



## **The relevance of spatial pattern, temporal scale and the scaling concept when defining sampling strategies for hydromorphological parameters in river restoration projects.**

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Measurement of hydromorphological parameters is required when assessing results obtained with river restoration. The whole restored system cannot be surveyed since this will be highly time and cost consuming. Interpolation techniques (i.e. geostatistical analysis) can help to decrease the number of data points required on the data collection process.

Three main concepts need to be considered when defining hydromorphological sampling strategies for the application of interpolation techniques: the spatial pattern, the spatial scale and the temporal variability. Spatial pattern determines the degree of variability between points collected in a river reach and thus, it provides information on the sampling density that is required to achieve a specific accuracy level on the interpolated surface. Spatial scale defines which level of detail is required by the sampling strategy, providing information on the length of the reach to be sampled. Finally, temporal scale informs on the temporal variability of the system and determines how often the selected reach needs to be sampled for a specific purpose.

This oral contribution presents results obtained from the analysis of depth spatial pattern and depth temporal scale at eighteen river sites. It also provides results obtained from the study of the depth spatial scale at two river sites. Conclusions will be presented as a set of guidelines for data collection of depth hydromorphological parameter for the application of interpolation techniques when assessing river restoration

projects.