**NEW IDEAS**

- The downscaled rain forecasts made by Manzato et al. (2015) were much better than the original ECMWF forecasts in Pre-Alps and Alps area, in particular during October–April, when the DMO had a very pronounced negative bias, but the skill of the statistical models remained relatively low in the coastal and plain areas, in particular during May–September, i.e. during the convective season.

In order to improve further these performances, in this study the authors also included an additional variable (PWC) and orographic (strong flux against mountains) rainfalls play an important role.

- After choosing the best subset of 4 variables for each of the 32 training sets, the same four predictors were used as input of a non-linear model (Artificial Neural Network, ANN). Lastly, a stepwise approach starting from those 4 variables and going up to 8 input variables was tested, always using ANN models. In general, the ANN using the same 4 predictors chosen by the exhaustive linear regression gave slightly better results than the linear version, while adding from 1 to 4 more predictors to the ANN resulted in data overfitting. To prevent a strong overfitting it was necessary to limit the non-linearity of the ANN, fixing the number of neurons in the hidden layer to 2. Some results are shown in Fig. 5.

**REFERENCES**