

North Wyke Farm Platform

Research case study no. 3

Long term climate records at the North Wyke site

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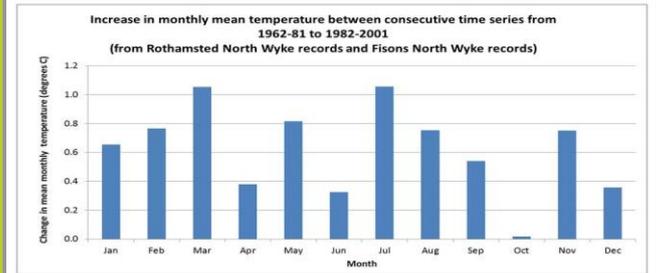
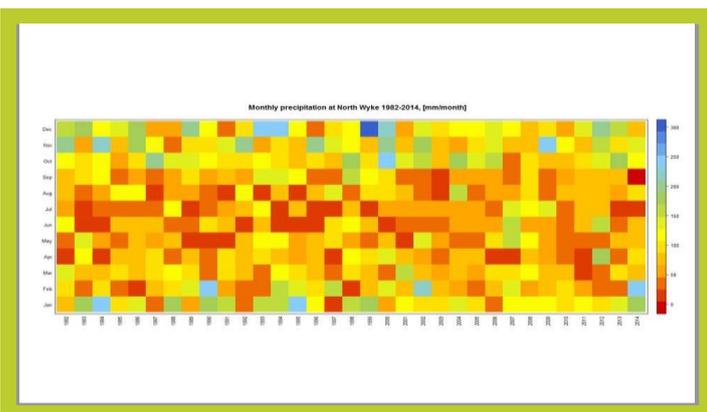
Daily weather has been recorded manually at North Wyke since 1982 and an automated weather station has been recording data in digital output since 2000, providing data on precipitation, minimum and maximum temperature, humidity and windspeed. In addition, sunshine hours were recorded from January 1982 to December 2011; wind direction has been recorded from January 2011 to present; and radiation has been recorded from January 2001 to present. The weather data has been quality controlled; including the simple infilling of missing data (only for a maximum of two consecutive days using means of neighbouring values). Currently this only concerns 23 days out of the full duration of 12054 days.

Extremes

The highest temperature on record occurred on 26/08/1991, reaching 35.1 °C. The coldest temperature occurred on 22/12/2010 falling to -11.0 °C. The highest daily rainfall was 73.7mm recorded on 29/10/2000; during a particularly intense storm event.

Trends over the 1982-2014 record

The figure (lower left) shows a record of the monthly precipitation with years on the x-axis and months on the y-axis. There are no statistically significant (increasing or decreasing) trends in precipitation over the 33 year record. Statistically significant trends are present however, for an increase in minimum temperature, but for spring and autumn only. The figure (lower right) shows a record of the monthly minimum temperature in degrees Celsius.



Earlier Fisons 1962-1981 weather records

The previous occupants of the North Wyke site were Fisons Fertilizers. From old reports, we have (12 values of) monthly mean temperatures covering the 19 year period 1962-1981, along with total precipitation data.

Whilst this highly-averaged data needs to be viewed with some caution when compared to the more recent weather data, a comparison in monthly mean temperatures is presented in the figure (top right), where we compare the 1962-1981 monthly means with monthly means for an equivalent time period using the more recent data (1982 to 2001). All months have an increase in temperature in the later time series; most months except October have increased by over half a degree Celsius.

The 1962-81 records of monthly precipitation totals show mean annual precipitation total (1038mm) to be less than the 1982-2001 series (1071mm), but later years since 2001 have shown reduced precipitation totals similar to the 1962-81 data.

