



## First Announcement

# UFZ Environmental Modeling & Monitoring Colloquium

26th June 2023, 1:00 - 2:30 pm

UFZ Leipzig, KUBUS, Hall 1D

## *“National geophysical mapping programme: Benefit and pitfalls of large datasets”*

**Marco Brönnner**

**Norwegian Geological Survey**

### Abstract (max 2.000 Zeichen incl. Leerzeichen)

The Geological Survey of Norway (NGU) is an agency under the Ministry of Trade, Industry and Fisheries, responsible for mapping Norway's geology, and disseminate and present data in order to meet society's needs for basic geological knowledge. Besides spectral data and laser imaging, geophysical data provide valuable background information for bedrock, mineral and energy resource mapping and geogenic hazard assessment. Airborne data acquisition from helicopter or airplane is a cost- and time- efficient method to collect geophysical data for nation-wide coverage. Therefore, NGU has a national airborne mapping programme to cover Norway and the Norwegian continental shelf until 2030 with modern geophysical data. Together with the rapidly growing amount of satellite data with resolution in 10<sup>th</sup> of meters scale, these airborne data contribute to an enhanced mapping and subsurface modelling. Besides data compilations, NGU provides data derived products for the industry and governmental institutions like depth-to-basement maps, radon and instability maps for rockslide and fracture maps for tunnel construction, which often are based on a combination of data and are constantly updated with newly acquired data. However, with the increasing interest of the Norwegian society in our data and products, non-experts and new stakeholders are using them for different purposes and on different scales as originally intended, which often led to overinterpretation and erroneous conclusions. A simple communication of the maximum accuracy could be provided for each map, but large national airborne datasets are usually a patchwork of various surveys from different campaigns with often a significant degree of heterogeneity in quality and resolution. Furthermore, we identified that due to map creating processes the quantity of uncertainty is accumulating and uncertainty cannot accurately be derived, which affects other map products and models as well.

All interested colleagues are kindly invited.



## **Marco Brønner**

.. is team leader of the section for Geophysics at the Norwegian Geological Survey. His research focus is integrated interpretation and modelling of geological processes. For the last 15 years he has also worked with erosion and weathering processes to understand landscape development.