

# Progress Report No. 1-2003



for

## Norwegian National Seismic Network

January 1<sup>st</sup> to June 30<sup>th</sup>, 2003.

Supported by

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and

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## 1. Introduction

This progress report, under the project Norwegian National Seismic Network (NNSN), covers the first half of 2003. The purpose is to describe the current technical operation of the stations and the data recorded for the first half of 2003. The costs will be given up to June 30.

## 2. Operation

The operational stability for each station is shown in Table 1. The stations have been divided into high priority and low priority stations. The average downtime for all stations during this reporting period is 2,6 %, compared to 2.5 % for 2002. Excluding the hard to service station Bjørnøya, the downtime is 0.8 %. This is well within acceptable limits, with respect to the goal of average downtime below 2%.

**Table 1a.** Downtime in % for the time period January to June 2003 for the high priority stations of the NNSN.

Station	Downtime in %
Karmøy (KMY)	0.5
Odda (ODD1)	0
Blåsjø (BLS)	0
Kongsberg (KONO)	3.5
Rundemannen (RUND)	2
Høyanger (HYA)	0
Sulen (SUE)	0
Molde (MOL)	0.5
Florø (FOO)	0.5
Namsos (NSS)	0
Mo i Rana (MOR8)	0
Lofoten (LOF)	2
Tromsø (TRO)	0
Kautokeino (KTK)	6
Jan Mayen BB (JMI)	0
Kings Bay (KBS)	3
<b>Average</b>	<b>1.1</b>

**Table 1b.** Downtime in % for the time period January to June 2003 for the low priority stations of the NNSN. The high downtime for BJO is explained under section 3, Field stations and technical service.

Oslo (OSL)	0
Stavanger (STAV)	0
Espegrend (EGD)	1
Askøy (ASK)	1
Bergen (BER)	1
Dombås (DOMB)	0
Bjørnøya (BJO)	47
Jan Mayen SP (JMI)	0
Jan Mayen (JNE)	0
Jan Mayen (JNW)	0
<b>Average</b>	<b>5.0</b>

**Table 1c.** The average downtime for all stations.

<b>Total average</b>	<b>2.6</b>
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### 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 technical staff at the University of Bergen. 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)

From 07.12.02. no data was received from the digitizer due to a broken signal cable. The station was down for 86 days.

28.03.03. A new digitizer and a single Geophone was installed by the local operator. This installation is temporary and a permanent installation will be made during the summer season.

#### Blåsjø (BLS)

No visit or technical changes.

#### Florø (FOO)

The PC was restarted by the local operator. The station was down for 2 days.

#### Høyanger (HYA)

No visit or technical changes.

**Karmøy (KMY).**

05.01.03. The GPS clock out of order.

31.01.03. Visit. A new GPS was installed. Timing now ok. No data lost.

**Lofoten (LOF)**

27.02.03. The PC was restarted. Station down for 1,5 days

01.03.03. The PC was restarted. Station down for 2 days.

**Mo i Rana (MOR8)**

No visit or technical changes.

**Molde (MOL)**

15.01.03. The station was down for 2 days due to lightning. The local operator restarted the station.

**Namsos (NSS)**

No visit or technical changes.

**Odda (ODD1)**

No visit or technical changes.

**Tromsø (TRO )**

25.03.03. Visit. A new Guralp BB (Broad Band) sensor and a new Earth data (ED) digitizer was installed. Due to software problems, the PC did not receive data from the digitizer. It was decided to reinstall

the

old sensor and digitizer until a new PC could be installed.

15.05.03. A new PC was installed by the local operator. The BB sensor and the ED digitizer was connected.

**Sulen (SUE)**

No visit or technical changes.

**Kautokeino (KTK)**

01.01.03. Telecommander off. The station restarted by the local operator after being down for 3 days.

11.05.03. Telecommander down. The station restarted by the local operator after being down for 9 days.

23.05.03. Communication failure. Telenor problem.

19.06.03. Communication failure. Telenor problem.

**Stavanger (STAV)**

05.02.03 Visit to rectify polarity error on sensors.

**WNN network: stations: Bergen (BER), Espesrend (EGD), Ask (ASK)**

07.02.03. GPS restarted by the local operator. Timing missing from 05.02.03. due to a software problem.

13.02.03. Timing ok.

Rundemanen (RUND)

04.03.03. A new SP sensor installed. The BB sensor was moved to Tromsø. The station was down for 3 days.

Trondheim (TRON)

No visit or technical changes.

Oslo (OSL)

No visit or technical changes.

Dombås (DOMB)

No visit or technical changes.

Jan Mayen (JMI)

No visit or technical changes.

Kongsberg (KONO)

No visit or technical changes.

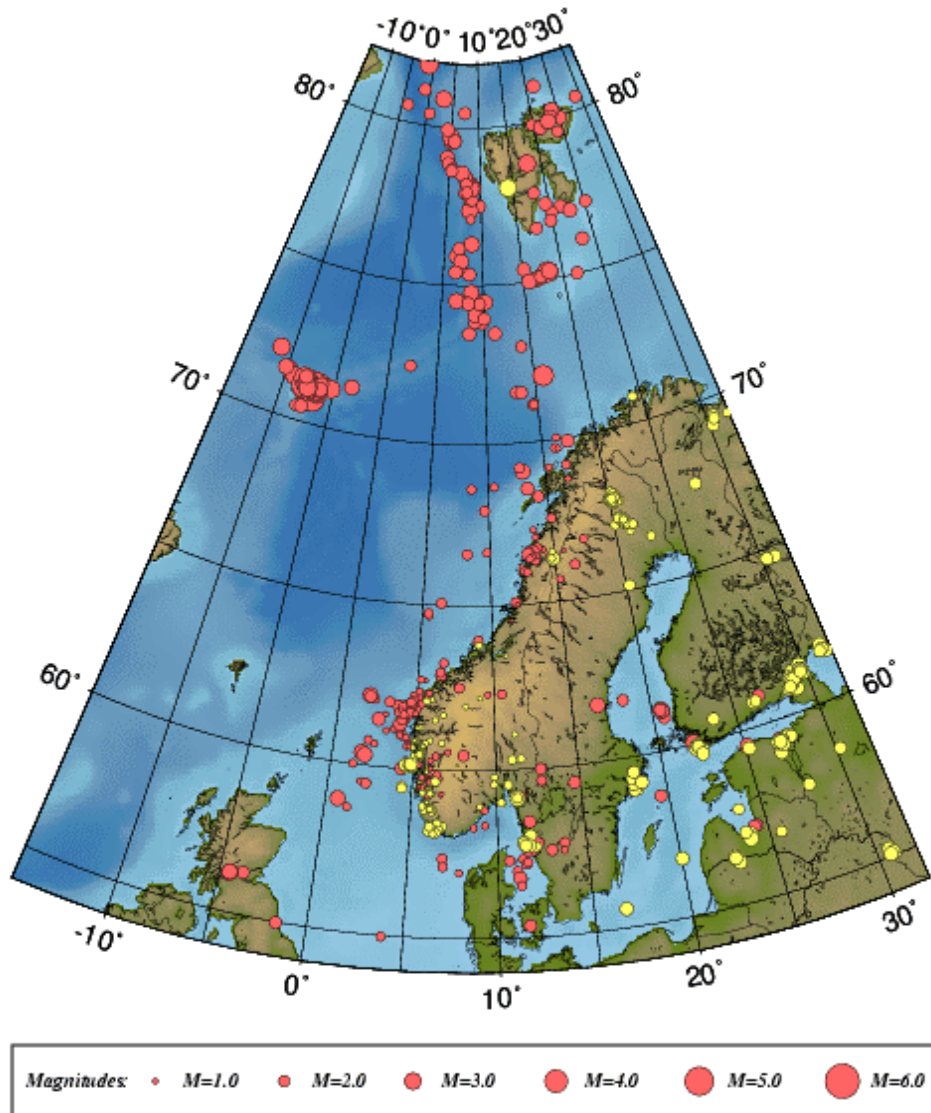
Kings Bay (KBS)

No visit or technical changes.

The broad band station at RUND has been moved to Tromsø. The Rundemannen site turned out to be difficult to service and the site was not as low noise as expected. Since the broad band sensor requires regular adjustments, this was easier to do in Tromsø. The Tromsø site has always been a very good site for recording distant earthquakes despite its location in the city and in a building, and good quality record has now been obtained from Tromsø

## 4. Data

The data recorded by the seismic stations were collected and monthly bulletins were prepared and distributed. Figure 1 shows earthquakes and explosions recorded during the first half of 2003 and located within the shown area. Most events are recorded by NNSN stations but also some data from NORSAR and the British Geological Survey (BGS) are included.



**Figure 1.** Epicentre distribution of located events recorded during January – June 2003. Earthquakes are plotted in red and presumed and known explosions in yellow.