

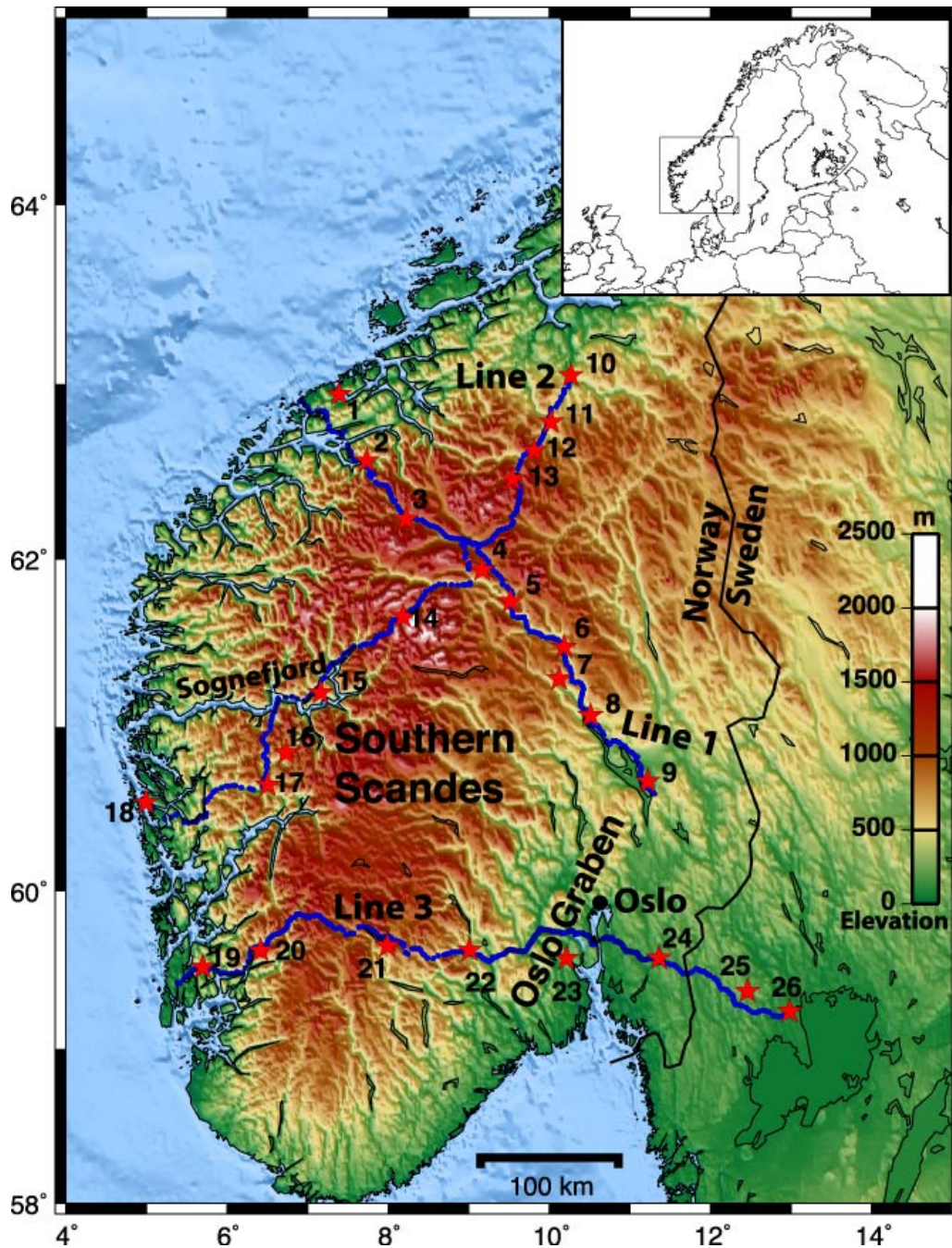
Magnus-Rex seismic experiment, October, 2007.

Magnus-Rex, a new seismic refraction experiment set out to shed light on the relationship between topography and Moho depth in southern Norway and to help determine if topography is compensated by crustal thickness. The project is the refraction component of MAGNUS, (Mantle investigations of Norwegian uplift structure), a multidisciplinary study of the lithosphere in southern Norway.

Three ~400 km long seismic lines were deployed across southern Norway, in October 2007 (Figure 1). A total of 26 shots of 100-400 kg charge size were fired along the three lines (Figure 1). Vertical component seismographs were deployed every two km along each line to record the explosions. An instrument spacing of 750 meters was used along a 120 km section across the Oslo Graben. Three different structural domains are covered by the refraction seismic lines; the Southern Scandes Mountains, the Oslo Graben and Fennoscandian Shield crust.

The field campaign ran with cooperation from Copenhagen University, Oslo University, Bergen University and, in particular, the Norwegian Geological Survey. Around 600 Iris Passcal Texan instruments were used in the deployment as well as 150 Texan instruments from the Copenhagen University Pool. Data acquisition was also supported by the Norwegian research Council. Appreciation is extended to the principal field technicians, P. Jørgensen, J. Gellein, A. K. Nilsen, G. Kaip and B. Greschke. Thanks also to students from Copenhagen, Oslo and Bergen universities who helped with the field deployment.

For information on this project, contact the Principal Investigator, Hans Thybo at Copenhagen University. Thybo@geo.ku.dk.



Location map for the three seismic lines of Magnus-Rex. Numbers refer to shot numbers and segy file numbers.

Field deployment: Station locations.

Line 1: Shots 1 to 9. Stations 1000 to 1174.

Line 2: Shots 10 to 18. Stations 2001 to 2200.

Line 3: Shots 19 to 26. Stations 2960 to 3290.

Stations 4001 to 4026 are the uphole stations for each shot site. I.e. 4001 is uphole Texan for shot 1.

All segy files contain the easting and northing co-ordinates in UTM zone 32 in the trace headers, for both shots and receivers, as well as station numbers and (Texan) instruments numbers.

Station number	Easting	Northing
1000	393694	6976940.00
1001	395837	6976440.00
1002	396856	6974220.00
1003	398607	6973210.00
1004	399113	6970700.00
1005	400266	6969260.00
1006	404071	6970430.00
1007	406270	6970670.00
1008	408759	6970490.00
1009	410004	6968990.00
1010	410232	6966520.00
1011	410411	6964640.00
1012	411873	6960850.00
1013	410940	6958540.00
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1016	416753	6956820.00
1017	419683	6955140.00
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1040	449131	6918350.00

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1043	450902	6913360.00
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1049	458295	6903850.00
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1052	464354	6900720.00
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