

5. Hydrogeology and environmental geology

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Sustainable utilisation of water-, energy- and geo-resources is essential in our society. Sound resources management requires hydrogeological knowledge specific to the Nordic region, both for adaptation to climate change and in our response to patterns of anthropogenic impact on the environment.

What are current and future threats to groundwater (quality and quantity) in the Nordic countries, and which scientific challenges arise? We invite contributions concerning contaminant transport and risk, like (but not limited to): flame retardants / surfactants (e.g. PFAS), pharmaceuticals, agrochemicals, cosmetics. We welcome abstracts on new and effective remediation and/or monitoring techniques, including waste repositories on land, seafloor or in the subsurface, CO₂ storage solutions and mitigation of natural processes to ensure acceptable groundwater quality (e.g. Fe, Mn, F, Rn). The session will also cover effects of climate change on recharge patterns, stormwater and urban groundwater management. Further, utilisation of geothermal energy solutions is growing phenomenally, contributing to steady, renewable energy supply. Hydrogeology is key in developing innovative schemes for thermal resource exploitation. We invite contributions regarding thermal resource mapping and capacity upscaling in both open (with groundwater exchange) and closed systems, in shallow and deep aquifers, in unconsolidated sediments and fractured rock.