



Norwegian Meteorological Institute

Our mission is to protect life, property and the environment, and to provide the meteorological services required by society

TROMSØ

- Aviation and public forecasting for Northern Norway and Spitsbergen
- Ocean areas between Greenland and Novaja Semlja
- Center for ice forecasting



**Anne
Solveig
Andersen**

**Senior Meteorologist
Public Forecasting**

BERGEN

- Aviation and public forecasting for West Norway and Central Norway
- Ocean areas in Northsea, English Channel, Biscaya aso
- Maritime center, offshore forecasting
- Oilspill modelling, leeway and shipsdrift



**Jan-
Erik
Brandt**

**Senior Meteorologist
Aviation Forecasting**

OSLO

- Aviation and public forecasting for Southeastern Norway and mountain areas in Southern Norway
- Ocean areas in Skagerrak
- Long term forecasting

Norway has three operational forecasting centers

Core activities

- **Observations**
Operation, data collection and transmission
- **Research & development**
Operational models, environmental emergency services, general climate research
- **Weather forecasting**
Analyses, prognoses, general forecasts and warnings, emergency preparedness
- **Climatological services**
Observations, databases, general climatological information

Financed by customers

- Services for aviation
- Tailored products and services
- Commercial climatological services
- Commissions and reports

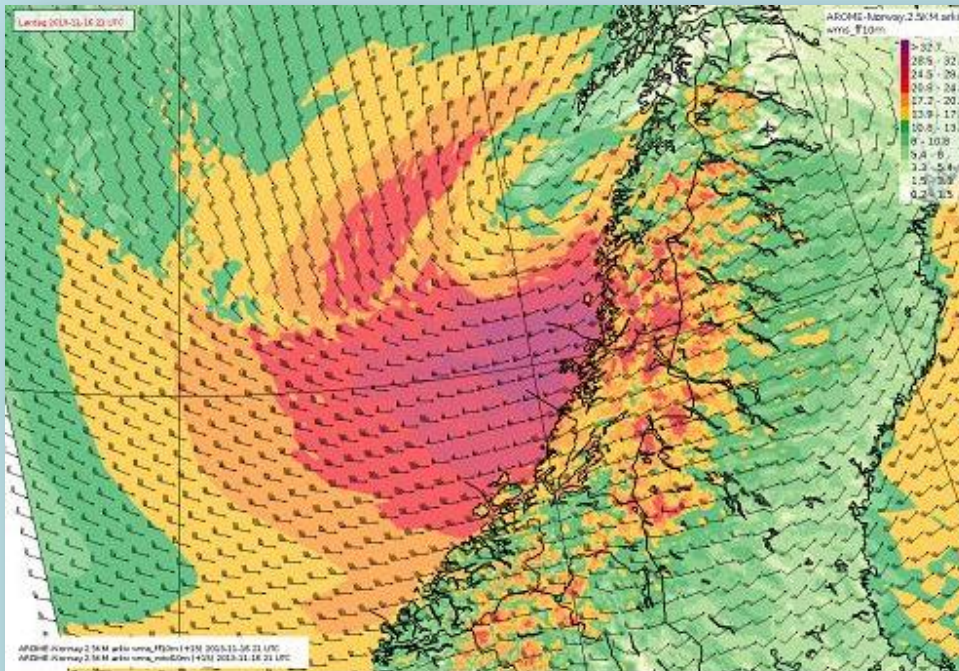
Member of

- **the World Meteorological Organization (WMO)**
- **the European Centre for Medium Range Weather Forecasts (ECMWF)**
- **the European Organisation for the Exploitation of Meteorological Satellites (EUMETSAT)**

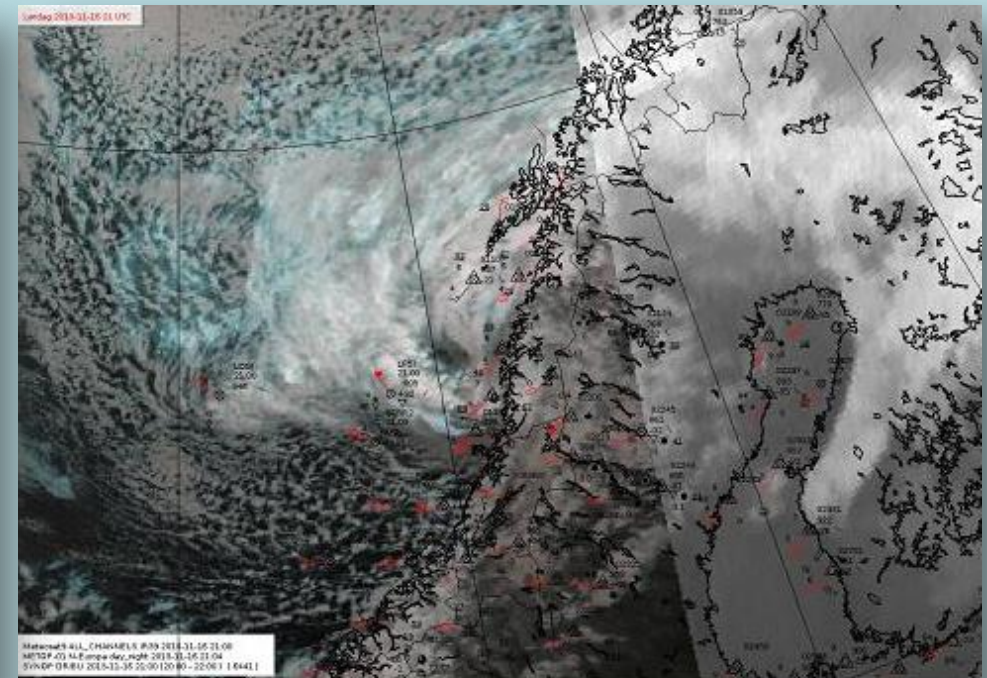
Extreme weather Nov 16th 2013: "HILDE"

- West force 11 violent storm, short term force 12, wind gust 40-50 m/s
- Wave height 12-14 m near cot.

**1300 damage reports.
Cost estimate: 15 mill EUR.**



Vindprognose for laurdag 16.11.13 21 UTC frå modell køyrt 06 UTC laurdag 16.11.13.

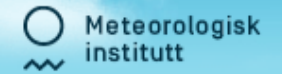


Satellittbilde og vèrobservasjonar frå laurdag 16.11.13 kl. 21 UTC.



Search in forecasts for Norway and the world:

SEARCH



Enter a place name, e.g. [Stavanger](#), [Røst](#) or [Beijing](#). [Advanced search](#)

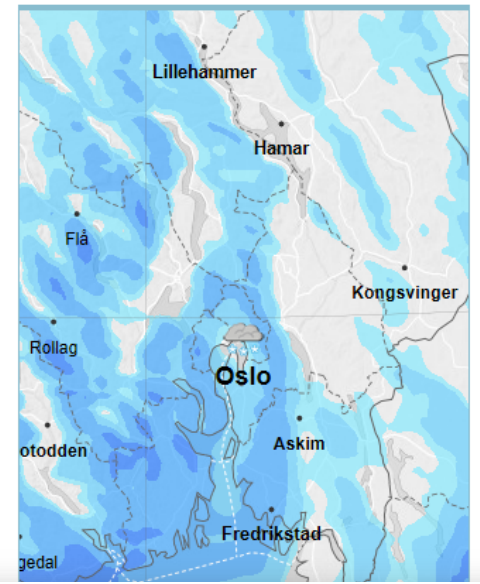
Advocating the use of open source data

Overview

Meteogram, next 48 hours

Today, Tuesday 28/01/2014

Time	Forecast	Temp.	Precipitation	Wind
00:00 -06:00		-2°	1.1 – 3.0 mm	Gentle breeze, 5 m/s from east-northeast
06:00 -12:00		-3°	0.1 – 1.7 mm	Gentle breeze, 4 m/s from east-northeast
12:00 -18:00		-2°	0.7 – 2.3 mm	Gentle breeze, 4 m/s from east-northeast
18:00 -00:00		-2°	0.6 – 1.8 mm	Light breeze, 3 m/s from east-northeast



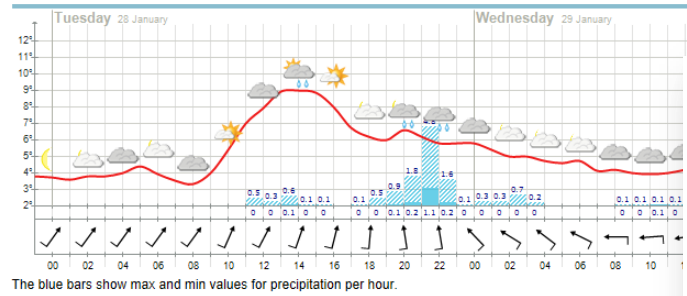
Tomorrow, Wednesday 29/01/2014

Time	Forecast	Temp.	Precipitation	Wind
				Gentle breeze, 4 m/s from east-northeast
				Gentle breeze, 5 m/s from east-northeast
				Gentle breeze, 4 m/s from east-northeast

Hourly forecast for Reading, England (United Kingdom)

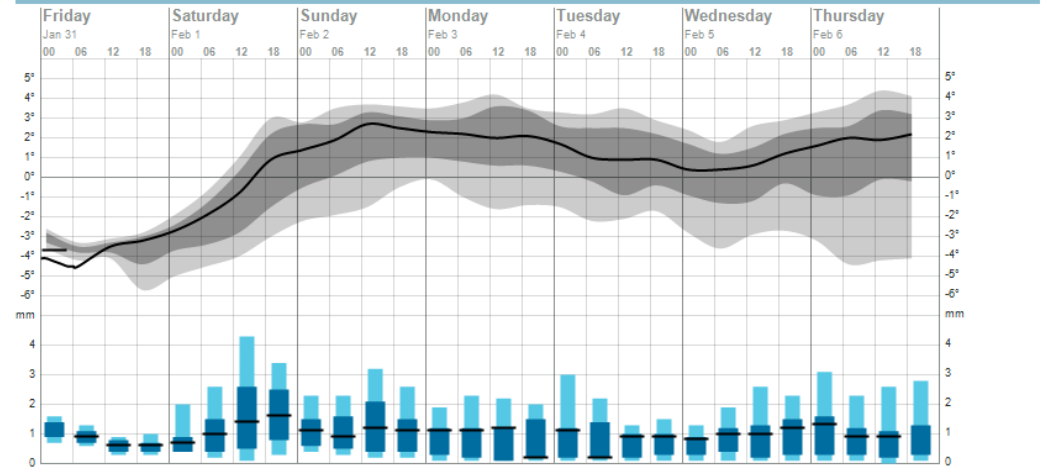
- Overview
- Hour by hour
- Detailed
- Long term
- Statistics
- Værkart
- RELEVANT PLACES
- Reading
- Oslo

Meteogram, next 48 hours



Updated at 19:03. Next update around 4:00
 Add to My places
 Forecast PDF

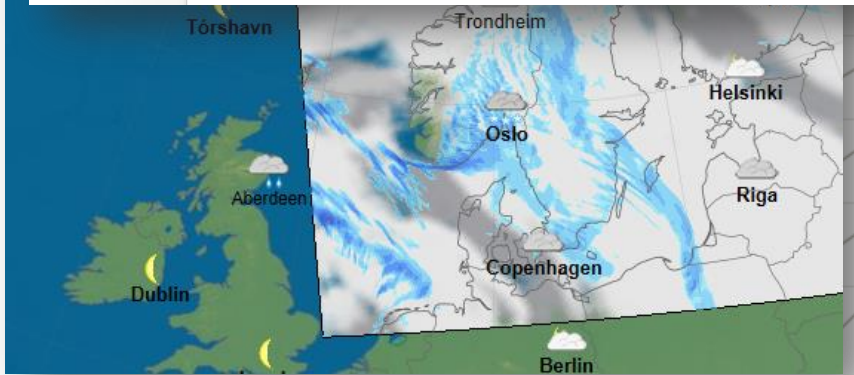
Probability forecast for Oslo



Long time forecast is quite reliable for temperature when the grey area has a narrow spread. Likewise it is quite reliable for precipitation when the blue bars are short.
 The long time forecast is uncertain when the gray area has greater spread, and the blue bars are long.

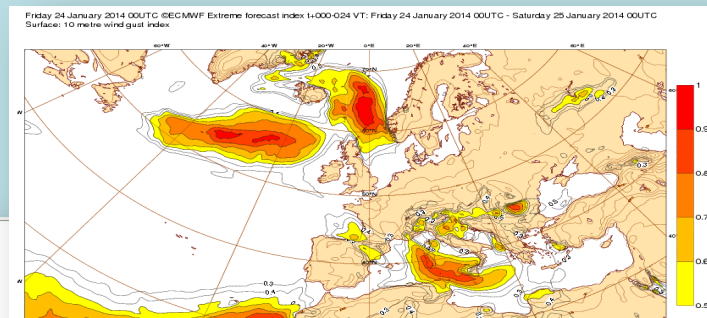
Temperature:
 50% probability (dark grey)
 30% probability (light grey)

Precipitation:
 50% probability (dark blue)
 30% probability (light blue)



Extreme weather – challenges in forecasting

- Since 1994: 61 extreme weather forecasts
- Extreme weather forecasts are sent for wind and wind gust, precipitation, avalanche, storm surge and waves
- Criteria differ in area and season
- Index developed by met.no used for forecasting extreme wind (DJIGGI-index).



DJIGGI-Index(v.1.2)

Vurderingsgrunnlag for ekstremvæer

P1	Vinden utenfor kystlinja, eventuelt vurdert utfra trykkfeltet, med en retning saa man kan forvente skadevoldende vind:	<input type="text" value="55"/>	knop	2
P2	Sterkeste vind i 850hPa i omraadet med den kraftigste bakkevinden :	<input type="text" value="75"/>	knop	2
P3	Bane < 2 breddegrader fra kysten	<input type="text" value="10"/>		2
P4	Lavtrykksbane krysser fra varm til kald side av jetten, og kommer ut i venstre jet exit sone naer kysten	<input type="text" value="10"/>		2
P5	Lavtrykket har maksimal intensitet naer kysten, innenfor 3 timer	<input type="text" value="8"/>		2
P6	Okklusion normalt paa kysten, parallelt med bakgrunnsfeltet. Forhold for fjellboelger: stabile lag og sterk vind rundt fjelltopphoeyde	<input type="text" value="5"/>		2
P7	NORLAMEPS probability_windgust >= 25 m/s stoerre enn 5	<input type="text" value="50"/>		2
P8	EFI Wind gust, verdier fra 0 til 1	<input type="text" value="1"/>		2

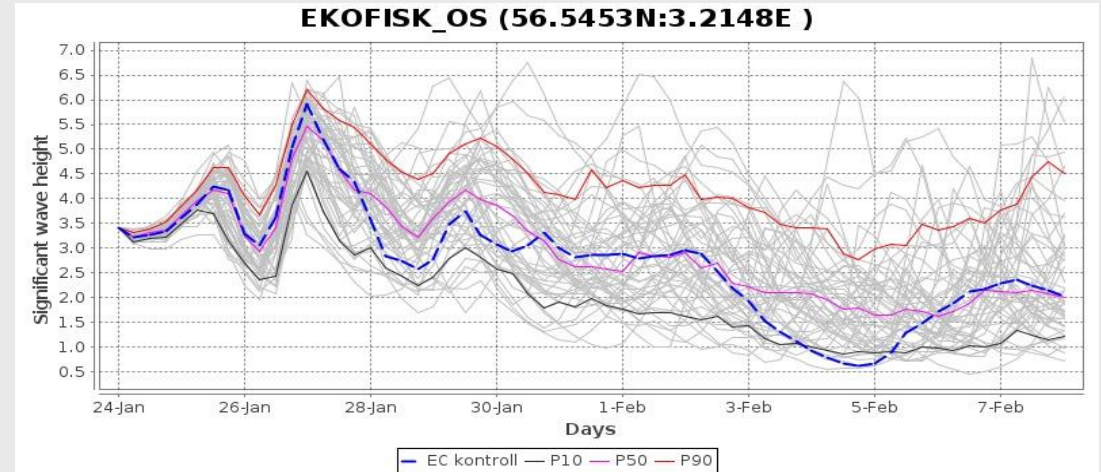
DJIGGI-Indeks :

[Forklaring av Djiggi-indeksen](#)
[Formel for Djiggi-indeksen](#)

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EFI from ECMWF used as a part of the index

- ECMWF model data in daily forecasting
- Ensemble forecasting
- Extreme events forecasting
 - EFI-index
 - SOT-index
- Verification
- Cyclone tracking
- Monthly and seasonal forecasts
- ECMWF training courses and science webinars



Use and interpretation of ECMWF products

