On Wednesday 21 May 2003, at 19h 44m 2s, a destructive earthquake occurred in the Boumerdes region affecting a rather densely populated and industrialized region of about 3,500,000 people. It is one of the strongest recorded seismic events in North Africa. The magnitude was calculated at $M = 6.8$ and a depth of 10 km. The main shock, which lasted about 40 sec, and the two largest aftershocks (both reached $M = 5.8$ on 27 and 29 May 2003) caused the loss of 2,278 lives, injuring more than 11,450, making 250,000 homeless and destroyed or seriously damaged at least 200,000 housing units and about 6,000 public buildings. Estimates put the economic cost of the earthquake as high as US$ 5 billion. Maximum acceleration was recorded at 0.58g at about 20 km and 0.34g at about 60 km from the epicentre. Maximum intensity reached is re-evaluated at $I_0 = X$ (MSK) at Zemmouri, Boumerdes, Bordj-El-Bahri and Dellys. The Wilaya of Boumerdes, including the coastal city of Boumerdes and the eastern part of the capital city of Algiers were most affected by the earthquake. This paper will illustrate all the features observed during this event as damage was observed in most cities from Algiers to Dellys, a distance of about 150 km long and 40 km wide, tsunami, liquefaction, landslides, rockfalls and socio-economic impact. The earthquake triggered a tsunami, which was observed on Southern coast of the Balearic Islands (Spain). A retreat of seawaters in coastal zones of Boumerdes of about 200 meters was observed.