Heat and drought 2003: a climate analysis

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Summer 2003 was exceptionally hot and dry in summer 2003 over Western Europe. The temperature analysis shows that the 3 months period June – July – August had never been so hot. June and August were hottest. On an average value, the hottest place was centred over a region stretching from France to Northern Italy, Western Switzerland and Germany. But the heat concerned a wider area, ranging from Spain to Hungary and from Iceland to Greece.

The drought culminated in August, but precipitation sums had been below average since the beginning of the year and stayed largely below the long-term normal values long after. Insolation was clearly above normal during all of the year 2003, while air humidity was clearly below normal.

Here we analyse the intensity of the heat and drought 2003 and compare it to normal and record values from previous years. Our perspective is that of possible consequences on forest ecosystems. We also put it into a long-term perspective within trends of observed climate change. Although the temperatures were clearly exceptional in summer 2003, they were less so compared to normal values of the turn of the 21st century than they would have been in the beginning of the 20th.