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## Statistical downscaling of subdaily temperature and precipitation in the Bârlad catchment (Eastern Romania), by means of artificial neural networks

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Statistical downscaling methods represent useful tools for modelling the relationship between large-scale atmospheric circulation and climatic variables on a regional and sub-regional scale, bridging the gap between predictions of future circulation generated by General Circulation Models (GCMs) and the effects of climate change on smaller areas. This study presents a statistical downscaling model based on a neural network-based approach, by means of multi-layer perceptron networks.

Subdaily temperature and precipitation data series from eight meteorological stations covering the area of the Bârlad river basin (eastern Romania) are used as predictands. Several large-scale predictors (sea-level pressure, temperature at 850 / 700 hPa, specific humidity at 850 / 700 hPa) are tested, in order to select the optimum statistical model for each predictand. Predictors are considered separately or in various combinations.

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