

5. WATER RESOURCES INVENTORY

Conventional water resources

The majority of available water resources in the District are resources generated by the action of the hydrological cycle. Over 80% of the total precipitation returns to the atmosphere as vapour, either by direct evaporation or by the action of plant transpiration. The other resources, either stream on the surface forming the surface run-off, or infiltrate into the ground, recharging the aquifers.

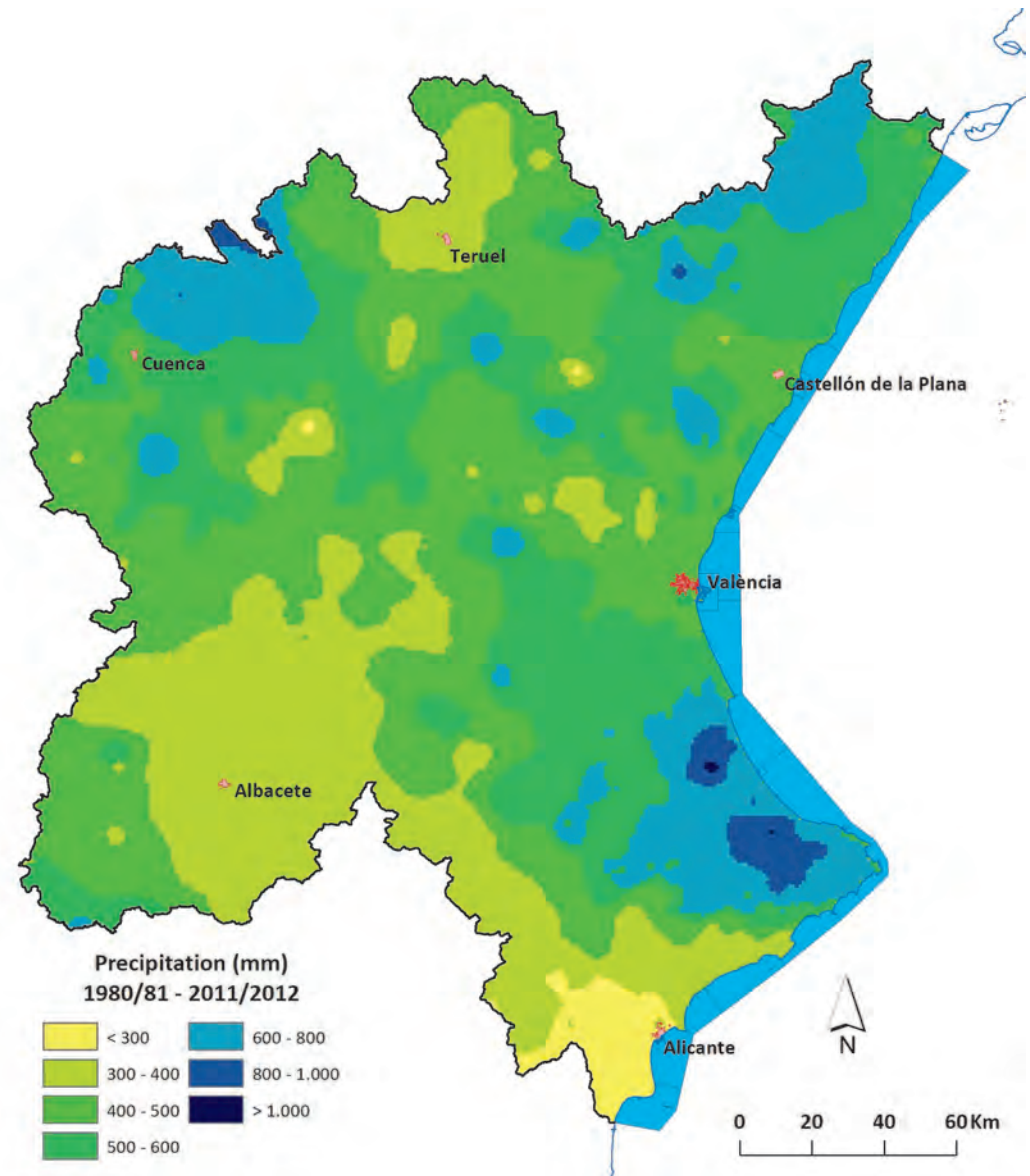
The precipitation varies greatly both in time and space. With regards to the time distribution, the average precipitation ranges between 780 mm annual maximum and up to 300 mm annual minimum, showing values in the last 10 years of 487 mm; similarly, the precipitation varies within the hydrological year, reaching maximum levels in autumn in the coastal strip and in spring in the inland, with minimum precipitation in summer.

The same variability is noticed in terms of spatial distribution, with areas such as Marina Alta with average values of annual precipitation of approximately 730 mm with maximum values of 1,325 mm and areas such as Vinalopó-Alacantí where precipitations are a lot scarcer, showing average annual values of 345 mm and minimum values of 190 mm. The average input of water to the river network is estimated in 3,100 hm³/year.

Non-conventional and external water resources

Water resources coming from the desalination of marine water, from the reuse of urban waste water or from other river basin districts, are also leveraged in the District, although these volumes are relatively small compared to conventional resources. The volume from desalination is, at present, very small, although it is expected to increase shortly once the different infrastructures recently completed are in operation.

The resources from urban waste water reuse reach nowadays around 120 hm³ annually, approximately 25% of the total treated volume. Eventually, external water resources amount to around 80 hm³ annually.



Spatial distribution of total annual precipitation (mm/year) for the period 1980/81–2011/12



Image: Dam in the Júcar River, Alcalá del Júcar

In the JRBD there are nearly 1,200 diversion dams (580 located in water bodies) that enable the use of surface water resources.

Some of these dams are currently out of service.

With the purpose of improving the longitudinal connectivity, the Júcar River Basin Authority (JRBA) is conducting a specific programme of dam permeation in collaboration with NGOs and universities and in accordance with the National River Restoration Strategy.