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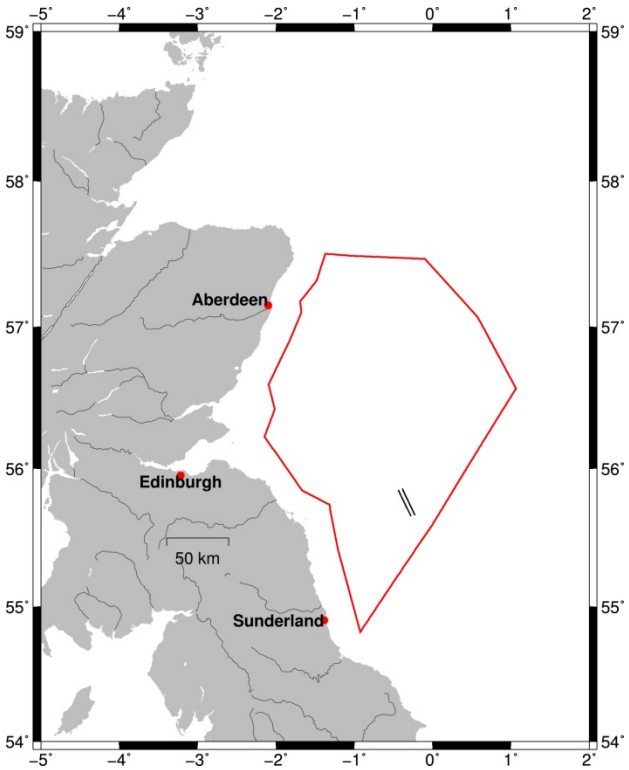
Short Cruise Report
FS Sonne P3

Emden - Bremerhaven
07.09.-19.09.2014
Chief Scientist: Dr. Volkmar Damm
Captain: Lutz Mallon



Map (Application area and ship‘s track)

Objectives

During trial cruise P3 of RV Sonne was used by the Marine Seismic group of BGR (Federal Institute for Geosciences and Natural Resources, Hannover) and the Marine Sensor group of the ICBM (Institute for Biology and Chemistry of the Sea, Oldenburg). Main objectives for the BGR group were to initialize and configure all components of a recently purchased 3D marine seismic data acquisition system and subsequently to operate the complete system to acquire a 3D data set in an area of limited extent. A second goal was to estimate the sound pressure level of BGR's seismic sources. The team of ICBM aimed on testing all installed oceanographic sensor systems and laboratories onboard the new research vessel plus to test own oceanographic sensors. A low traffic area in the British sector of the North Sea with water depth deeper than 40 m was selected for all operations.

Narrative

After several days of installing all equipment RV Sonne moved to the designated working area September 7th. The working program commenced September 9th with bathymetric surveying and first tests of the ADCP sensors. Starting on September 9th a hydrophone buoy and two seismic airgun arrays were deployed. The predefined full day operation plan was successfully completed by 8:00 p.m. During the night testing of oceanographic sensors (CTD, ADCP) was continued until September 10th , noon. In a second part of the sound immission program a single GI-gun was used until 7:00 p.m. During the night oceanographic testing was continued again. The oceanographic sensors testing had to interrupted on September 12th when the paravans of the 3D seismic systems were deployed. After comprehensive testing of deflection properties of the paravans under various rigging the first of the two streamers was deployed on September 14th. Starboard layout including seismic source (GI-gun) was set up September 15th followed by deployment of the portside streamer. Night time was again used for oceanographic testing. Portside paravan and seismic source were deployed September 16th at moderate sea and wind conditions. Starting at noon a limited 3D seismic data acquisition along a limited number of preset seismic lines was started for training purposes. 3D seismic surveying was stopped September, 17th 7:00 a.m. and all outboard components were retrieved. During September 18th all equipment was deinstalled and packed into the containers. While conducting the 3D seismic program bathymetric surveying, testing of echosounders, oceanographic sensors and laboratory equipment was continued.
RV Sonne set for transit September 18th in the evening and called the port of Bremerhaven September 19th.

A paravan for deflection of 3D seismic equipment

Acknowledgements

The cruise was part of the scientific trial of RV Sonne. Many thanks go to Master Lutz Mallon and the entire crew for their support to solve all problems arising from handling our new equipment, to meet our special demands on navigation during the 3D data acquisition and finally to complete our program successfully.

Teilnehmerliste

Damm, Volkmar, Dr.	Fahrtleiter / *Chief Scientist*	BGR
Badewien, Thomas H., Dr.	Oceanographer	ICBM
Behrens, Thomas	Technician	BGR
Berglar, Kai, Dr.	Geologist	BGR
Bergmann, Klaus	Inspector	BRIESE
Braun, Axel	Engineer	ICBM
Demir, Ümit	Technician	BGR
Ebert, Timo	Technician	BGR
Ehrhardt, Axel, Dr.	Geophysicist	BGR
Engels, Martin, Dr.	Geophysicist	BGR
Gricks, Nathan	Marine Mammal Observer	RPS
Hachmeister, Nicolas	Student	UHH
Hahn, Boris	Technician	BGR
Holinde, Lars	Physicist	ICBM
Kallaus, Günter	Technician	BGR
Lange, Gerhard	Technician	BGR
Lutz, Rüdiger, Dr.	Geologist	BGR
Raschke, Michaela	Student	ICBM
Schauer, Michael	Geoscientist	BGR
Schmitz, Jana	Student	ICBM
Schnabel, Michael, Dr.	Geophysicist	BGR
Schrader, Uwe	Technician	BGR
Schreckenberger, Bernd, Dr.	Geophysicist	BGR
Schulz, Anne-Christin	Physicist	ICBM
Skarupa, Karol	Student	UHH
Steuer, Stephan	Geologist	BGR
Wölki, Nils	Camera operator	BGR

BGR	Bundesanstalt für Geowissenschaften und Rohstoffe, Hannover
ICBM	Institut für Chemie und Biologie des Meeres, Universität Oldenburg
BRIESE	Briese Schifffahrts GmbH
RPS	RPS Energy
UHH	Universität Hamburg

Stationsliste

Station	Date	Gear	Time	PositionLat	PositionLon	Depth [m]	Action
SO1/0004-2	9.9.14	Airgun arrays	07:23:00	56° 22,65' N	0° 11,11' E	84,6	airguns in water
SO1/0004-2	9.9.14	Airgun arrays	08:09:00	56° 23,32' N	0° 13,99' E	77,8	airguns inwater
SO1/0004-2	9.9.14	Airgun arrays	08:51:00	56° 20,91' N	0° 14,29' E	81,3	start of shooting
SO1/0004-2	9.9.14	Airgun arrays	12:44:00	56° 19,87' N	0° 14,02' E	81	end of shooting
SO1/0004-2	9.9.14	Airgun arrays	13:02:00	56° 19,45' N	0° 13,83' E	80,4	start of shooting
SO1/0004-2	9.9.14	Airgun arrays	16:20:00	56° 17,51' N	0° 14,05' E	83	end of shooting
SO1/0004-2	9.9.14	Airgun arrays	17:18:00	56° 18,65' N	0° 15,93' E	81	array on deck
SO1/0004-2	9.9.14	Airgun arrays	17:44:59	56° 20,28' N	0° 16,54' E	84,1	buoy on deck
SO1/0005-1	9.9.14	CTD	18:00:00	56° 20,28' N	0° 16,62' E	84	surface
SO1/0005-1	9.9.14	CTD	18:09:00	56° 20,27' N	0° 16,62' E	84	at depth
SO1/0005-1	9.9.14	CTD	19:00:00	56° 20,27' N	0° 16,62' E	83,7	on deck
SO1/0005-1	9.9.14	CTD	19:14:00	56° 20,27' N	0° 16,62' E	83,4	surface
SO1/0005-1	9.9.14	CTD	19:22:00	56° 20,28' N	0° 16,62' E	82,9	at depth
SO1/0005-1	9.9.14	CTD	19:30:00	56° 20,28' N	0° 16,62' E	83,3	on deck
SO1/0005-1	9.9.14	CTD	19:45:00	56° 20,27' N	0° 16,62' E	82,9	surface
SO1/0005-1	9.9.14	CTD	19:52:00	56° 20,27' N	0° 16,62' E	83,1	at depth
SO1/0005-1	9.9.14	CTD	21:00:59	56° 20,27' N	0° 16,62' E	83,2	on deck
SO1/0006-1	10.9.14	CTD	06:48:00	56° 20,55' N	0° 13,38' E	85,6	surface
SO1/0006-1	10.9.14	CTD	06:54:00	56° 20,55' N	0° 13,38' E	85,3	at depth
SO1/0006-1	10.9.14	CTD	07:04:00	56° 20,55' N	0° 13,38' E	85,6	on deck
SO1/0006-1	10.9.14	CTD	08:36:00	56° 20,56' N	0° 13,35' E	86	surface
SO1/0006-1	10.9.14	CTD	08:42:00	56° 20,57' N	0° 13,29' E	85,7	at depth
SO1/0006-1	10.9.14	CTD	08:49:00	56° 20,62' N	0° 13,19' E	86,5	on deck
SO1/0006-1	10.9.14	CTD	08:57:00	56° 20,65' N	0° 13,09' E	86,5	surface
SO1/0006-1	10.9.14	CTD	09:05:00	56° 20,71' N	0° 12,98' E	86,2	at depth
SO1/0006-1	10.9.14	CTD	09:08:59	56° 20,73' N	0° 12,97' E	86,7	on deck
SO1/0007-1	10.9.14	GI-gun	11:25:00	56° 22,07' N	0° 11,00' E	86,5	buoy in water
SO1/0007-1	10.9.14	GI-gun	11:47:00	56° 20,93' N	0° 12,21' E	87	GI guns in water
SO1/0007-1	10.9.14	GI-gun	12:37:00	56° 18,46' N	0° 9,90' E	87,7	GI gun on deck
SO1/0007-1	10.9.14	GI-gun	13:02:00	56° 18,65' N	0° 8,63' E	87,4	GI guns in water
SO1/0007-1	10.9.14	GI-gun	13:12:00	56° 19,26' N	0° 8,75' E	88,4	start of shooting
SO1/0007-1	10.9.14	GI-gun	16:28:00	56° 17,42' N	0° 12,77' E	86,4	end of shooting
SO1/0007-1	10.9.14	GI-gun	16:44:00	56° 16,92' N	0° 14,15' E	81,6	GI gun on deck
SO1/0007-1	10.9.14	GI-gun	17:20:59	56° 19,23' N	0° 9,34' E	88,3	buoy on deck
SO1/0008-1	12.9.14	Paravan Sb	06:42:00	56° 30,15' N	0° 8,35' E	73,2	rigging test
SO1/0008-1	12.9.14	Paravan Sb	07:39:00	56° 30,19' N	0° 6,04' E	75,2	rigging test
SO1/0008-1	12.9.14	Paravan Sb	08:55:00	56° 30,63' N	0° 3,98' E	71	rigging test
SO1/0008-1	12.9.14	Paravan Sb	09:39:00	56° 30,80' N	0° 2,62' E	71,2	rigging test
SO1/0008-1	12.9.14	Paravan Sb	11:15:00	56° 31,89' N	0° 1,06' E	66,7	rigging test
SO1/0008-1	12.9.14	Paravan Sb	12:36:00	56° 28,45' N	0° 4,21' E	77	rigging test
SO1/0008-1	12.9.14	Paravan Sb	12:53:00	56° 28,30' N	0° 4,46' E	77,7	rigging test
SO1/0008-1	12.9.14	Paravan Sb	14:01:59	56° 27,44' N	0° 6,51' E	78,2	rigging test

Fortsetzung A.5

SO1/0009-1	13.9.14	Paravan Sb	07:20:00	56° 32,50' N	0° 8,75' E	69,7	rigging test
SO1/0009-1	13.9.14	Paravan Sb	08:03:00	56° 32,23' N	0° 5,99' E	83,2	rigging test
SO1/0009-1	13.9.14	Paravan Sb	10:45:00	56° 34,50' N	0° 2,47' E	70,2	rigging test
SO1/0009-1	13.9.14	Paravan Sb	12:02:00	56° 32,62' N	0° 3,31' E	80	rigging test
SO1/0009-1	13.9.14	Paravan Sb	12:10:00	56° 32,54' N	0° 3,41' E	79,5	rigging test
SO1/0009-1	13.9.14	Paravan Sb	12:50:00	56° 31,23' N	0° 4,10' E	74,5	rigging test
SO1/0009-1	13.9.14	Paravan Sb	13:00:00	56° 31,06' N	0° 4,13' E	74,2	rigging test
SO1/0009-1	13.9.14	Paravan Sb	14:03:00	56° 29,48' N	0° 5,32' E	76,7	rigging test
SO1/0009-1	13.9.14	Paravan Sb	14:12:00	56° 29,37' N	0° 5,57' E	76,7	rigging test
SO1/0009-1	13.9.14	Paravan Sb	14:51:59	56° 28,86' N	0° 6,84' E	77,5	rigging test
SO1/0009-1	14.9.14	Paravan Sb	06:20:00	56° 29,12' N	0° 1,71' E	79,2	paravan in water
SO1/0009-1	14.9.14	Streamer Sb	07:33:00	56° 30,22' N	0° 2,03' W	66	streamer in water
SO1/0009-1	14.9.14	Streamer Sb	07:48:00	56° 30,38' N	0° 2,95' W	68,2	streamer in water
SO1/0009-1	14.9.14	Streamer Sb	08:02:00	56° 30,62' N	0° 3,67' W	67,2	streamer in water
SO1/0009-1	14.9.14	Streamer Sb	09:07:00	56° 32,39' N	0° 6,51' W	70,7	streamer in water
SO1/0009-1	14.9.14	Streamer Sb	09:49:00	56° 34,26' N	0° 8,76' W	92,7	streamer in water
SO1/0009-1	15.9.14	GI-gun Sb	07:46:00	56° 13,73' N	0° 1,99' W	88	GI-gun in water
SO1/0009-1	15.9.14	Streamer Bb	10:39:00	56° 20,07' N	0° 12,03' E	82,7	streamer in water
SO1/0009-1	16.9.14	Paravan Bb	06:44:00	55° 32,51' N	0° 30,95' W	58,7	paravan in water
SO1/0009-1	16.9.14	GI-gun Bb	08:10:00	55° 35,81' N	0° 26,36' W	60	GI-gun in water
SO1/0009-1	16.9.14	3D-seismics	10:02:00	55° 42,22' N	0° 18,91' W	64,9	profile start
SO1/0009-1	16.9.14	3D-seismics	15:25:00	55° 40,97' N	0° 14,53' W	69,1	profile end
SO1/0009-1	16.9.14	3D-seismics	16:19:00	55° 39,66' N	0° 16,80' W	68,5	profile start
SO1/0009-1	17.9.14	3D-seismics	06:12:00	55° 43,56' N	0° 19,79' W	64,2	profile end
SO1/0009-1	17.9.14	3D-seismics	06:47:00	55° 45,05' N	0° 20,85' W	64,5	guns on deck
SO1/0009-1	17.9.14	3D-seismics	11:12:00	55° 55,12' N	0° 17,58' W	83,2	Bb streamer on deck
SO1/0009-1	17.9.14	3D-seismics	13:20:00	55° 57,16' N	0° 21,58' W	70,2	Stb streamer on deck
SO1/0009-1	17.9.14	3D-seismics	14:59:59	55° 58,74' N	0° 23,19' W	69,7	end of survey