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## Committees of models in hydrologic modeling: boosting, mixtures and trees

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Committees of models (also called modular models, or mixtures of experts) are comprised of a set of specialized ("local") models each of which is responsible for a particular region of input space, and trained on a subset of the training set. Such models are contrasted to the so-called "global" models that are calibrated (trained) on the whole available data. Typically, the member of such committees are data-driven models, that is they are built on the basis of historical data using the methods of machine learning. The known algorithms for allocating such regions typically do this in automatic fashion. Examples are boosting (AdaBoost algorithm) and M5 model trees. In flood forecasting, however, domain experts want to see more physical knowledge behind such allocation, and to have certain control over such allocation and the choice of models. The paper presents main features of some of the approaches to building committees of models, presents an algorithm involving an expert in building data-driven models, and reports case studies in the area of flood forecasting.