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Drought Returns to the United Kingdom*

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The privatization of the water industry in 1989 heralded a new era in water management in England and Wales, but it also coincided with the beginning of a period of volatile climatic patterns that have served to strongly underline a continuing vulnerability to unusual weather patterns. Following the very protracted drought that lasted until late 1992 in parts of eastern England, the resilience of water supply arrangements in the United Kingdom was again severely tested during a remarkably dry five-month spell beginning in the early spring of 1995. The water resources outlook at the beginning of this period was exceptionally healthy—reservoirs were at capacity and ground water levels were close to seasonal maxima following the wettest 30-month sequence in the entire British rainfall series, which extends back to 1869. However, the subsequent transformation in hydrological conditions has few, if any, modern parallels. For much of the spring and most of the summer, a northward extension of the Azores high pressure cell served to deflect most rain-bearing frontal systems and bring subtropical air masses across the British Isles. Rainfall deficiencies built up quickly and a heat wave through-out much of July and August produced a marked intensification in drought conditions. August rainfall totals were less than 15% of average over wide areas, and the mean temperature established the month as the second warmest in the 337-year Central England Temperature series.

Rainfall figures for the drought period indicate that the summer (June–August) failed only marginally to eclipse 1976 as the driest in the full England and Wales series (from 1767). However, with Scotland registering its second driest summer on record, the June–August rainfall total for Britain has established a new summer minimum. In the five-month time frame, the aridity of England and Wales was even more exceptional: the April–August rainfall total is the lowest for any five-month sequence in more than 200 years. This produced considerable consumer resentment, but the use of some resource management purposes is of the right order. However, consumer tolerance of demand management measures may be changing; importantly, the climatological backcloth may also be changing. Summer rainfall and temperature anomalies plotted for England and Wales over the last 20 years show a distinct clustering in the warm/dry quadrant. Singular as the conditions experienced in the spring and summer of 1995 have been, passable rehearsal occurred in 1994 (briefly), 1990, 1989, and 1983, suggesting that the historical rarity of drought events may no longer be a reliable guide to their contemporary frequency.