



## **uncertainty factors identification from 3D cartography training sessions.**

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This paper presents the feedback experience from twelve 3D cartography training sessions of ten days each with Master students, in the region of Alès (France). This paper aims at analyzing data and models acquired from these different sessions on the same geological objects.

The objective of the training is to reconcile traditional practice of cartography with 3D Geological modelling technics. Students are faced to the exercise of “classical” geology: quality of observations, lithological facies recognition, structures and micro-structures analysis, field data acquisition; as well to the integration of these field data in a 3D Geomodelling system.

The geological model and subsequent map are built in an iterative way by incorporating new data every day. The collective objective is to combine all models from different local areas, in order to obtain a consistent regional model.

Through this work students are sensitized to critical analysis of data, their relevance with respect to a modelling objective, up-scaling issues, estimation of uncertainties and model validation.

Statistical analysis of data covering the different sessions allow to infer different causes of uncertainty (spatial variability) and to estimate the acquisition data errors (human factors).

The analysis of differences and resemblances between models allows discriminating the impact of data variability, the impact of different field interpretations (including fault system interpretation), the necessity to have simplification hypothesis and possible bias on the model. This contributes to identify and classify the uncertainty factors.