The Varsom Regobs System: Enhancing Hazard Forecasting, Community Preparedness and Outdoor Activities through Crowd-Sourcing

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1. The Varsom Regobs system

Varsom Regobs (Registering of Observations) aids decision-making for the warning services at the Norwegian Water Resources and Energy Directorate (NVE). Additionally, the Varsom platform has users from organizations and the public. It fosters a participatory approach encompassing recreational activities, hazard assessments, emergency preparedness, search and rescue, and forecasting. Varsom Regobs is an innovative crowd-sourced system enabling registration, sharing, querying, and real-time storage and publication of field observations (Figure 1).

2. User engagement

The app has gained widespread recognition within the community, boasting over 600 000 unique visitors between Oct. 2023 and April 2024 (Number of observations in figure 2).

3. Examples of successful aspects of use

A successful aspect of enhancing natural hazard monitoring has been the mutual engagement with users. They use the app to plan recreational activities with available supporting maps, regional warning levels and observations (Figure 3).

4. Utilizing in situ, model, and satellite data in warning services

NVE has a successful in situ component through the Varsom Regobs, and the outlook for the future is to further utilize this data together with satellite-derived products such as lake ice (Figure 4), snow avalanches (Figure 5), and other potential natural hazards like landslides and snow-related hazards such as floods.

5. Conclusion

Varsom Regobs is a sustained citizen science initiative due to its integration into Norway’s operational warning services, serving as an exemplary model for long-term engagement and collaboration. NVE will use Varsom Regobs observations more frequently for validation of NVE’s operational services based on Copernicus satellite data in the future.

Download the Varsom app on App Store/Google Play using QR-codes, or visit www.regobs.no.

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