





Speedwell Weather Derivatives Data Services

Introduction

Speedwell Weather Derivatives (SWD) supplies historical and real time weather data feeds for thousands of sites across the globe. SWD has direct data supply agreements with a range of national meteorological services and provides a single-point of contact for the provision of official weather data to the energy, commodity and weather derivative markets. We offer a particularly extensive range of data for Europe, the USA, Canada and Australia. SWD has been supplying official settlement data used in the European weather derivative market since 2001.

Historical Weather Data

SWD maintains a catalogue of historical data sets with a typical minimum length of 40 years and can also supply daily or monthly updates. Datasets typically include daily values of temperature maximum and minimum, rainfall, wind speed, sea level pressure and ,where available, sunshine. We are able to provide data on request for other sites. We are able to supply official Climate data for a large number of European countries: this is quality controlled at source by each national meteorological service to ensure that data is of the highest quality available.

WMO_NO SRC	ID CITY	STN_NAM TYPE	QC	L	AT	LONG	ALT		DATE	DAILY_RAIN DA	ULY_MAX	DAILY_MIN	DAILY_MEAN_WIND	12Z_MSLP	12Z_REL_HUM	SUNSHINE
3772	708 LONDON	HEATHRO CLMATE		2	51.483	-0.45		25	01/01/1961	8.3	7.9	-0.2	6	1009	75.4	3.4
3772	708 LONDON	HEATHRO CLMATE	3	2	51.483	-0.45		25	02/01/1961	2.1	6.7	1.7	6	994.8	84.9	0
3772	708 LONDON	HEATHRO CLIMATE	3	2	51.483	-0.45		25	03/01/1961	0.8	5	-1	6	980.1	78	2
3772	708 LONDON	HEATHRO CLMATE	8	2	51.483	-0.45		25	04/01/1961	0	5.6	1.9	7	995.2	78.1	1.1
3772	708 LONDON	HEATHRO CLMATE		2	51.483	-0.45		25	05/01/1961	6.7	6.9	-1.8	5	1013.4	80.1	1.3
3772	708 LONDON	HEATHRO CLMATE		2	51.483	-0.45		25	06/01/1961	0	6.8	-0.3	8	997.7	75.4	1.8
3772	708 LONDON	HEATHRO CLIMATE		2	51.483	-0.45		25	07/01/1961	3.5	6.7	-1.1	4	1016	79.3	2.3

Example Data delivery sample

Rolling-90-Day Data Service and settlement files

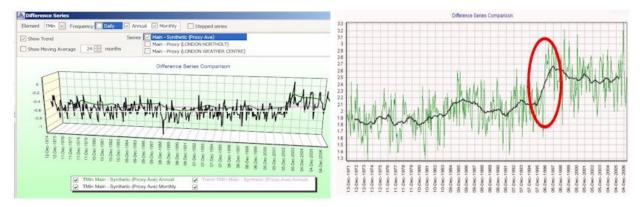
The Rolling 90-Day Data Service is a data feed containing the last 90 days' of both official climate and SYNOP data. It is updated in real time reflecting any changes as a result of quality control as they are released by the respective national meteorological services. The service is delivered by FTP and through the Speedwell web site. The Rolling 90 feed is used by energy and weather derivative participants where it is used to produce partial index values within a weather derivative contract period and for the final settlement of weather derivative contracts. To accompany the Rolling-90-Day service, an end-of-month summary is available five days after the end of a month (using SYNOP data) together with official monthly climate summaries as released by each national meteorological service. The settlement file is used for maintaining historical archives with the highest quality historical data available.





Speedwell Recalibrated Data Sets

The Speedwell Recalibrated Data Sets re-base historical temperature data for important reference sites by adjusting for known or observed discontinuities that have accumulated over the life time of the observations. Discontinuities may arise from instrumentation changes or changes to the location of the measuring instruments.



Critical for pricing weather derivatives where such adjustments are financially material in modeling current behaviour of a reference site, the product is also important for energy demand modelers and those seeking a precise understanding of current "climatology" at a given site.

Discontinuities are found through extensive research into the reference site and by statistical inference. Each reference site is compared with a specially generated "synthetic site" made from a weighted basket of neighboring stations.

Speedwell Recalibrated histories are provided as a subscription service. This ensures that the data set remains up to date with latest changes. Included is the Recalibrated historical data set itself, and its original unadjusted data series, as well as extensive historical weather station meta data information documenting known site or instrumentation changes. The data set is updated every six months to reflect latest developments at the reference site. Monthly reports are also provided which review the latest behaviour of each reference site, recent known site changes and any information about future reference site changes. In addition, the relationship between each reference site and its synthetic may be monitored in real time through the Speedwell web site allowing the user to graphically view daily and moving-average performance of the reference site versus its synthetic as well as view data in tabular form to easily see significant transitions.

Speedwell Recalibrated Data Set are available as packs covering CME weather derivative reference sites and a number of other sites in Europe and Australia. Speedwell are also pleased to meet specific client needs for recalibrate of specific sites on request.



A separate document describing Recalibrated Datasets is available.





Data Consultancy

Using our experience and extensive range of data suppliers around the world Speedwell Weather is able to provide advice on a wide range of data issues including:

- > Data availability and sourcing including Climate and/or SYNOP data
- > Provide information about data quality, prices, delivery timescales, suitability
- > Discuss alternate sources of data, synthetic substitutes
- > Provide data cleaning and filling of missing data points
- Formatting and handling
- > Recalibration of historical data sets on request to take into account discontinuities at the reference site.

Delivery

All data products are delivered electronically in .csv format via FTP or through the web. Updates are made available through the data as new data becomes available.

Data Integration with the Speedwell Weather System, SWS

All data provided by Speedwell can be formatted to suit the user's needs. However, the standard data format is directly compatible SWS for automatic import. SWS is the pre-eminent weather derivative pricing and risk management system. For more information about SWS please see <u>www.SpeedwellWeather.com</u>

Contact Us

Regarding world-wide weat Phil Hayes David Whitehead (USA)	her data and forecast matters please see <u>www.SpeedwellWeather.com</u> or contact: <u>phil.hayes@SpeedwellWeather.com</u> <u>david.whitehead@SpeedwellWeather.com</u>
Telephone:	
UK office:	+44 (0) 1582 465 551
US office:	+1 (0) 703 535 8801
Regarding software and cor Stephen Doherty Dr Michael Moreno David Whitehead (USA)	nsultancy services please see <u>www.SpeedwellWeather.com</u> or contact: <u>stephen.doherty@SpeedwellWeather.com</u> <u>michael.moreno@SpeedwellWeather.com</u> <u>david.whitehead@SpeedwellWeather.com</u>
Telephone:	
UK office:	+44 (0) 1582 465 569
US office:	+1 (0) 703 535 8800
Address UK: Address USA:	Mardall House, Vaughan Rd, Harpenden, Herts, AL5 4HU 101 N Columbus Street, Second Floor, Alexandria VA 22314 USA