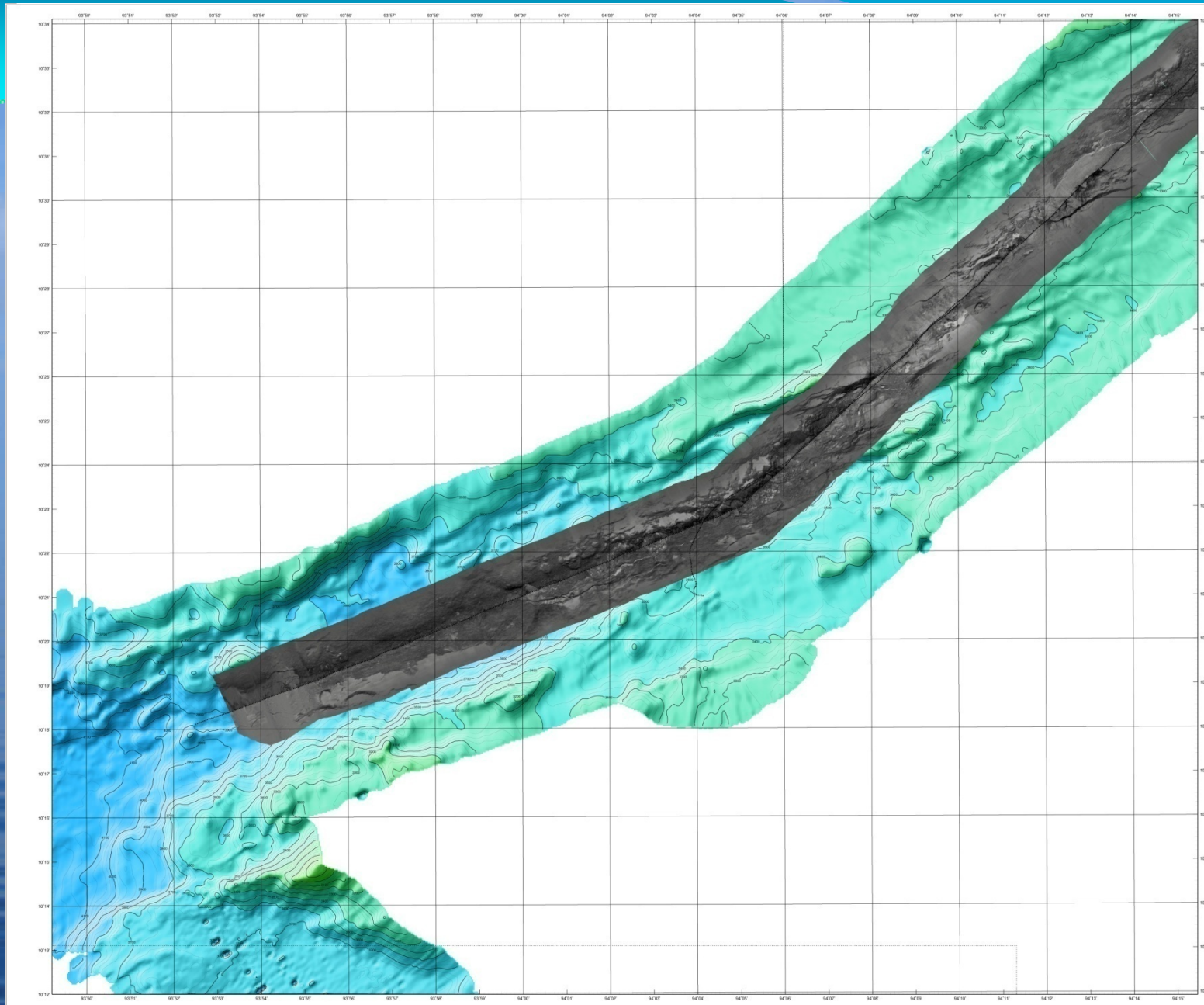
IMI30 2007 Fall Deployment

- Client: National Institute of Oceanography in Goa, India
- Chief Scientist: Dr. Kamesh Raju
- 50 day cruise with 16 days of *IMI30* survey
- *IMI30* was deployed to collect sidescan, bathymetry, sub-bottom, CTD data, and magnetometer data.
- As part of the survey 5 mappers from PMEL were deployed (3 below *IMI30*'s depressor weight and 2 attached above) to look for vent signatures.



Fall 2007 *IMI30* Survey





LOCATION MAP
Location of this chart outlined in bold

**Andaman Islands
Chart 50-18**

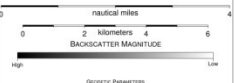
IMI30 Acoustic Imagery

**Funded By NIO
Chief Scientist: Dr. Kamesh Raju**

**Charted By
Hawaii Mapping Research Group**

**In Collaboration With
National Institute of Oceanography
Dona Paula - 403 004, Goa, India**

SCALE 1:50,000
UNIVERSAL TRANSVERSE MERCATOR PROJECTION
UTM ZONE 48



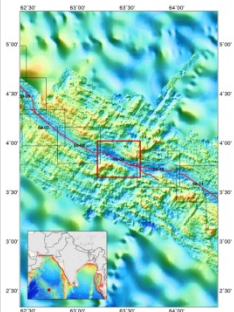
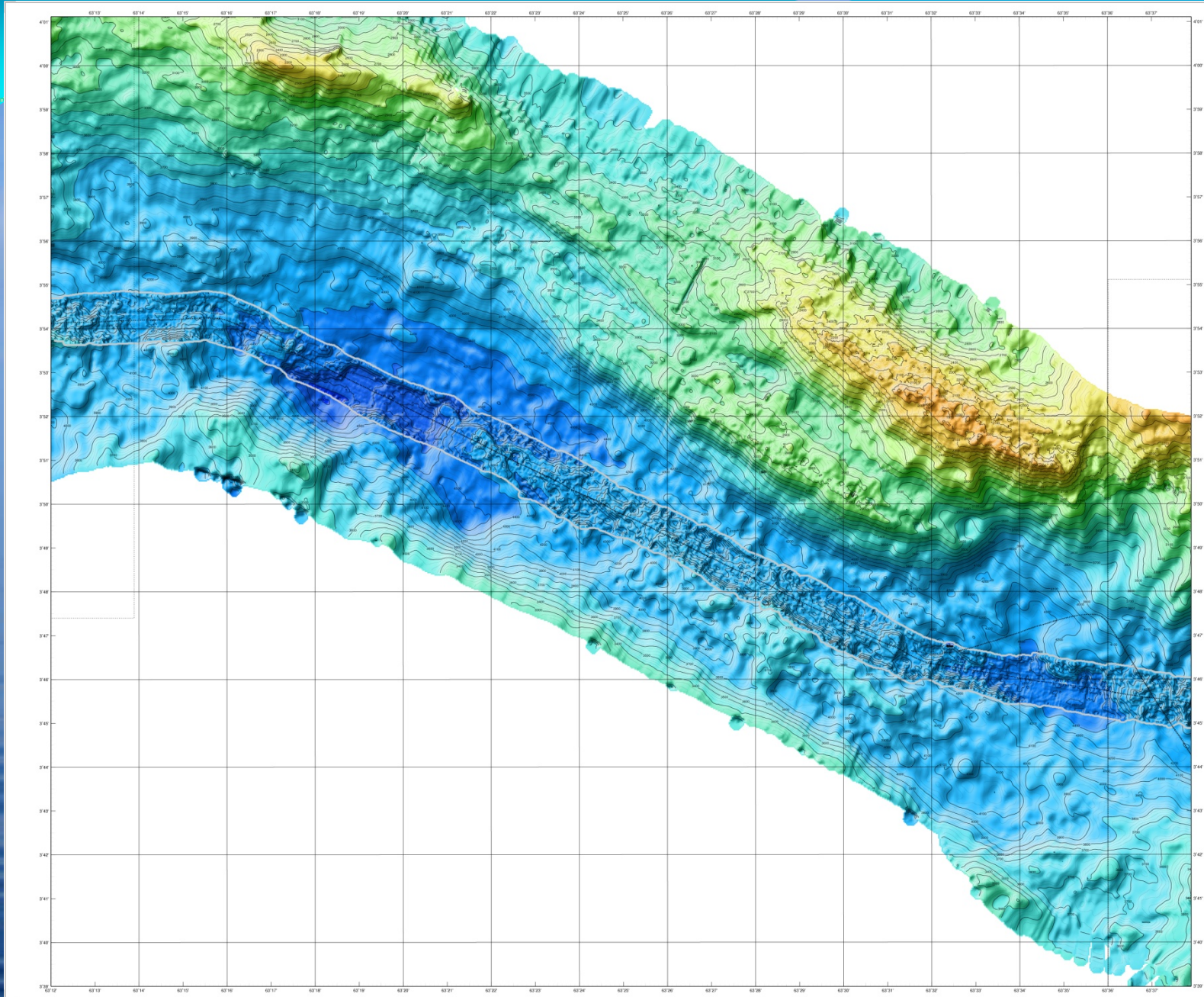
GEOGRAPHIC PARAMETERS			
Horizontal Datum	WGS 84	Projection	UTM Zone 48
Ellipsoid	WGS 84	Universal Transverse Mercator	48

- NOTES**
1. Backscatter imagery acquired using the IMI30 Mapping System.
 2. Shaded backscatter contours are black, unshaded backscatter are white.
 3. Shaded contours are 10 meters.
 4. Survey positioning by GPS.
 5. Derived from three backscatter channels of adjacent channels.
 6. Not to be used for navigation.

Proprietary
Director
National Institute of Oceanography

**Not for Distribution or Release
For information contact
Dr. Kamesh Raju
NIO**

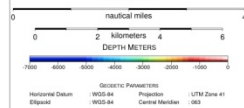
<small>HAWAII MAPPING RESEARCH GROUP, University of Hawaii School of Ocean and Earth Science & Technology 1605 East West Road, Honolulu, Hawaii 96822 USA Tel: 808.953.6111 Fax: 808.953.6111</small>			
Drawn By	Revision Comments	Signet	Date
SC	Established Parameters		30 Nov 2007
Checked by: PSJ	Approved by:	Date: 30 Nov 2007	
Drawing Date: November 2007	Survey Number: 515	Scale:	
30-18-0101	Client No.	Chart No.	50-18



LOCATION MAP
Number of the chart outlined in Red

Carlsberg Ridge
Chart 50-09
IMI30 Bathymetry
 Funded By NIO
 Chief Scientist: Dr. Kamesh Raju
 Charted By
 Hawaii Mapping Research Group
 In Collaboration With
 National Institute of Oceanography
 Dona Paula - 403 004, Goa, India

SCALE 1:50,000
 UNIVERSAL TRANSVERSE MERCATOR PROJECTION
 UTM ZONE 41



- NOTES**
1. Bathymetry from the SIO Mapping System.
 2. Contours in meters.
 3. Grid cell size is 10 meters.
 4. 10 m contour interval (20 m half).
 5. The map is on a grid of latitude and longitude.
 6. Bathymetry is plotted by Lambert calculated from GPS.
 7. Dotted back lines show boundaries of adjacent charts.
 8. Not to be used for navigation.

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Rev. No.	Revision Comments	Signed	Date
01	Original Bathymetry		28 Nov 2007
Checked by: PGL	Approved by:		Date: 28 Nov 2007
Survey Date: November 2007	Survey Instrument: SIO SIO		
00-00-00-00	Chart No.		Chart No. 50-09

