Progress Report No. 18

for the project

Norwegian National Seismic Network

for the period January 1st to June 31st, 2001

Sponsored by

Oljeindustriens Landsforening

September 2001

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and

NORSAR
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1. Introduction

This 18th progress report, under the project Norwegian National Seismic Network (NNSN), covers the first half of 2001. The purpose 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.

2. Operation

The operational stability for each station is shown in Table 1. The average downtime for all 13 stations is 8.3% compared to 6.6% for the last reporting period. This is not within acceptable limits, with respect to the goal of average downtime below 2%. The Stavanger (which was installed in March) and Trondheim stations will be included in the next report.

Table 1. Downtime in % for the time period January to June 2001 for each station of the NNSN.

Station	Downtime in %
Karmøy (KMY)	0
Odda (ODD1)	24
Blåsjø (BLS)	8
Høyanger (HYA)	0
Sulen (SUE)	8
Molde (MOL)	0
Florø (FOO)	0
Namsos (NSS)	0
Mo i Rana (MOR8)	23
Lofoten (LOF)	0
Tromsø (TRO)	12
Kautokeino (KTK)	0
Bjørnøya (BJO1)	33

3. Field stations and technical service

The technical changes for each seismic station are listed below. It is noted if these changes are not related to a visit from the University of Bergen technical staff. When a station stops working, tests are made to locate the problem. Sometimes the reason cannot be found and the cause of the problem will be marked as unknown.

Bjørnøya (BJO1)

01.05.01. Due to a weather change with heavy rain and snow melting on the frozen ground, the aluminium box was filled with water. The box contains the sensor, digitiser, power supply, and RS232/422 converter. The water damaged the power supply, converter, and some cables.

The aluminium box has to be replaced.

Blåsjø (BLS)

29.06.01. Installation of a new PC and GPS. The previous PC and GPS were damaged by the lightning. Downtime 14 days.

Florø (FOO)

No visit or technical changes.

Høyanger (HYA)

No visit or technical changes.

Karmøy (KMY)

No visit or technical changes.

Lofoten (LOF)

No visit or technical changes.

Mo i Rana (MOR8)

25.01.01. PC started with use of the remote control. The station was down for 1 day.
26.02.01. The PC was restarted by the local operator. The station was down for 1.5 days
04.03.01. The PC was restarted by the local operator. The station was down for 1.5 days
21.03.01. The PC was restarted by the local operator. The station was down for 1 day.
02-18.04.01. Several restarts were necessary. The reason for this problem is unknown.
14.05.01. The following equipment was installed: a new Guralp BB, PC and Earth Data PS2400 digitiser. When testing the equipment it occurred that the RS232/RS485 converter for the serial line was broken.
28.05.01. A new RS232/RS485 converter for the serial line was installed. The station was down for 27 days.
16-25.06. The station was down for 10 days due to software problems.

Molde (MOL)

No visit or technical changes.

Namso (NSS)

No visit or technical changes.

Odda (ODD1)

20.02.01. The PC was restarted by the local operator. The station was down for 3 days.
20.03.01. The PC was restarted by the local operator. The station was down for 4 days.

13.05-28.6.01. The digitiser was damaged by lightning. The station was down for 45 days.
At this time we did not have a spare digitiser. A new digital seismograph with sensors and digitiser was installed. This seismograph will be replaced with a new digitiser as soon as we get one.

Tromsø (TRO)

04.01.01. The PC was restarted by the local operator. The station was down for 1 day.
08.01.01. The PC was restarted by the local operator. The station was down for 1.5 days
27.02.01. The PC was restarted by the local operator. The station was down for 2 days
20.03.01. The PC was restarted by the local operator. The station was down for 3.5 days
31.03.01. The PC was restarted by the local operator. The station was down for 1 day.
01.04.01. The PC was restarted by the local operator. The station was down for 1 day
17.04.01. The PC was restarted by the local operator. The station was down for 4.5 days.
15.05.01 The PC was restarted by the local operator. The station was down for 3 days.
28.05.01. The PC was restarted by the local operator. The station was down for 2 days.
05.06.01. The PC was restarted by the local operator. The station was down for 18 hours.
11.06.01. The PC was restarted by the local operator. The station was down for 2.5 days.

Sulen (SUE)

14-30.06.01 After a lightning the output from the digitiser
was incorrect. The local operator installed a new digitiser without solving any problems. The station was down for 17 days.

Kautokeino (KTK)

No visit or technical changes.

Stavanger (STAV)

1-2.03.01. Installed as a new station.
PC QNX-system with Seislog vers. 8.30.
Garmin GPS HVS-35 (25 pins ser. and parallel plugger)
SM-4 model B, 4.5 Hz, 24 bit; 3 comp. censor and digitiser moder nr. TDT3C24.
Telecommander.
04.04.01. Installed new PC.

4. Data

The data recorded by the seismic stations were collected and monthly bulletins were prepared and distributed. Figure 1 shows the distribution of earthquakes and explosions recorded in Norway during the first half of 2001.

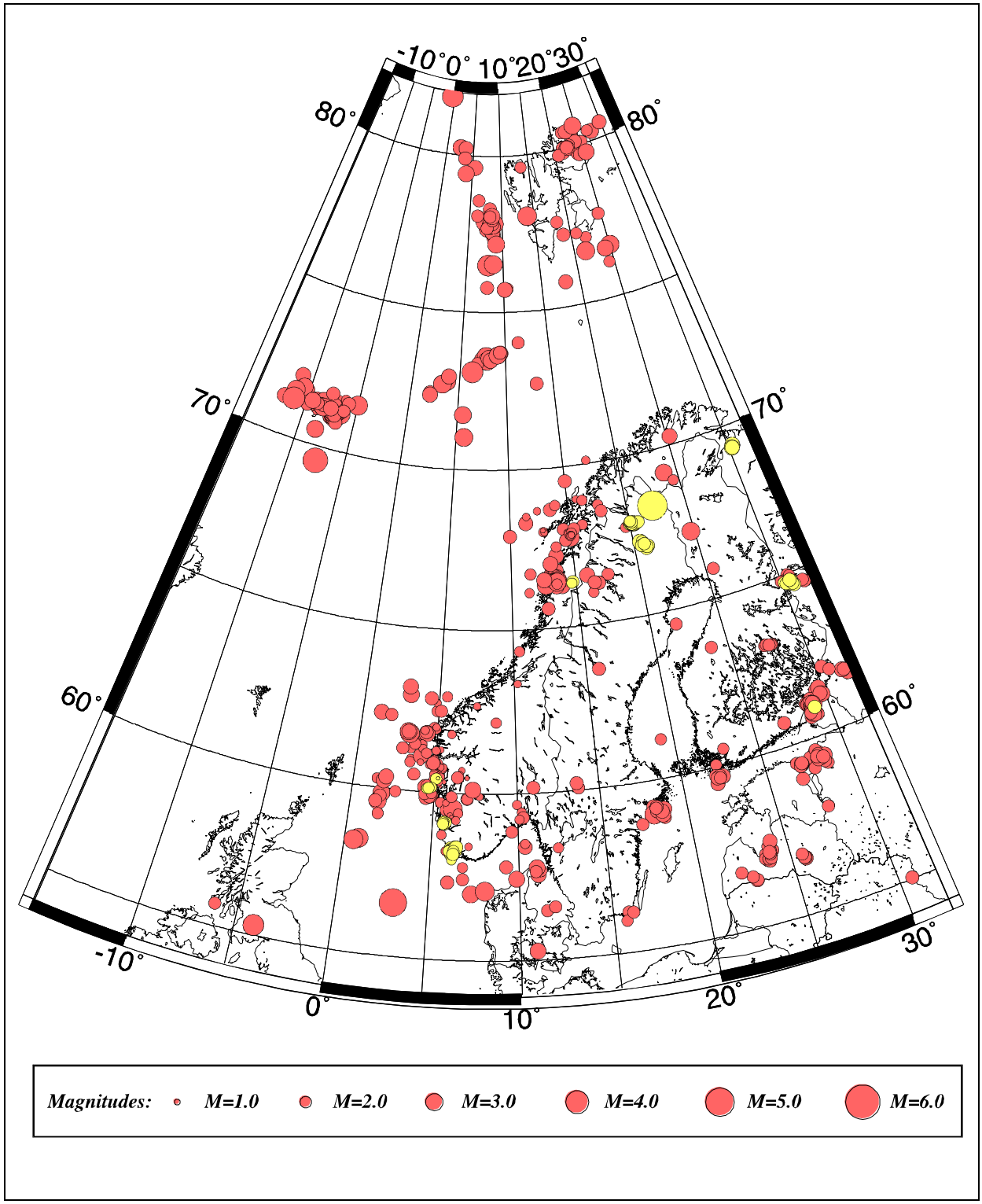

Figure 1 Epicentre distribution of events analysed and located January to June 2001. Earthquakes are plotted in red and probable and known explosions in yellow.

6. Use of NNSN data during 2001

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