

Speedwell Weather



Speedwell Weather
Speedwell Weather System



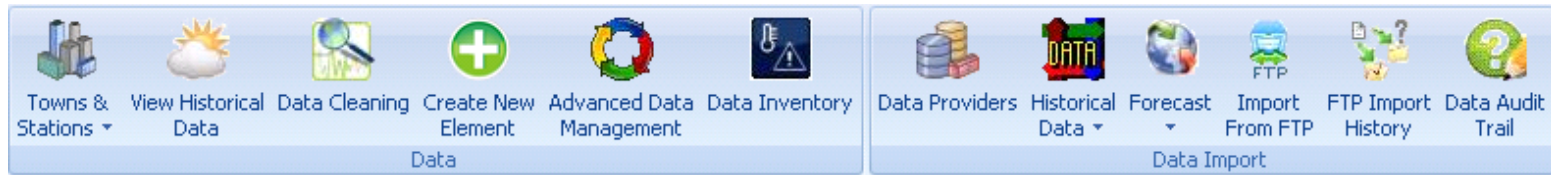
SWS Data Store



SWS Data Store

- SWS Data Store is an enterprise client-server software package designed to store large volumes of weather data and weather forecasts and other time-series data.
- SWS comprises a server application and data base with desk-top applications that allow the user to query, compare, analyse, visualise and export data.
- Weather data is stored respecting the numerous different data quality types (eg Synop / Climate / Cleaned etc) for an unlimited number of standard and user-defined weather variables.
- Database structure supports metadata and information flags for each data point.
- SWS stores both ensemble and deterministic forecasts. Ensemble forecasts may comprise any number of members of any length (eg 51 member ECMWF, 9 member GFS, 15-day, monthly, seasonal etc).
- SWS Data Store handles data and forecast feeds from many service providers, allowing the user to compare forecasts and data from a variety of sources in a single application.
- Data and forecasts automatically imported to the database around the clock to ensure that the most up to date information is always available.

- Hourly Wind Dir
- Hourly Wind 2 Min Dir
- Hourly Wind 5 Sec
- Hourly Wind 5 Sec Dir
- Hourly Wind Ave
- Hourly Wind Max
- Hourly Wind Max Gust
- Hourly Wind Power
- Hourly WindDirection
- Hourly WindMovement
- HumidEx
- Humidity Ave
- Humidity Max
- Humidity Min
- Hydro Generation
- Magnetic
- Maintenance Indicator
- Max Temp Water in Evap Pan
- Min Temp Water in Evap Pan
- Ozone
- Precip Averaged
- Precip. Water Eq.
- Pressure Ave
- Pressure Max
- Pressure Min
- Pressure Sea Level
- Rain
- Rain Cumulative 12 Hrs_GMT
- Rain Cumulative 24 Hrs_GMT
- Rain Cumulative 3 Hrs_GMT
- Rain Cumulative 6 Hrs_GMT
- Rain Unknown Period_GMT
- Relative Humidity
- Resultant Wind Direction





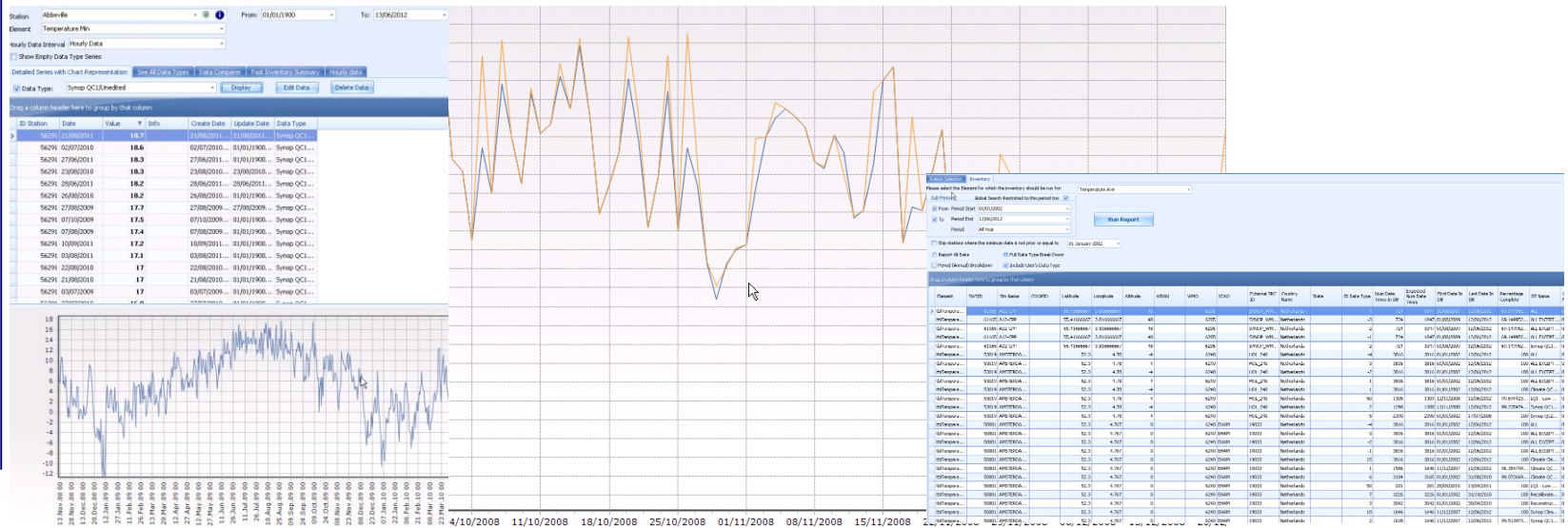
SWS Data Store

- SWS is a fully scalable system capable of meeting the requirements of the largest corporate weather data user: We have users running from 10 to over 100,000 weather data sites.
- SWS can support any date/value time series, not just weather data.
- SWS supports daily, hourly and sub hourly time series.
- A full audit trail showing any weather data changes over time (eg revised data points) is provided.
- SWS is an open system. Data and software components can be accessed via API.
- SWS is secure and operates a comprehensive permission based access structure.
- System easily configured to support new data and forecast feed formats.
- SWS can be installed locally within the client network or may be hosted by Speedwell.
- SWS Data base and applications come with full technical support and training.



Weather Data Tools

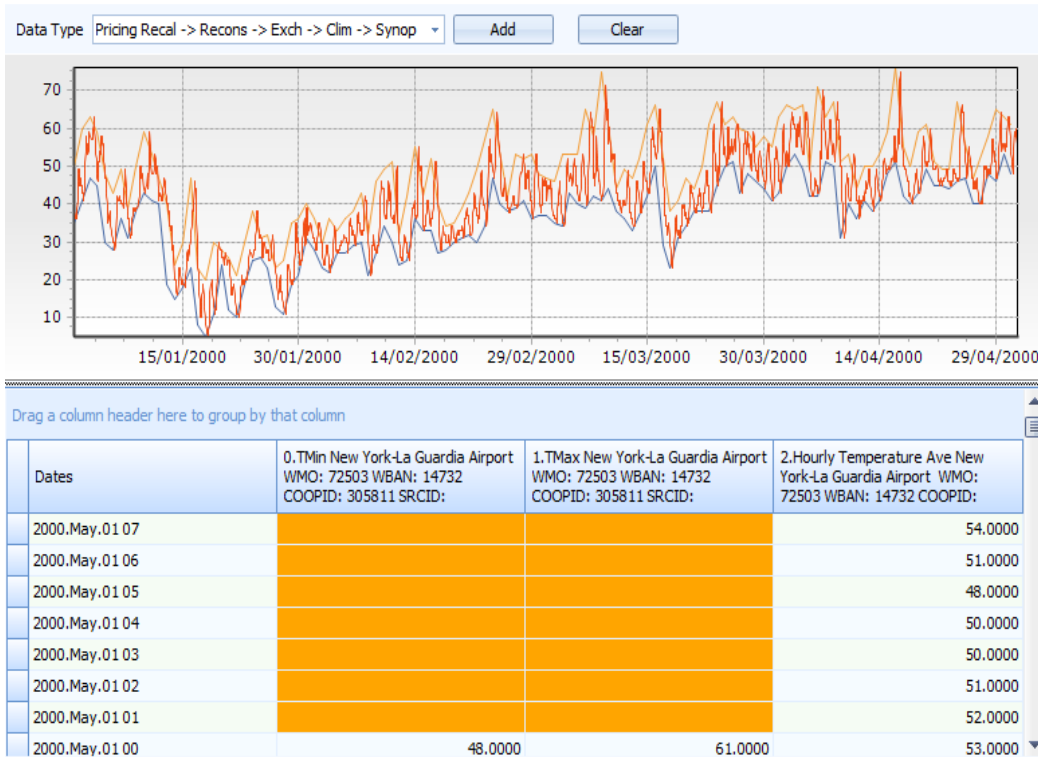
- Data viewer allows easy viewing of data series, in both graphical and tabular formats.
- Data Inventory
- Weather data comparator: allows easy comparison of two data sets to detect differences
- Missing data report: run to generate a quick summary highlighting where data is incomplete
- Data verification tools: automatically checks weather data for plausibility reporting on points that fail user-configurable criteria for acceptability (e.g. divergence from average)





Weather Data

Plot Daily and Hourly Data



View Pivot Hourly data tables

- Export to Excel
- Save to Excel
- Save to CSV
- Copy to Clipboard

All data is a single click away from Excel

| Year | Month | Day | 0 | 1 | 2 | 3 | 4 | 5 |
|------|-------|-----------|-------|-------|-------|-------|-------|---|
| 2000 | 1 | 21 | 25.00 | 25.00 | 23.00 | 22.00 | 21.00 | |
| | | 22 | 12.00 | 11.00 | 11.00 | 11.00 | 11.00 | |
| | | 23 | 19.00 | 20.00 | 20.00 | 20.00 | 20.00 | |
| | | 24 | 26.00 | 26.00 | 26.00 | 26.00 | 27.00 | |
| | | 25 | 32.00 | 31.00 | 31.00 | 31.00 | 31.00 | |
| | | 26 | 28.00 | 28.00 | 26.00 | 26.00 | 25.00 | |
| | | 27 | 23.00 | 22.00 | 21.00 | 20.00 | 19.00 | |
| | | 28 | 14.00 | 13.00 | 13.00 | 12.00 | 12.00 | |
| | | 29 | 19.00 | 19.00 | 19.00 | 20.00 | 20.00 | |
| | | 30 | 28.00 | 27.00 | 25.00 | 25.00 | 24.00 | |
| | | 31 | 35.00 | 39.00 | 39.00 | 37.00 | 35.00 | |
| | | 1 Count | 31 | 31 | 31 | 31 | 31 | |
| | | 1 Average | 30.94 | 30.74 | 30.39 | 30.03 | 29.68 | |
| | | 1 StdDev | 12.23 | 12.54 | 12.75 | 12.91 | 12.92 | |
| | | 1 Min | 9 | 8 | 7 | 7 | 6 | |
| | | 1 Max | 58 | 58 | 58 | 58 | 57 | |
| | 2 | 1 | 31.00 | 30.90 | 30.00 | 30.00 | 28.90 | |
| | | 2 | 30.00 | 28.00 | 27.00 | 26.10 | 25.00 | |

View Pivot Hourly data tables



Forecasts

View available forecasts

Weather Forecasts | Weather Stations List | Historical Data Viewer

Forecast Verification | Maxi Plotter

Available Forecast | Forecast Viewer | Distributions | Degree Days Forecast | Verification

Filter

Station: LONDON HEATHROW

Issue Dates: 07/06/2012 to 10/06/2012

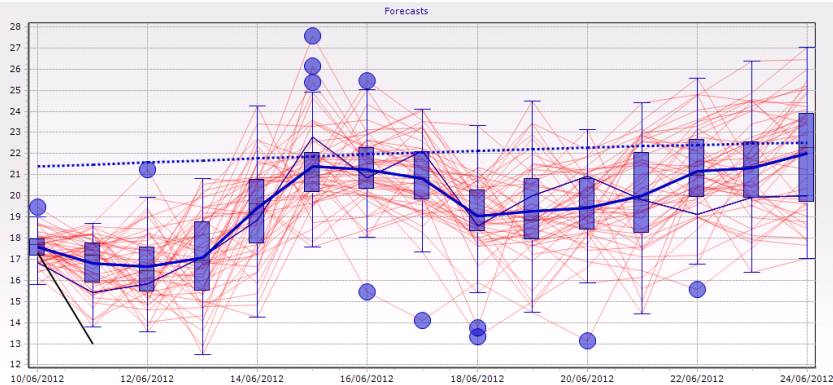
Element: Temperature Max

Provider: Speedwell ECMWF Ens AVG

Length: 15 days

List Forecasts | Load Selected Forecast

| Station | Element | Number of Members | Country | WMO | WBAN | Length | Provider | Time Run | Issue Date |
|-----------------|-----------------|-------------------|----------------|------|------|--------------------|-----------------------|----------|------------|
| LONDON HEATHROW | Temperature Max | 51 | United Kingdom | 3772 | | Medium (6-20 days) | ECMWF | 0 | 07/06/2012 |
| LONDON HEATHROW | Temperature Max | 51 | United Kingdom | 3772 | | Medium (6-20 days) | ECMWF | 0 | 08/06/2012 |
| LONDON HEATHROW | Temperature Max | 51 | United Kingdom | 3772 | | Medium (6-20 days) | ECMWF | 0 | 09/06/2012 |
| LONDON HEATHROW | Temperature Max | 51 | United Kingdom | 3772 | | Medium (6-20 days) | ECMWF | 0 | 10/06/2012 |
| LONDON HEATHROW | Temperature Max | 51 | United Kingdom | 3772 | | Medium (6-20 days) | ECMWF ENS RAW OUTPUT | 0 | 07/06/2012 |
| LONDON HEATHROW | Temperature Max | 51 | United Kingdom | 3772 | | Medium (6-20 days) | ECMWF ENS RAW OUTPUT | 0 | 08/06/2012 |
| LONDON HEATHROW | Temperature Max | 51 | United Kingdom | 3772 | | Medium (6-20 days) | ECMWF ENS RAW OUTPUT | 0 | 09/06/2012 |
| LONDON HEATHROW | Temperature Max | 51 | United Kingdom | 3772 | | Medium (6-20 days) | ECMWF ENS RAW OUTPUT | 0 | 10/06/2012 |
| LONDON HEATHROW | Temperature Max | 1 | United Kingdom | 3772 | | Medium (6-20 days) | ECMWF OPERATIONAL RAW | 0 | 07/06/2012 |
| LONDON HEATHROW | Temperature Max | 1 | United Kingdom | 3772 | | Medium (6-20 days) | ECMWF OPERATIONAL RAW | 0 | 08/06/2012 |
| LONDON HEATHROW | Temperature Max | 1 | United Kingdom | 3772 | | Medium (6-20 days) | ECMWF OPERATIONAL RAW | 0 | 09/06/2012 |
| LONDON HEATHROW | Temperature Max | 1 | United Kingdom | 3772 | | Medium (6-20 days) | ECMWF OPERATIONAL RAW | 0 | 10/06/2012 |
| LONDON HEATHROW | Temperature Max | 21 | United Kingdom | 3772 | | Medium (6-20 days) | GFS Ensemble | 0 | 07/06/2012 |
| LONDON HEATHROW | Temperature Max | 21 | United Kingdom | 3772 | | Medium (6-20 days) | GFS Ensemble | 0 | 08/06/2012 |
| LONDON HEATHROW | Temperature Max | 21 | United Kingdom | 3772 | | Medium (6-20 days) | GFS Ensemble | 0 | 09/06/2012 |
| LONDON HEATHROW | Temperature Max | 21 | United Kingdom | 3772 | | Medium (6-20 days) | GFS Ensemble | 0 | 10/06/2012 |
| LONDON HEATHROW | Temperature Max | 1 | United Kingdom | 3772 | | Medium (6-20 days) | GFS Operational | 0 | 07/06/2012 |
| LONDON HEATHROW | Temperature Max | 1 | United Kingdom | 3772 | | Medium (6-20 days) | GFS Operational | 0 | 08/06/2012 |
| LONDON HEATHROW | Temperature Max | 1 | United Kingdom | 3772 | | Medium (6-20 days) | GFS Operational | 0 | 09/06/2012 |



Plot, overlay and verify forecast

Weather Forecasts | Forecast Verification | Maxi Plotter

Available Forecast | Forecast Viewer | Distributions | Degree Days Forecast | Verification

Drag a column header here to group by th

Predefined | Add Box Plot | Add Average | Add Median | Add Each Member | Add Member 1

Add Historical Data | Climatology | Force Series Color | 0, 0, 192 | Clear

| M... | Date | Value |
|------|------------|------------|
| 1 | 01/01/2012 | 22.7695... |
| 1 | 02/01/2012 | 21.4390... |
| 2 | 01/01/2012 | 35.6888... |
| 3 | 02/01/2012 | 39.0308... |
| 4 | 03/01/2012 | 41.0554... |
| 5 | 04/01/2012 | 37.2609... |
| 6 | 05/01/2012 | 25.3102... |
| 7 | 06/01/2012 | 27.1981... |
| 8 | 07/01/2012 | 32.4110... |
| 9 | 08/01/2012 | 26.9386... |
| 10 | 09/01/2012 | 29.2126... |
| 11 | 10/01/2012 | 25.0026... |
| 1 | 13/01/2012 | 30.3454... |
| 1 | 14/01/2012 | 30.0615... |
| 2 | 01/01/2012 | 22.6890... |
| 2 | 02/01/2012 | 21.4743... |
| 2 | 03/01/2012 | 38.5070... |
| 2 | 04/01/2012 | 36.3369... |
| 2 | 05/01/2012 | 37.0241... |
| 2 | 06/01/2012 | 37.3789... |
| 2 | 07/01/2012 | 27.1405... |
| 2 | 08/01/2012 | 25.3873... |
| 2 | 09/01/2012 | 30.6775... |
| 2 | 10/01/2012 | 31.3004... |
| 2 | 11/01/2012 | 17.3986... |
| 2 | 12/01/2012 | 13.0355... |
| 2 | 13/01/2012 | 24.0867... |
| 2 | 14/01/2012 | 30.4159... |
| 3 | 01/01/2012 | 22.8970... |
| 3 | 02/01/2012 | 21.7711... |
| 3 | 03/01/2012 | 35.0616... |
| 3 | 04/01/2012 | 37.6034... |
| 3 | 05/01/2012 | 46.5755... |

Forecast for Bismarck Municipal Airport - TAve. Issue Dat

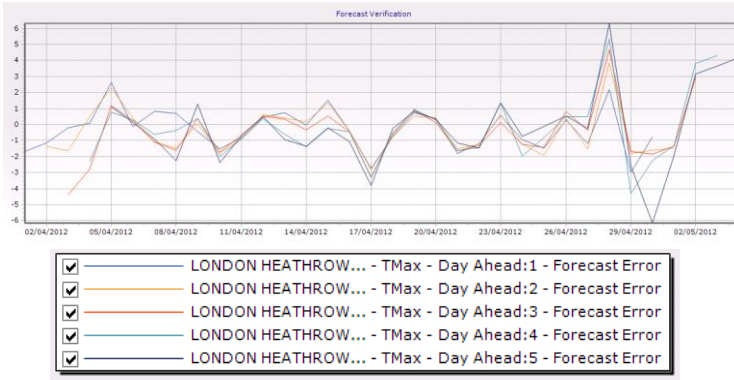
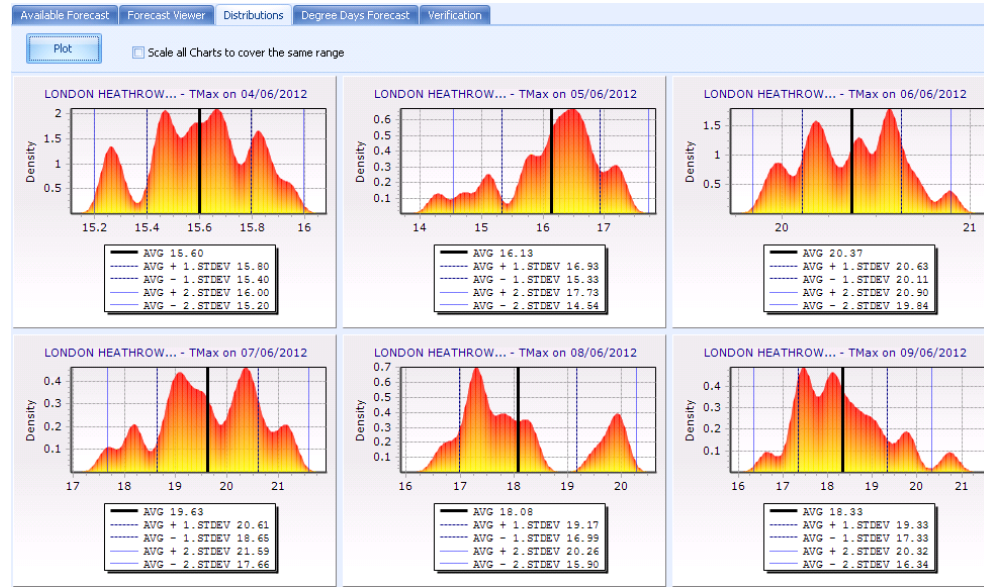
Generate box plots, show all members, show climatology, show actuals ...





Forecasts

View probability distributions



Run verification and view results graphically

| ID Ensemble | Station | Issue Date & Time Run | Forecast Day Ahead | Measure Date | Climatology Value | Measure Data Type | Measure Value | Forecast Value | Forecast Error | Forecast Min | Forecast Max | In Min-Max Range | Forecast Q1 | Forecast Q3 | In Q1-Q3 Range | Climatology Error | Forecast Abs. Error | Climatology Abs. Error |
|-------------|-----------------|-----------------------|--------------------|--------------|-------------------|-------------------|---------------|----------------|----------------|--------------|--------------|------------------|-------------|-------------|----------------|-------------------|---------------------|------------------------|
| 17471 | LONDON HEATHROW | 01/04/2012 | 10 | 10/04/2012 | 15.08 | 15 | 14.80 | 13.83 | -0.97 | 9.4 | 19.4 | 1 | 12.05 | 15.35 | 1 | 0.28 | 0.97 | 0.28 |
| 17491 | LONDON HEATHROW | 02/04/2012 | 10 | 11/04/2012 | 15.22 | 15 | 14.10 | 13.59 | -0.51 | 7.4 | 18.5 | 1 | 12.1 | 14.625 | 1 | 1.12 | 0.51 | 1.12 |
| 17512 | LONDON HEATHROW | 03/04/2012 | 10 | 12/04/2012 | 15.36 | 15 | 13.20 | 13.30 | 0.10 | 10 | 17.1 | 1 | 11.85 | 14.425 | 1 | 2.16 | 0.10 | 2.16 |
| 17532 | LONDON HEATHROW | 04/04/2012 | 10 | 13/04/2012 | 15.50 | 15 | 13.40 | 13.12 | -0.28 | 9.5 | 17 | 1 | 11.675 | 14.125 | 1 | 2.10 | 0.28 | 2.10 |
| 17552 | LONDON HEATHROW | 05/04/2012 | 10 | 14/04/2012 | 15.64 | 15 | 12.30 | 14.01 | 1.71 | 9.3 | 17.6 | 1 | 12.5 | 15.15 | 0 | 3.34 | 1.71 | 3.34 |
| 17573 | LONDON HEATHROW | 06/04/2012 | 10 | 15/04/2012 | 15.78 | 15 | 10.00 | 13.17 | 3.17 | 8.8 | 17 | 1 | 11.6 | 14.225 | 0 | 5.78 | 3.17 | 5.78 |
| 17593 | LONDON HEATHROW | 07/04/2012 | 10 | 16/04/2012 | 15.92 | 15 | 12.30 | 11.68 | -0.62 | 8.1 | 15.6 | 1 | 10.175 | 12.675 | 1 | 3.62 | 0.62 | 3.62 |
| 17613 | LONDON HEATHROW | 08/04/2012 | 10 | 17/04/2012 | 16.05 | 15 | 14.80 | 11.48 | -3.32 | 6.9 | 14.9 | 1 | 10.475 | 12.425 | 0 | 1.25 | 3.32 | 1.25 |
| 17633 | LONDON HEATHROW | 09/04/2012 | 10 | 18/04/2012 | 16.18 | 15 | 12.40 | 12.66 | 0.26 | 5.6 | 18.8 | 1 | 11.05 | 14.225 | 1 | 3.78 | 0.26 | 3.78 |
| 17654 | LONDON HEATHROW | 10/04/2012 | 10 | 19/04/2012 | 16.31 | 15 | 11.90 | 12.78 | 0.88 | 8.5 | 17.2 | 1 | 11.3 | 14.3 | 1 | 4.41 | 0.88 | 4.41 |
| 17674 | LONDON HEATHROW | 11/04/2012 | 10 | 20/04/2012 | 16.43 | 15 | 13.10 | 13.22 | 0.12 | 10 | 18.6 | 1 | 11.75 | 14.2 | 1 | 3.33 | 0.12 | 3.33 |
| Count=30 | | | | | | | Count=30 | AVG=0.97 | Ratio=90% | Ratio=43% | AVG=3.11 | AVG=2.49 | AVG=3.29 | | | | | |



Seamless Data Management

The screenshot displays the Oasis Data Manager interface. The main window shows a 'List of Data Providers' table with columns for ID, Name, FTP Address, FTP Login, FTP Password, and Local Station. A 'Data Provider' dialog box is open, showing configuration for 'Weather X Change' with fields for Name, FTP address, FTP Login, FTP Password, FTP Data Initial Dir, and Local File Saving Path. An 'Import Filter' dialog box is also open, showing a table of Database Table Name, Field, and Value, and a section for 'Weather Element' configuration. Below the 'Import Filter' dialog, there is a section for 'FORECAST PROVIDER FILE FORMAT' and 'Forecast Import Helper Type'.

| ID Data Provider | Name | FTP Address | FTP Login | FTP Password | Local Station |
|------------------|--|--------------|-----------|--------------|---------------|
| 53 | Speedwell ECMWF Seasonal as Data P... | | | | |
| 54 | Speedwell ECMWF Seasonal | | | | |
| 95 | Speedwell GFS Ens AVG | | | | |
| 96 | Speedwell GFS Ens AVG as Data Provi... | | | | |
| 3 | SWD | | | | |
| 63 | Swedish Met Office | | | | |
| 24 | SYNOP & ISH (SYNOP) | | | | |
| 93 | Taiwan Met Office Website | | | | |
| 98 | TEst Data Provider | | | | |
| 40 | Thailand Met Office | | | | |
| 18 | Turkish Met Office | | | | |
| 99 | Ugandan Met Office | | | | |
| 75 | UKMO (Data Provider) | | | | |
| 89 | US Geological Survey | | | | |
| 1 | Weather X Change | ftp.wxch.com | | | |
| 14 | WSI_Forecast | | | | |

| Database Table Name | Field | Value |
|---------------------|-----------------------------|-------------|
| | Town | CITY |
| | Latitude | LAT |
| | Longitude | LONG |
| | Altitude | ALT |
| | Allow Create Station | FALSE |
| | Allow Lookup from NOAA... | FALSE |
| | Allow Update Station Na... | FALSE |
| | Allow Update Other Stat... | TRUE |
| | Forecast Provider File F... | 0 |
| | Forecast Import Helper ... | 2 |
| | Create one ID Ensemble... | TRUE |
| tblRelativeHumidity | Relative Humidity | 122_REL_HUM |
| tblPressureAve | Pressure Ave | 122_MSLP |
| tblRain | Rain | DAILY_RAIN |
| tblSnow | Snow | DAILY_SNOW |
| tblSunshine | Sunshine | SUNSHINE |

FORECAST PROVIDER FILE FORMAT:

- 0: WXC Date Format: DD/MM/YYYY, CSV=','
- 1: AER Date Format: YYYY-MM-DD, CSV=','
- 2: EarthSat/HDAFederal Specific format.
- 3: WSI Date Format: YYYY-MM-DD, CSV=','

Forecast Import Helper Type:

- 1: for WXC and EarthSat Forecast using old import methods
- 2: for WXC and Speedwell forecast format. Station ID is WMO
- 3: for Speedwell forecast where Station ID is the SRCID

1. Define the data sources
2. Map the CSV files Headers
3. That is it – done!



Data Inventory Tool

Fast Data Inventory

Station Selection: Inventory

Please select the Element for which the inventory should be run for: Temperature Ave

Sub Period: Global Search Restricted to this period too

From: Period Start: 01/01/2002

To: Period End: 11/06/2012

Period: All Year

Skip stations where the minimum date is not prior or equal to: 01 January 2002

Report All Data Full Data Type Break Down

Period (Annual) Breakdown Include User's Data Type

Run Report

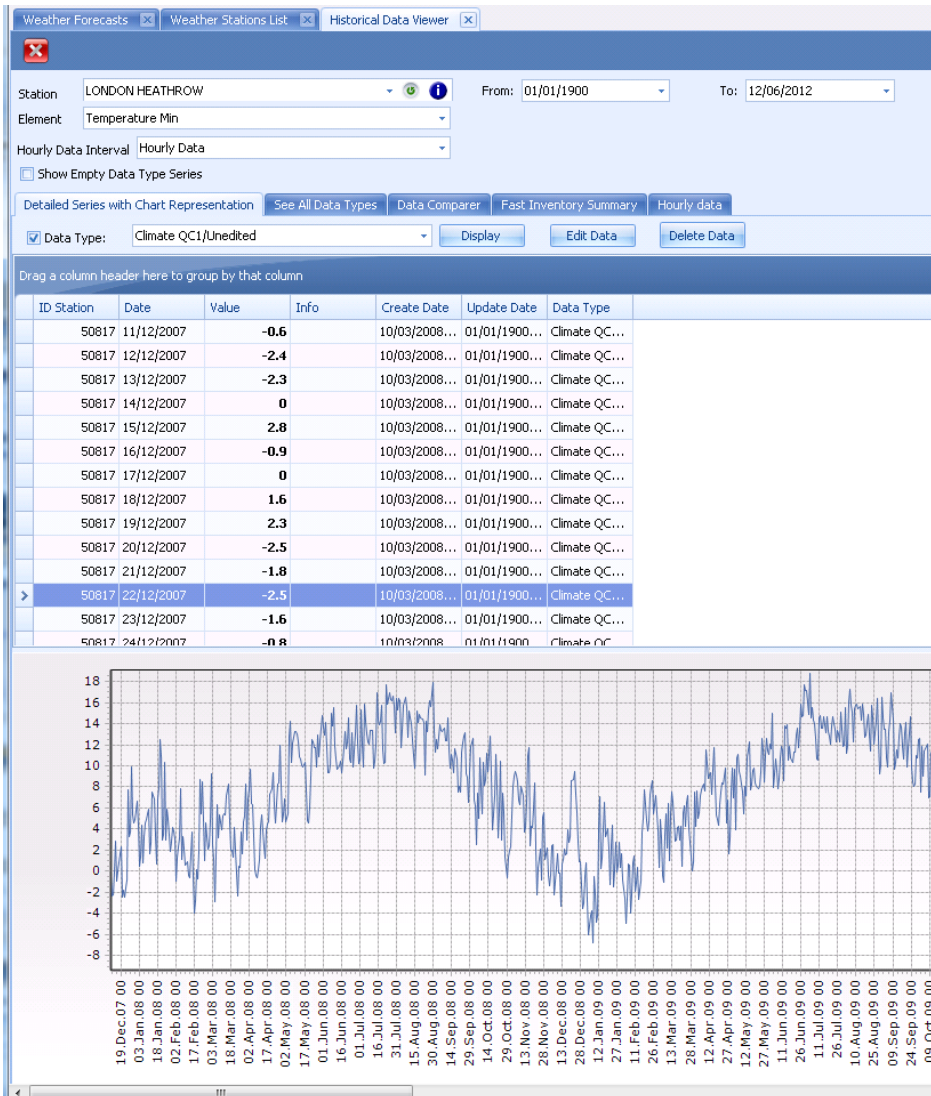
Drag a column header here to group by that column

| | SWSID | Stn Name | Latitude | Longitude | Altitude | WMO | ICAO | Country Name | Element | Client Query Percentage Complete | Num Date Times | Expec... Num Date | First Date In DB | Last Date DB |
|---|-------|--------------|--------------|--------------|----------|-------|------|----------------|-------------------|----------------------------------|----------------|-------------------|------------------|--------------|
| > | 56233 | Aberdaron | 52.783333... | -4.733333... | 95 | 3405 | | United King... | tblTemperatureAve | 100 | 3815 | 3815 | 01/01/2002 | 11/06/201... |
| | 50829 | ABERDEEN ... | 57.205 | -2.204 | 65 | 3091 | EGPD | United King... | tblTemperatureAve | 100 | 3815 | 3815 | 01/01/2002 | 11/06/201... |
| | 56237 | Aberporth | 52.133333... | -4.566666... | 133 | 3502 | EGUC | United King... | tblTemperatureAve | 100 | 3815 | 3815 | 01/01/2002 | 11/06/201... |
| | 56204 | Aboyne | 57.083333... | -2.833333... | 140 | 3080 | | United King... | tblTemperatureAve | 100 | 3815 | 3815 | 01/01/2002 | 11/06/201... |
| | 50832 | ALBEMARLE | 55.02 | -1.88 | 145 | 3238 | | United King... | tblTemperatureAve | 100 | 3815 | 3815 | 01/01/2002 | 11/06/201... |
| | 64658 | Albemarle | 55.02 | -1.88 | 145 | 3238 | | United King... | tblTemperatureAve | 2.2280471... | 85 | 85 | 04/05/2011 | 27/07/201... |
| | 57944 | ALICE HOL... | 51.178 | -0.849 | 115 | 99119 | | United King... | tblTemperatureAve | 24.115334... | 920 | 929 | 26/11/2009 | 11/06/201... |

1. Define sites to be audited
2. Choose weather variables
3. Choose period and data quality type



Data Viewing Tool



- View single sites
- Overlay multiple variables
- Overlay multiple sites



Weather Data Types

Weather data comes in many different qualities and data types. SWS accommodates the complexities of these data types while also allowing a hierarchical approach that simplifies data delivery (eg best-available).

Comparison tool helps visualize the difference between SYNOP and Climate reporting conventions.

Data series are easy to use with the aid of predefined hierarchies

Multiple data types allow full understanding of data provenance

Hierarchies mean that processing of those data types is simplified but fully transparent

Full audit trail of data point changes

| ID | Description |
|------|---|
| 1002 | Pricing Enh -> Recons -> Exch -> Clim ... |
| 1004 | Settlement (Exch -> Clim -> Synop) |
| 1006 | CLIMATE all |
| 1007 | SYNOP all |
| 1008 | Recalibrated -> Recons |
| 1009 | Pricing Recons -> Exch -> Clim -> Synop |
| 1010 | Pricing Recal -> Recons -> Exch -> Cli... |



Strict Data Types Management Made Easy

Historical Data Viewer

Station: New York-LaGuardia Airport
Element: Temperature Min

From: 01/01/2000 To: 01/05/2000

2nd Element: Temperature Max

Show Empty Data Type Series

Detailed Series with Chart Representation | See All Data Types | Data Comparer | Fast Inventory Summary

Display | Edit Data

| Dates | Synop QC... | Climate Q... | Climate Cl... | Reconstru... | Recalibrat... | User's Seri... |
|---------------|-------------|--------------|---------------|--------------|---------------|----------------|
| 22/03/2000... | 38 | 38 | 38 | 38 | 35.808744... | 37.94 |
| 23/03/2000... | 38 | 38 | 38 | 38 | 35.808744... | 37.94 |
| 24/03/2000... | 45 | 45 | 45 | 45 | 42.808744... | 44.96 |
| 25/03/2000... | 50 | 50 | 50 | 50 | 47.808744... | 50 |
| 26/03/2000... | 51 | 51 | 51 | 51 | 48.808744... | 48.92 |
| 27/03/2000... | 43 | 43 | 43 | 43 | 40.808744... | 42.98 |
| 28/03/2000... | 48 | 48 | 48 | 48 | 45.808744... | 48.92 |
| 29/03/2000... | 46 | 46 | 46 | 46 | 43.808744... | 46.04 |
| 30/03/2000... | 44 | 44 | 44 | 44 | 41.808744... | 44.06 |
| 31/03/2000... | 41 | 41 | 41 | 41 | 38.808744... | 41 |
| 01/04/2000... | 43 | 43 | 43 | 43 | 40.808744... | 42.98 |
| 02/04/2000... | 50 | 50 | 50 | 50 | 47.808744... | 50 |
| 03/04/2000... | 53 | 53 | 53 | 53 | 50.808744... | 53.06 |
| 04/04/2000... | 49 | 49 | 49 | 49 | 46.808744... | 48.02 |
| 05/04/2000... | 42 | 42 | 42 | 42 | 39.808744... | 42.08 |
| 06/04/2000... | 42 | 42 | 42 | 42 | 39.808744... | 42.98 |
| 07/04/2000... | 51 | 51 | 51 | 51 | 48.808744... | 51.98 |
| 08/04/2000... | 50 | 50 | 50 | 50 | 47.808744... | 50 |
| 09/04/2000... | 31 | 31 | 31 | 31 | 28.808744... | 31.1 |
| 10/04/2000... | 40 | 40 | 40 | 40 | 37.808744... | 41 |
| 11/04/2000... | 36 | 36 | 36 | 36 | 33.808744... | 35.96 |
| 12/04/2000... | 41 | 41 | 41 | 41 | 38.808744... | 41 |

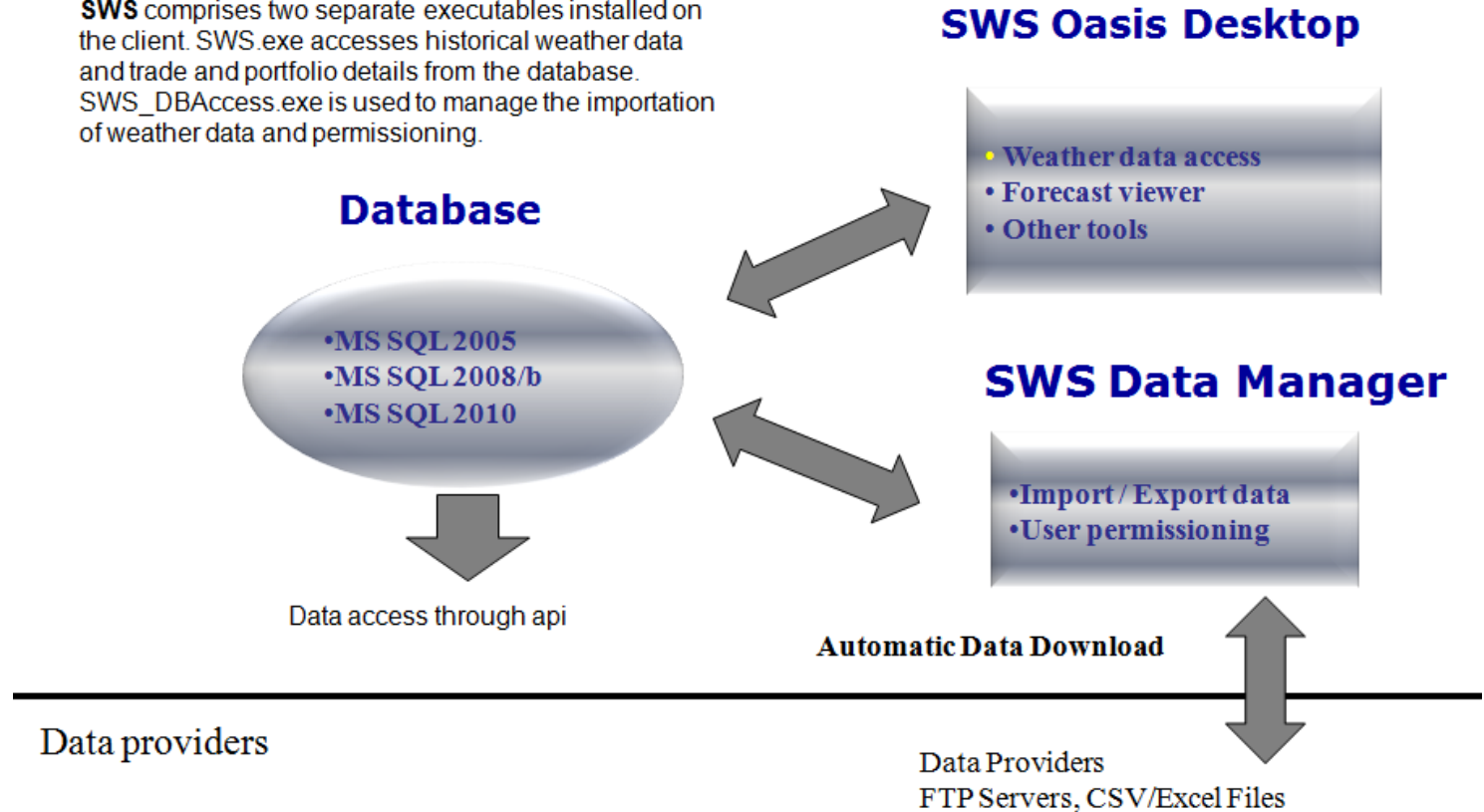
| Dates | Synop QC... | Climate Q... | Climate Cl... | Reconstru... | Recalibrat... | User's Seri... |
|---------------|-------------|--------------|---------------|--------------|---------------|----------------|
| 22/03/2000... | 50 | 50 | 50 | 50 | 48.672679... | 48.92 |
| 23/03/2000... | 61 | 61 | 61 | 61 | 59.672679... | 60.98 |
| 24/03/2000... | 67 | 67 | 67 | 67 | 65.672679... | 66.92 |
| 25/03/2000... | 61 | 61 | 61 | 61 | 59.672679... | 60.08 |
| 26/03/2000... | 63 | 63 | 63 | 63 | 61.672679... | 60.98 |
| 27/03/2000... | 60 | 60 | 60 | 60 | 58.672679... | 59 |
| 28/03/2000... | 59 | 59 | 59 | 59 | 57.672679... | 59 |
| 29/03/2000... | 55 | 55 | 55 | 55 | 53.672679... | 53.96 |
| 30/03/2000... | 58 | 58 | 58 | 58 | 56.672679... | 55.94 |
| 31/03/2000... | 55 | 55 | 55 | 55 | 53.672679... | 55.04 |
| 01/04/2000... | 63 | 63 | 63 | 63 | 61.672679... | 60.98 |
| 02/04/2000... | 66 | 66 | 66 | 66 | 64.672679... | 64.04 |
| 03/04/2000... | 65 | 65 | 65 | 65 | 63.672679... | 62.96 |
| 04/04/2000... | 66 | 66 | 66 | 66 | 64.672679... | 64.04 |
| 05/04/2000... | 49 | 49 | 49 | 49 | 47.672679... | 48.02 |
| 06/04/2000... | 71 | 71 | 71 | 71 | 69.672679... | 69.98 |
| 07/04/2000... | 63 | 63 | 63 | 63 | 61.672679... | 62.06 |
| 08/04/2000... | 67 | 67 | 67 | 67 | 65.672679... | 66.92 |
| 09/04/2000... | 51 | 51 | 51 | 51 | 49.672679... | 50 |
| 10/04/2000... | 53 | 53 | 53 | 53 | 51.672679... | 53.06 |
| 11/04/2000... | 44 | 44 | 44 | 44 | 42.672679... | 42.08 |
| 12/04/2000... | 50 | 50 | 50 | 50 | 48.672679... | 48.92 |



SWS Data Store Architecture

Speedwell Weather System General Architecture

SWS comprises two separate executables installed on the client. **SWS.exe** accesses historical weather data and trade and portfolio details from the database. **SWS_DBAccess.exe** is used to manage the importation of weather data and permissioning.





Connecting to other systems

- SWS is an open system
- The SWS API allows all data and components to be accessed by other applications using the .NET framework
- SWS supports data and forecast file formats from a wide range of service providers
- System is flexible and can be configured by the user to import new weather elements of file formats
- All displayed grids can be exported to third party applications



Hosted or in-house?

- Hosted by Speedwell

- Set up and managed by Speedwell
- Your own secure DB
- Secured Citrix Connection
- 15 minutes DB Backup
- Automatic VM-Ware backup of SWS servers
- Hosted in Cat-3 Server Farm

- Installed in-house

- Can still be set up and managed by Speedwell
- Can be easier to run your own MatLab code

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