



Progress Report No 12

for the project

Norwegian National Seismic Network

For the period January 1st to June 30th, 1998

Sponsored by

Oljeindustriens Landsforening

September 1998

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and

NORSAR
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1. Introduction

This 12th progress report, under the project Norwegian National Seismic Network (NNSN), covers the first half of 1998. The purpose of this report is to describe the current technical operation of the stations, the data recorded, the costs and the budget for the project for the reporting period. A separate report is given on the seismicity of Norway and surrounding areas in which the data recorded is presented (Appendix 1). A report for the NORSAR arrays is given in Appendix 2.

2. Operation

The operational stability for each station is seen in Table 1. The average downtime for all 13 stations is 9.4 %. Since Bjørnøya has been out for 116 days the average downtime is very high. Excluding Bjørnøya the average downtime pr. station is 4.9 % while it was 2.1% for the last reporting period (also excluding BJO). The large station downtime can partly be explained by the following two reasons. i) During this reporting period a new downtime logging system was implemented. As a consequence the station downtime is followed more closely and also short time periods when the stations or communication is malfunctioning are logged. ii) The technical staff involved in the work with the seismic stations are also connected to other working tasks. This year some of the station break downs occurred during time periods when these staff members were allocated elsewhere i.e. mobilisation and demobilisation for an OBS acquisition. Still the station downtime is too high and attempts will be made to lower it.

Table 1. Downtime in % for the time period January to June, 1998 for each station of the NNSN.

Station	Downtime in %
Karmøy (KMY)	15.5
Odda (ODD1)	1.6
Blåsjø (BLS)	2.2
Høyanger (HYA)	0
Sulen (SUE)	5.6
Molde (MOL)	19.0
Florø (FOO)	11.4
Namsos (NSS)	2.2
Mo i Rana (MOR8)	0
Lofoten (LOF)	1.0
Tromsø (TRO)	1.0
Kautokeino (KTK)	0
Bjørnøya (BJO1)	63.0

Some comments on Table 1:

KMY : Data lost for 19 days in June due to a defect serial line. This was fixed during a visit in July 1998.

FOO: A second visit was necessary since the PC was broken and a new PC had to be brought from Bergen. This caused the unusual long station downtime.

BJO : The station was not functioning from mid February to mid May due to a broken outdoor cable, which connects the digitiser and the PC. At this time of year it is nearly impossible to do any outdoor work at the site due to the arctic climatic conditions.

3. Field stations and technical service

The technical changes for each station, are listed below. If these changes are not related to a visit of the UiB technical staff, it is noted. In addition to this list it should be noted that during the end of March and beginning of April all stations with Internet connection were upgraded with SEISLOG version 7.11, from Bergen.

Bjørnøya (BJO1)

09.05.98: Installation of:

- SEISLOG version 7.11
- GURALP CMG-40T Broad band seismometer
- Garmin GPS 35-HVS clock
- 422/232 converter between digitiser and PC to reduce the number of spikes.

Florø (FOO)

20.02.98: There were problems with the PC since 10th of February. During a visit to the station the PC was found to be defect and it was brought to Bergen.

02.03.98: Installation of:

- PC.

Høyanger (HYA)

No visit or technical changes

Karmøy (KMY)

March: Restart by local operator.

Lofoten (LOF)

07.05.98: Installation of:

- Garmin GPS 35-HVS clock

Mo i Rana (MOR8)

No visit or technical changes

Molde (MOL)

Lightning caused problems at the station.

13-14.03.98: Installation of:

- SEISLOG version 7.0
- Nanometrics digitiser
- Cisco box for ISDN
- Lowrance GPS clock

The accelerometer was not working and was brought to Bergen for testing.

24.04.98: Installation of:

- New Garmin GPS 35-HVS clock
- Accelerometer (reinstalled)

11.04.98: The station has been down for 10 days, and was restarted by the local operator.

18.06.98: The local operator reported malfunction at the station. A new PC was sent and installed by the local operator. The PC turned out to have the wrong IP addresses. No communication was possible.

Namsos (NSS)

06.02.98: Installation by local operator.

- SEISLOG version 7.0

Tromsø (TRO)

No visit or technical changes

Sulen (SUE)

March The station was restarted by the local operator.

Odda (ODD1)

16.05.98. Installation of:

- GARMIN GPS 35-HVS
- 4 channel unit for remote control of the power supply (220V) via the phone lines. It is now possible to turn ON/OFF the power supply for the PC, Cisco box, GPS clock and the digitiser from Bergen and resetting these units.

Blåsjø (BLS)

No visit or technical changes.

Kautokeino (KTK)

No visit or technical changes.

Internet connection to remaining field stations

It has been discussed to find a new location for the station in Mo i Rana, so it could be a part of NORSAR's local network around the Rana fjord. Since no ISDN line could be

installed at the new location it was decided not to move the station. Also the expected advantage for NORSAR with direct access to the data could not be fulfilled without an ISDN line.

For the stations Kautokeino, Mo i Rana and Blåsjø, it is currently still not possible to get ISDN connections and the stations have to remain operated with modems.

4. Data

An overview of the seismic activity in Norway and surrounding areas for the first half of 1998 is given in Appendix 1. The data recorded by the seismic stations were collected and monthly bulletins were prepared and distributed. Since there was no event in Norway of magnitude larger than 5.0 during the first half of 1998, no special report has been written.

6. Use of NNSN data during 1998

Under this section publications, talks, posters etc. in which NNSN data is used will be listed for one year at the time. This list will be included in the report covering the last half of the year.