

**Aggregation of hydrogeological information at national and (sub)-regional scales for coherent knowledge transfer and support for decision making**  
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The process of semantic and geometric harmonization and aggregation of geological information is crucial for providing coherent information valid at and transferable between multiple overview scales. Recently, the lithological description of the International Hydrogeological Map of Europe in a scale of 1:1,500,000 (IHME 1500) of initially 1065 map units was generalized in five hierarchical aggregation levels based on a new taxonomic scheme and subsequent rock class grouping, resulting in ten rock classes and a ternary classification attributed to consolidated, partly consolidated and unconsolidated geologic materials as the highest generalization level. Additionally, IHME1500 represents basic information on general potential aquifer characteristics (productivity) for the lithologically defined map units based on expert knowledge. This presentation describes the application of this methodology to harmonize information on material compositions and potential aquifer productivities at the national scale (adopting the hydrogeological map of Germany HUEK200), as well as (sub)-regional and pilot zone scale (~400 kmC) in technical cooperation projects in Niger and Chad. The analyses involves various degrees of data availability and quality, showcasing difficulties and challenges in up- and downscaling processes. Furthermore, this contribution will highlight the need to move on to integrated hydrogeological mapping at overview scales, facilitating decision making processes on short- and mid-term time scales. This may be achieved combining the aggregated map units with information from various fields in science and engineering, as well as developing comprehensive, yet comprehensible legends that assure a transfer of precise hydrogeological data into planning societal benefit areas.

