

TOUR 2

Granada (2 days)

Day 1 –28th September 2019

Bus departure from Málaga at 8:30 am. 2 hours of travel to Sierra de Huétor Natural Park where it will be possible to have a panoramic view of the Depression of Granada and of the Triassic carbonate aquifer. This last system shows a complex geological structure of superimposed nappes affected by fractures and folds causing a large compartmentalization in the aquifer. As a consequence of this there are several springs at very different levels feeding the rivers of the area.

We will visit the main spring of the area, Fuente Grande, located in the village of Alfacar with flows that usually vary between 50 and 250 L/s. From this important spring starts the old Aynadamar ditch (more than 13 km long) which used to supply of water to the old city of Granada during the Moorish period.

Later on we will visit the Albayzín, Granada's old Moorish quarter and UNESCO world heritage site, the last destination of the Aynadamar ditch before to be divided into numerous underground pipes that carried the water to the old cisterns (aljibes), fountains and some private houses.

After lunch, we will enjoy a guided visit to the Alhambra Palace and Generalife gardens (starting at about 3:30 pm), both sites also included in the UNESCO world heritage list.

We will spend night in Granada where we will have the opportunity of enjoying a flamenco show.

Day 2 – 29th September 2019

Departure at 8:30 h from the hotel towards the Granada Mediterranean coast, called "Costa Tropical" (Tropical Coast). This name comes from the subtropical microclimate that prevails in the area characterized by warm temperatures during winter time due to this part of the coast is sheltered from the cold by the summits of Sierra Nevada in the north and in the south by the warm winds of North Africa.

In the route, we will visit the Padul Depression, and the associated groundwater discharge area of a carbonate aquifer. This is a very interesting case from different points of view. The geological context is marked by active tectonics. The hydrogeology of the area shows numerous artesian wells since it is a groundwater discharge zone. The geographical context and historical evolution of the area because, formerly, there was a wetland with associated coal- peat deposits, which was desiccated in the 1779 and recently recovered, currently constituting a wetland of high environmental value.

Later on, at 17 km from the coast we will have a view of the Rules dam in the Guadalfeo River basin. With a capacity of 114 Mm³ it collects the water that comes mainly from the southern slope of Sierra Nevada. It was built for flood lamination purposes and to provide water for

human supply and irrigation, however it also has different negative consequences downstream.

Arriving at the coast we will visit the fertile plain of the Guadalfeo river that is located on the fluvio-deltaic Motril-Salobreña aquifer and where tropical fruits such as “cherimoya” (custard apple), avocado, mango and loquat are grown. It is the most important coastal detrital aquifer in the province of Granada and one of the few Spanish Mediterranean coastal aquifers not affected today by saltwater intrusion; however, the effects of global change are putting this good situation at risk. We will have the opportunity to see artesian wells at only 300 m from the coast and to check the negative effect that the construction of the Rules dam has had on the coastal dynamics in the delta of the Guadalfeo river.

After lunch by the sea we will visit the Arabian Castillo de Salobreña (castle) located in the top of the picturesque village of Salobreña whose white houses cover an small carbonated outcrop completely surrounded by the detrital aquifer. From this point we can enjoy a panoramic view of the coast, Sierra Nevada and the Motril-Salobreña fertile-plain.

We will start the trip back to Málaga bordering the Mediterranean coast, having planned the arrival time around 7pm.

Estimated price: 300 EUR

Including in the trip fare: coffee break of the first day, lunch of the two days (dinner is not included), accommodation in Granada city center, guided visit to the Alhambra, flamenco show, guided visit to the Salobreña castle.