

# Seminari IRSA 2024

Venerdì 15 Marzo, ore 11:30 (\*)

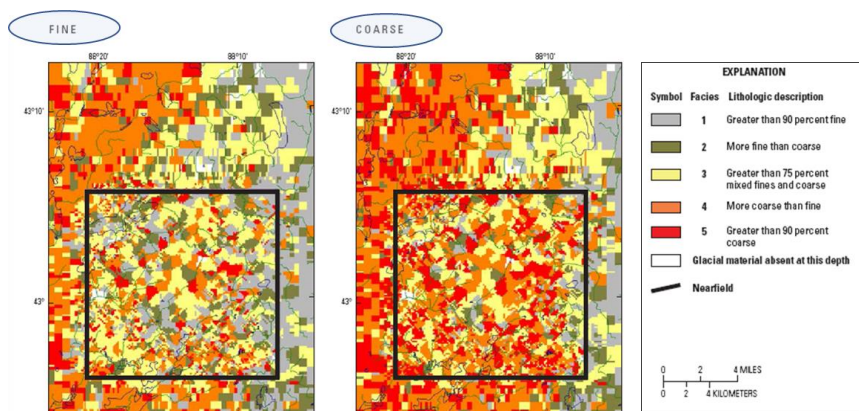
CNR IRSA, Montelibretti  
Sala Riunioni

## One way to handle uncertainty: end-member versions of a groundwater/surface water model for decision support

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After an overview of the sources of uncertainty for groundwater models and a brief discussion of advanced statistical techniques for evaluating uncertainty, a simpler method is presented based on end-member models. The core idea is to create multiple model versions by varying the distribution of inputs whose values are both key to the desired predictions and estimable based on available data. In the case study presented, the model objective is to simulate the interactions between a river and a line of shallow wells proposed for its riparian area. The MODFLOW model predicts how much water the wells would draw from the river. The key input is the connectivity of permeable deposits along the river - one end-member model minimizes this connectivity whereas the second maximizes it. This procedure is then evaluated in terms of the sources of uncertainty first described. The talk concludes with a surprise use to which the models were put by a regulatory agency for actual decision support.

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Il seminario verrà tenuto in italiano.

\* Fruibile in streaming attraverso la piattaforma 'Teams' previa registrazione. Il seminario verrà registrato e reso successivamente disponibile sul sito web dell'Istituto.