



Norwegian
Meteorological
Institute

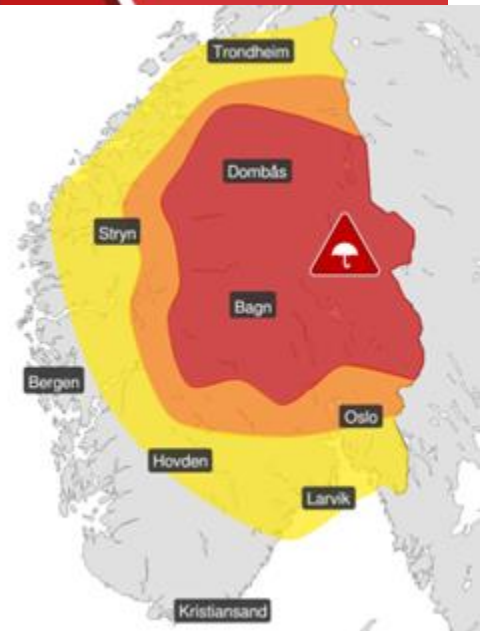
Forecasting natural disasters ?

7th Conference on Modelling Hydrology, Climate and Land Surface Processes

Bård Fjukstad, Director of weather forecasting

Classification: Open,

Extreme weather Hans



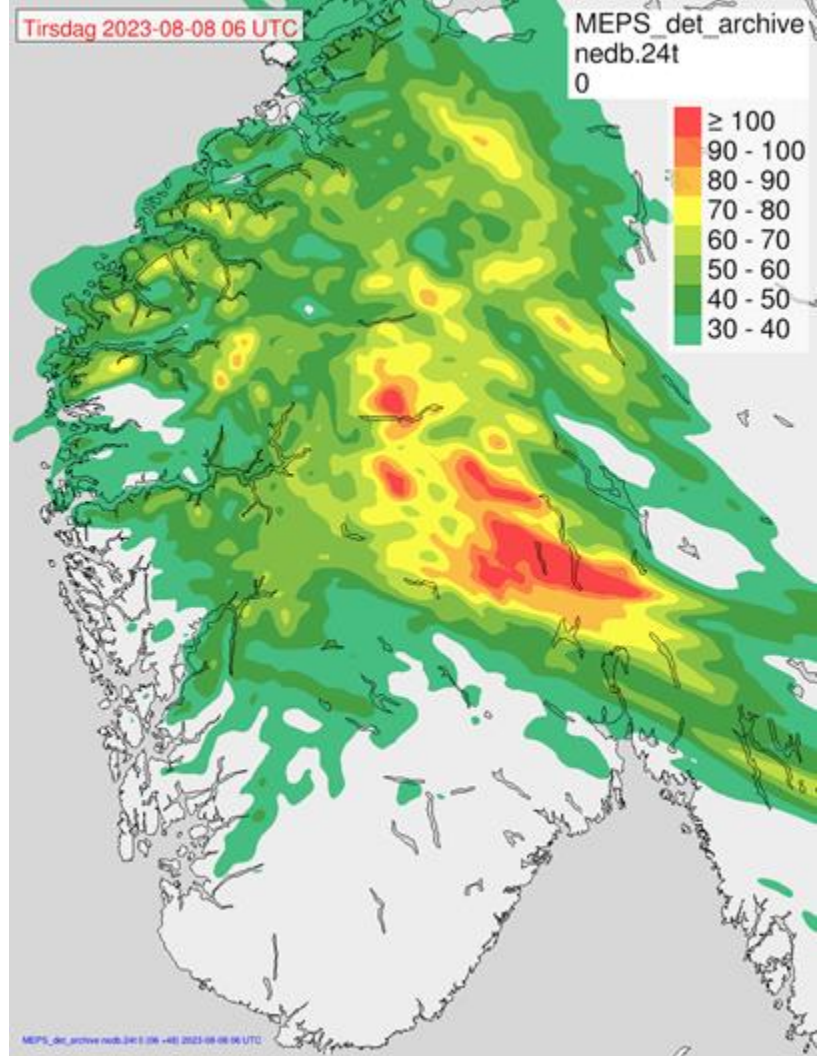
First an ORANGE warning issued 4.8.2023
Upgraded to RED 5.8.2023 (precipitation)

Strong collaboration with NVE on warnings,
issue times, levels and areas

Models did capture this extreme event

MEPS 24-hour precipitation from monday 06 UTC until tuesday 06 UTC. Based on model forecast from sunday 6. august 06 UTC

Warnings issued sunday 6. august



Observed precipitation

Accumulated precipitation over 3 days 8-10 august presented as return periods of observed precipitation

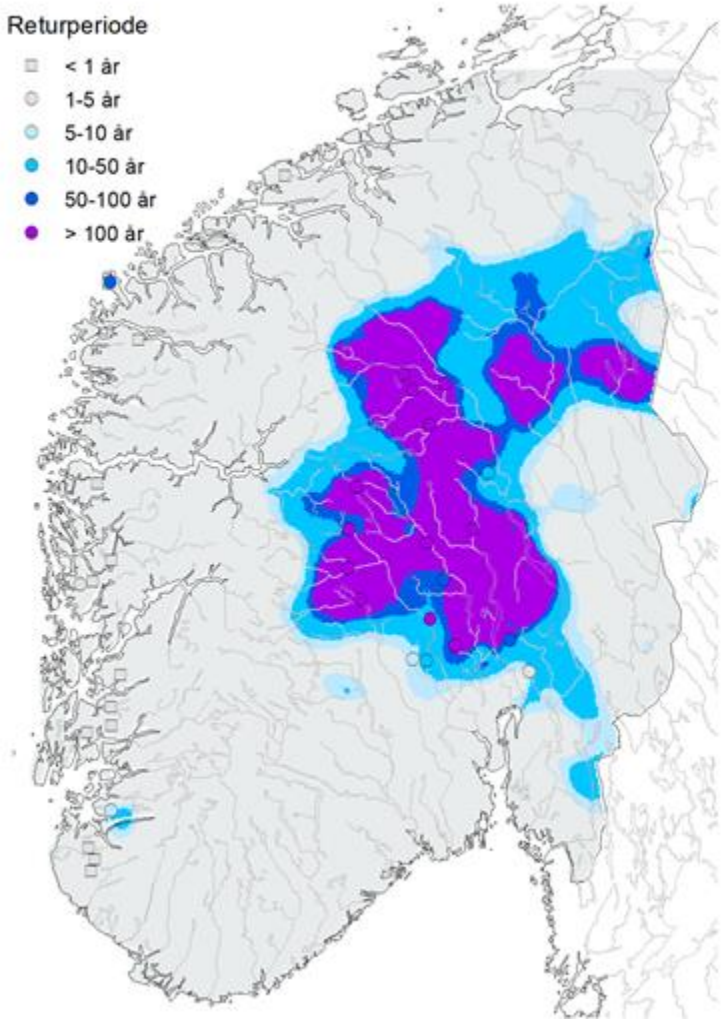
Large areas with > 100 years

This product was created during Hans!

Akkumulert nedbør 3 døgn 08/08 - 10/08-2023 06UTC

Returperiode

- < 1 år
- 1-5 år
- 5-10 år
- 10-50 år
- 50-100 år
- > 100 år



Extreme precipitation



Critical infrastructure damaged



Avalanch



Vistdalen, 30 june 2023

VG

VG LIVE VGTV VG+ SPORT TV-GUIDE TIPS OSS

KJØP VG+

Søk

NYHETER | Alle nyheter Valgresultat 2023 Valg 2023 Valgomat **Innenriks** Utenriks Meninger Strømprisen Spesialer Skatteletter



Flere jordskred har gått i Molde

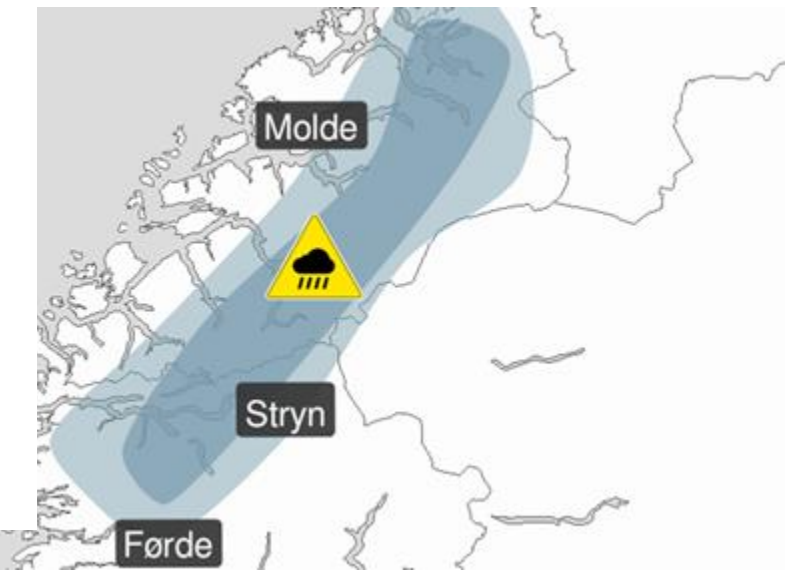
Nyheter · 30. jun

0:30

Jordskred i Vistdalen utenfor Molde – minst fire hus rammet

Flere jordskred har gått i Vistdalen utenfor Molde søndag ettermiddag. To personer er lettere skadet og ingen er foreløpig savnet.

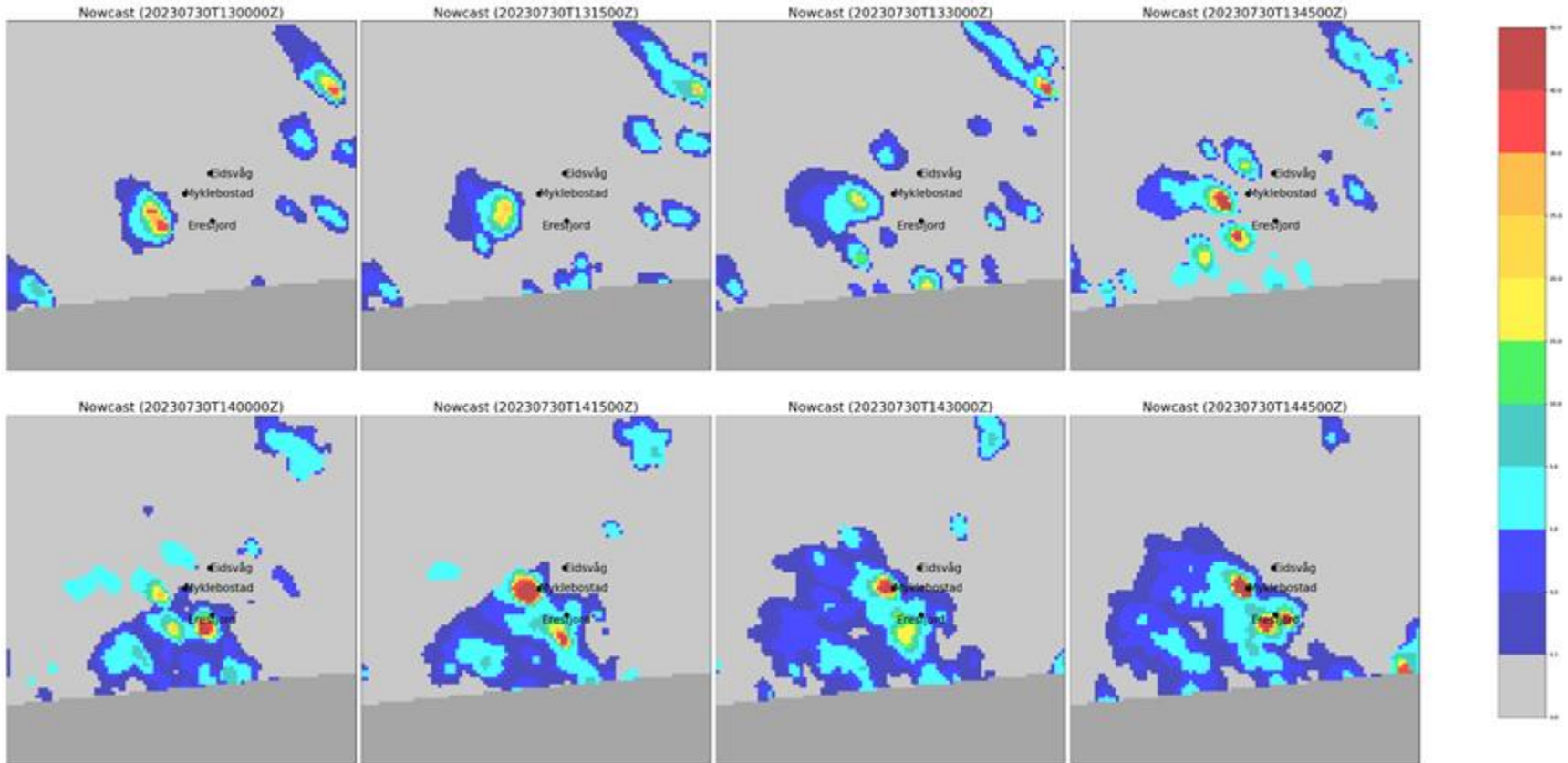
Av ANJIA ARIEL TØRNES BREKKE, MATHIAS ENGSTROM SANDSTØL, OSCAR STRØM KORSNES, PREBEN BRÆKSTAD og AMUND BAKKE FOSS
Publisert 31. juni





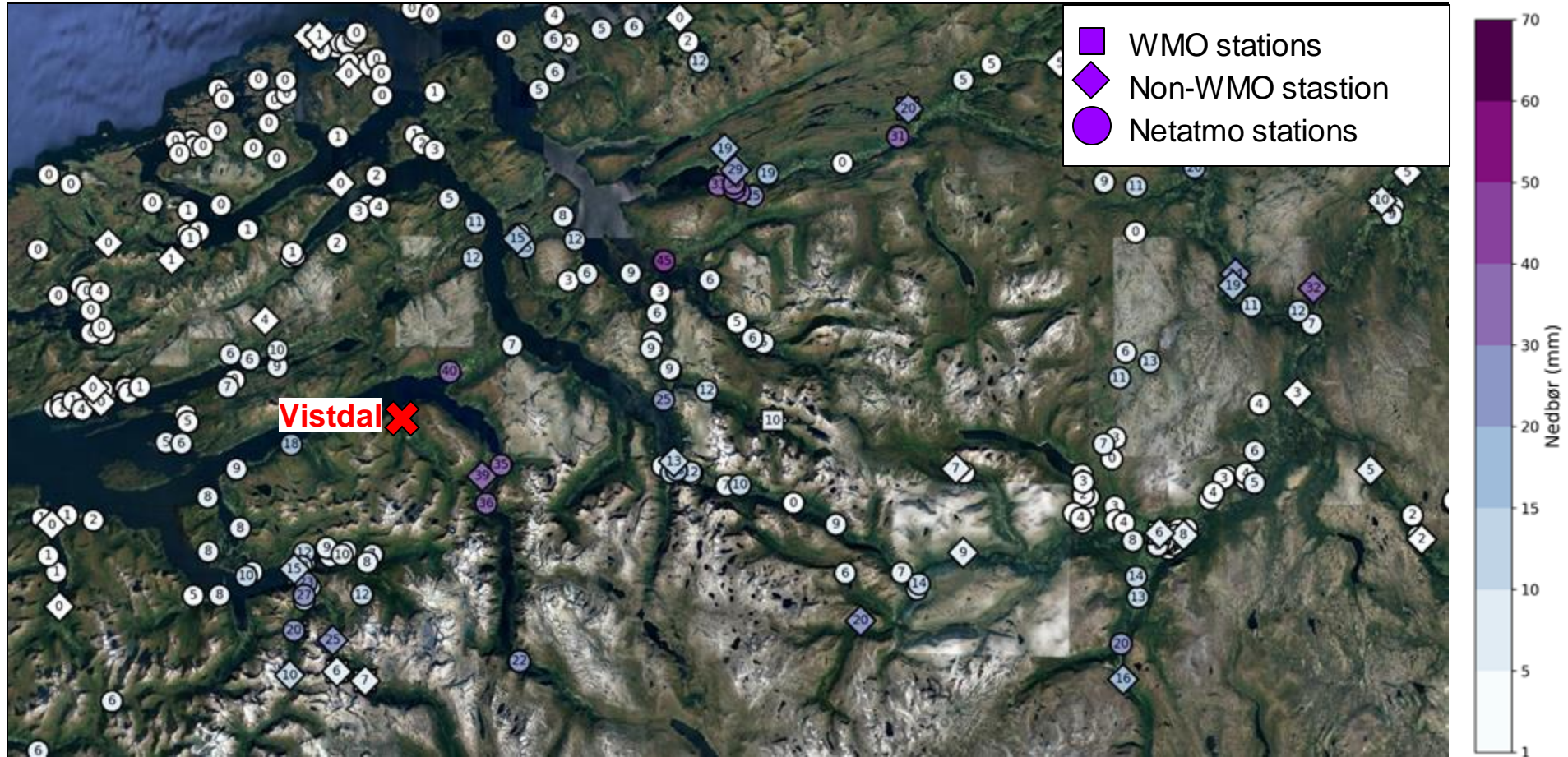
Radar rain rates (mm/h) for 20.07.2023, 13-14 UTC

Radar 5-min precip rates for 13-14 UTC (top row) and 14-15 UTC (bottom row)



Figures from Jørn Kristiansen, MET Norway

Observations (24t 2023/07/30 06Z - 2023/07/31 06Z)



Uncertainty in forecasts

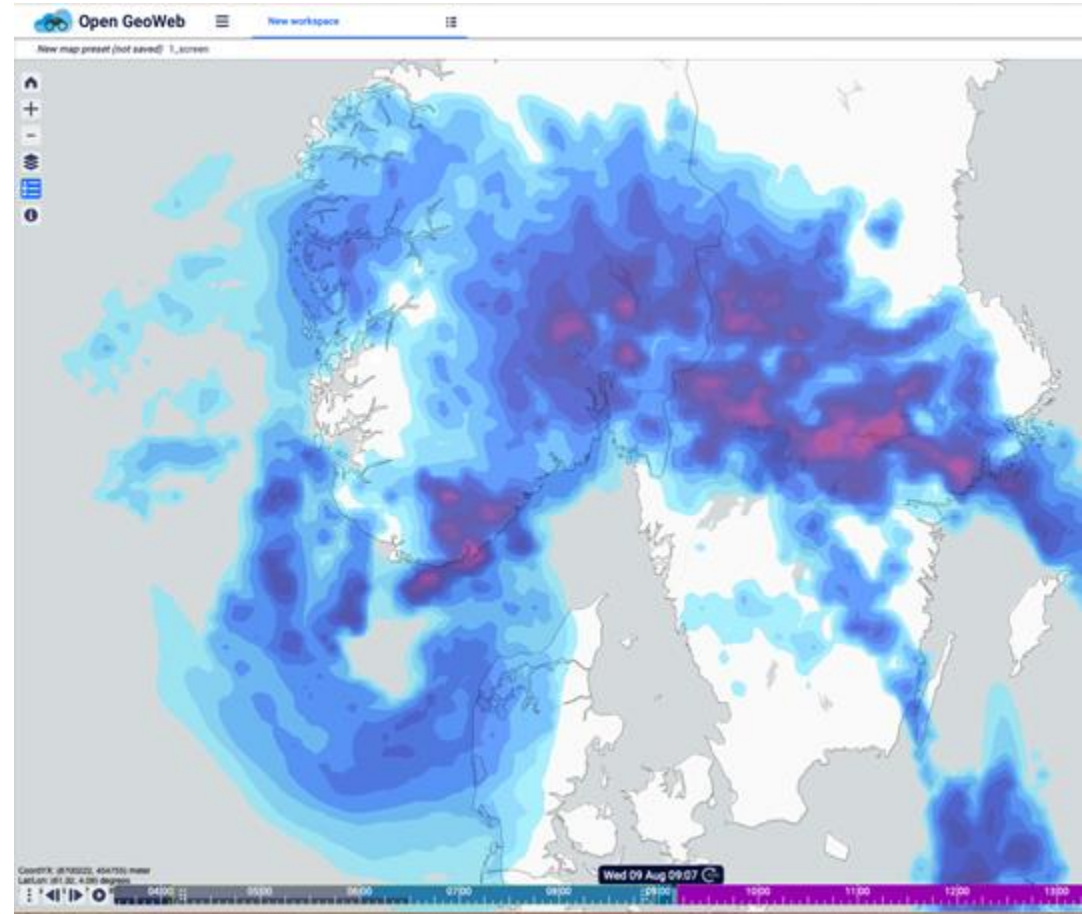
Warnings issued with and implied uncertainty of both intensity and location.

Issued for large areas

Long lead times is very useful

Immediate response from relevant authorities

MET and NVE participates is very many video conferences with relevant levels of government and infrastructure managers.





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