

Creating a Heathrow Weather History from London Weather Centre Data (LWC)

Background

- LWC temperatures & wind speeds used to create CWV for NT, EA & SE
- Present:
 - LWC is due to cease operation in 2006
 - The Met. Office recommend Heathrow as a suitable replacement for LWC
 - Northolt is recommended as a backup for Heathrow
- Longer Term:
 - The Met Office propose to set up a new station at Kew
- Require a backfilled Heathrow weather history starting in April 1928 for gas demand modelling purposes
- Presentation: equations to be used to convert the LWC weather history (Temp and wind speed) to a Heathrow weather history
- Heathrow - close, stable site, had a weather station for many years
- Analysis
 - temperatures from October 1986
 - wind speeds from October 2001

Location of Weather Stations

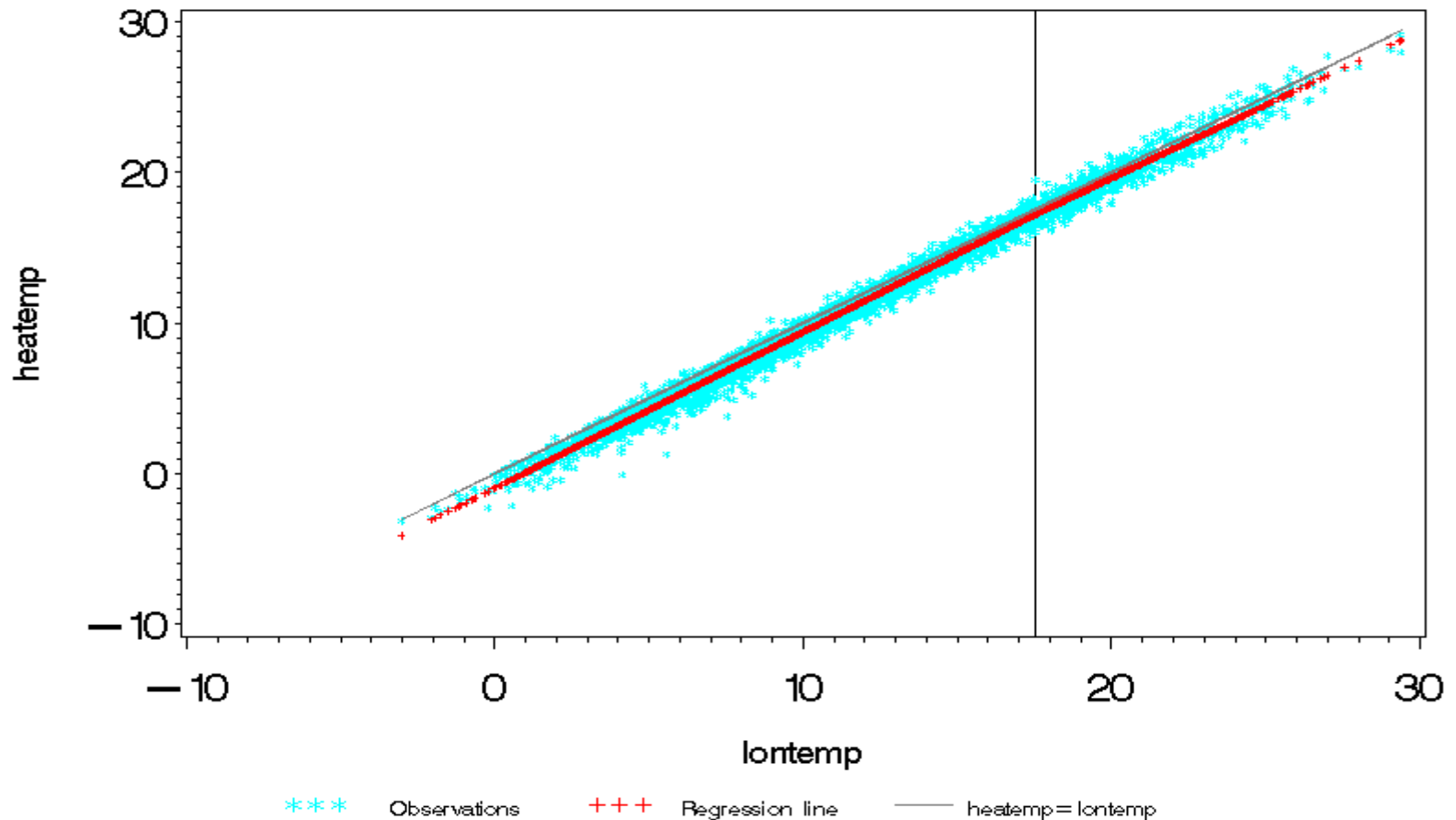


Source: <http://www.metoffice.gov.uk/weather/europe/uk/southeast.html>

Heathrow Daily Temperatures

Heathrow temperatures

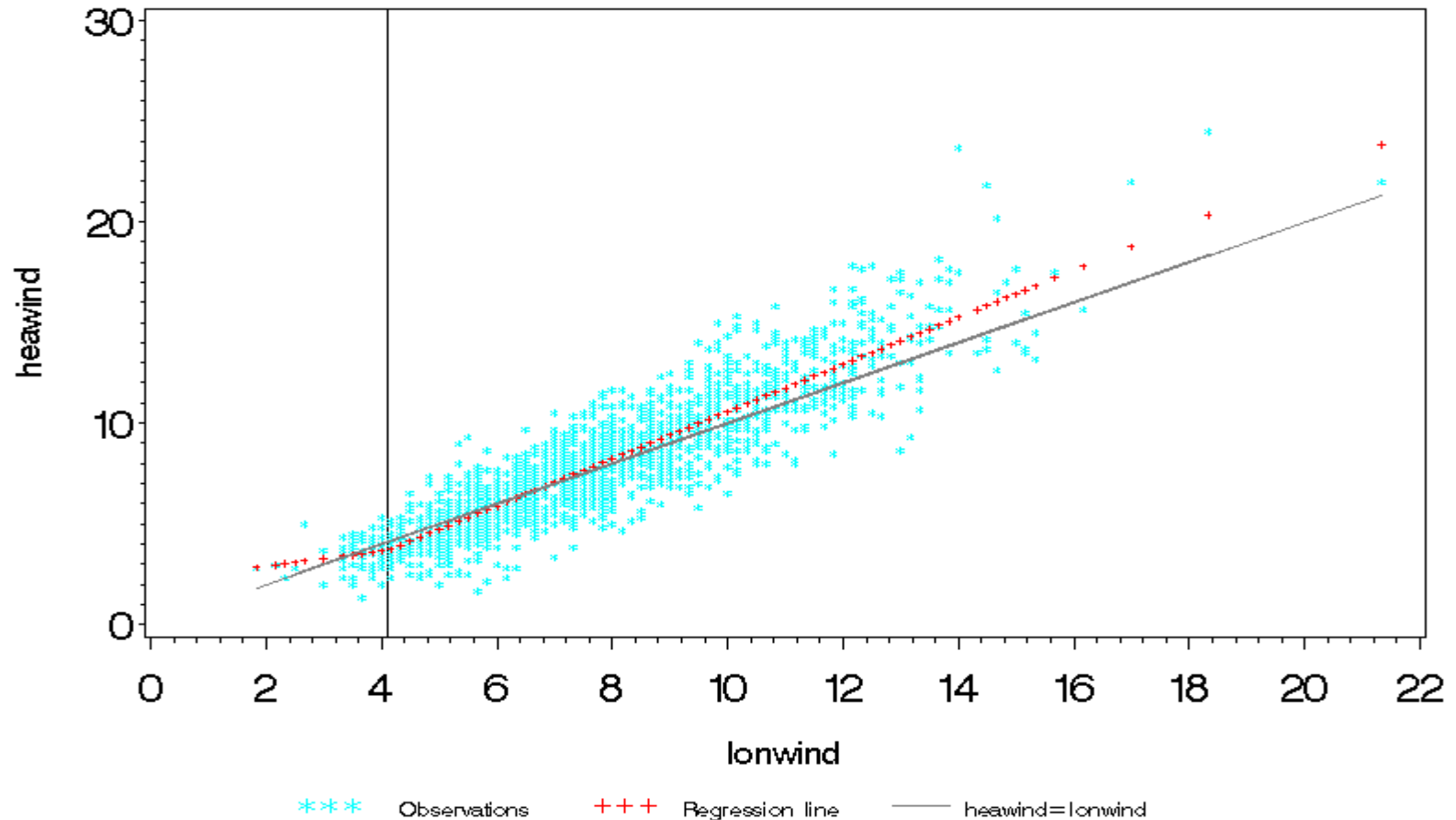
$$\text{heatemp} = 0.1892 + 0.972 * \text{lontemp} + -0.0642 * \max(0, 17.5 - \text{lontemp})$$



Heathrow Daily Wind Speeds

Heathrow wind speeds

$$\text{heawind} = -1.1265 + 1.17 * \text{lonwind} + 0.8076 * \max(0, 4.1 - \text{lonwind})$$



Backfilling Equations

To Derive Weather History For Heathrow

- Daily Temperatures

$$\text{Heathrow} = 0.1892 + 0.9720 * \text{London} \\ - 0.0642 * \max(0, 17.5 - \text{London})$$

- Daily Wind Speeds

$$\text{Heathrow} = - 1.1265 + 1.1700 * \text{London} \\ + 0.8076 * \max(0, 4.1 - \text{London})$$