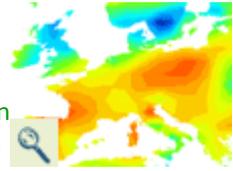


Summer 2003: too hot to handle?

24 Sep 2003



The recent hot weather in the UK, with temperatures in excess of 30 degrees Celsius across much of the country, is reminiscent of the drought years of 1976, 1995 and 1996. But why haven't we experienced the same kind of impacts as these previous years, such as water shortages and massive crop failures? Experts say that because winter and spring rains (remember the floods we seem to have every winter?) were near normal, levels of soil moisture, groundwater, reservoirs, rivers and lakes were relatively high before the unusually dry period began. However the south east of



the UK did experience a moderate water shortage. [Recent hosepipe bans imposed in Kent and in Jersey confirm this.](#) Interestingly, no such restrictions were imposed on neighbouring Guernsey where reservoir levels are reported to be at 92 percent of full capacity, highlighting the importance of infrastructure and resource management in maintaining water supply.

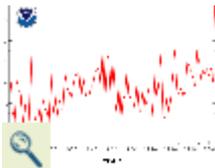
The same is not true for many of our European neighbours, some of whom experienced their worst water shortages for over 10 years. The map below illustrates the continental rainfall budget for the summer months of 2003. Red shading indicates drought and blue shading an excess of precipitation. The Standardised Precipitation index is calculated in a way that allows us to compare drought impact between regions of historically high and low rainfall. Numerically, droughts of intensity -1 and -2 units can be expected once every 10 and 50 years respectively. It can be seen that severe droughts were affecting much of Europe and hitting Poland, Germany, France, northern Italy and parts of Spain.

Unusually high temperatures and evaporation rates have exacerbated the effects of the water shortage in western Europe. Impacts in France and Italy have been particularly severe.

	July Avg Temp(1961-1990 Mean) °F	July 2003 Avg Max Temp (° F)	No.days over 90°F July 2003
UK,London	71.1	73.0	0
France,Paris	75.2	79.3	3
Italy,Rome	88.2	93.8	22

Source:NOAA

[In France, the summer was declared the hottest since at least World War II \(BBC News\)](#)



Average temperatures across France were the warmest on record for the June-August period.

Health ministry officials in [France announced that over 11,000 people had died](#) of heat-related causes during the period from late July through mid August (Reuters/Associated Press). In Slovenia, temperatures reached their highest levels of the past 100 years (diasterrelief.org). [Wildfires broke out](#)

from Portugal to eastern Russia, with 5 fatalities attributed to fires that burned in parts southern France (BBC News).

In Switzerland, boulders in a rock face on the Matterhorn were released by the accelerated melting of ice at a height of 3,400 meters (11,220 feet), causing a huge rockfall that required the rescue of 40 climbers and the closing of the entire mountain to climbers for five days (WMO/MeteoSuisse). The Danube, which flows across 10 European countries, and is also an essential source of electricity, supplying water to hydroelectric and nuclear power plants across the region, is at its lowest in 160 years, reported Associated Press. The river Po, which traverses the north of Italy from west to east and is vital supply for agriculture, was at its lowest for a century. Vegetables and fruit prices could rise about 5 to 20 percent; and according to the Italian Confederation of Farmers, damage to Italian agriculture amounts to 5 billion Euros, said CNN Italia's correspondent in Milan. Agricultural impacts have been felt across Europe and farm lobby groups in the European Union say the drought has cost more than 6 billion Euros in losses.



Other impacts have included power cuts and fishing bans. River transportation has been hampered as falling levels force ship owners to reduce their loads.

Sources: Ben Lloyd - Hughes, Benfield Hazard Research Centre, UCL; NOAA National Climatic Data Center