



Using bedrock geology for making ecological base maps

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For preparing for a sustainable future land use planning, a more holistic approach to nature management is important. This will imply more multidisciplinary research and cooperation across professional borders. In particular, the integration of knowledge about the geosphere and biosphere is needed. As the biosphere produces ecosystem services to us, the geosphere provides "geo-system" services or "Underground" services.

In Norway, we have tried to investigate the connection between ecosystems and bedrock geology. The aim was to create various ecological base maps that can be used for improving mapping and investigations of biodiversity.

By using geochemical analyses and linking the results to bedrock maps, we managed to get a rather realistic picture of the mineral content of soils formed by the chemical weathering of rocks. This made it possible to make the first national map of Ca-content in the bedrock. In addition, we can construct maps of anomal soil composition (such as high P, Mg and K). The presentation will outline the methodology for such ecological base maps, and discuss problems, challenges and further research.