In this section, a preliminary validation of SAFRAN applied to the NE of the Iberian Peninsula is shown.

Two possible sets of "climatically homogeneous" zones are being tested:

- Defined using the experience of AEMET
- They respect the climatology
- They respect administrative borders
- In each zone the number of stations is larger than 20

The catchment is the natural space unit of hydrology

Region of study: NE of the Iberian Peninsula

Duration: 2007-2010

The following figures and tables show the results of the hydrological year 2009/2010.

1. **Precipitation**
   - The scores were calculated using the same data used to do the analysis, so it is not an independent validation.
   - The precipitation data is divided into three categories: observed data, SAFRAN data, and the model's predictions.

2. **Bias of daily Precip. (mm/day)**
   - The bias is defined as the difference between the observed and predicted precipitation.
   - A day is wet if precipitation > 1 mm/d.

3. **RMSE of daily Precip. (mm/day)**
   - RMSE measures the average magnitude of error in a set of predictions.

The system described, once fully implemented, will also be used to study the impact of climate change. We are currently developing a statistical downscaling system especially suited to the Mediterranean region of the Iberian Peninsula (within the SURFEX project). The downscaling system will use the SAFRAN database as the observational database and will create forcing data suitable for use with SURFEX and any other distributed surface model (including hydrology, agrochemistry, etc.).

**Future work**

- In 2012 we plan to couple SAFRAN-SURFEX to a routing scheme in order to simulate river discharge.

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**References**


