

Speedwell Weather  
Speedwell Weather System



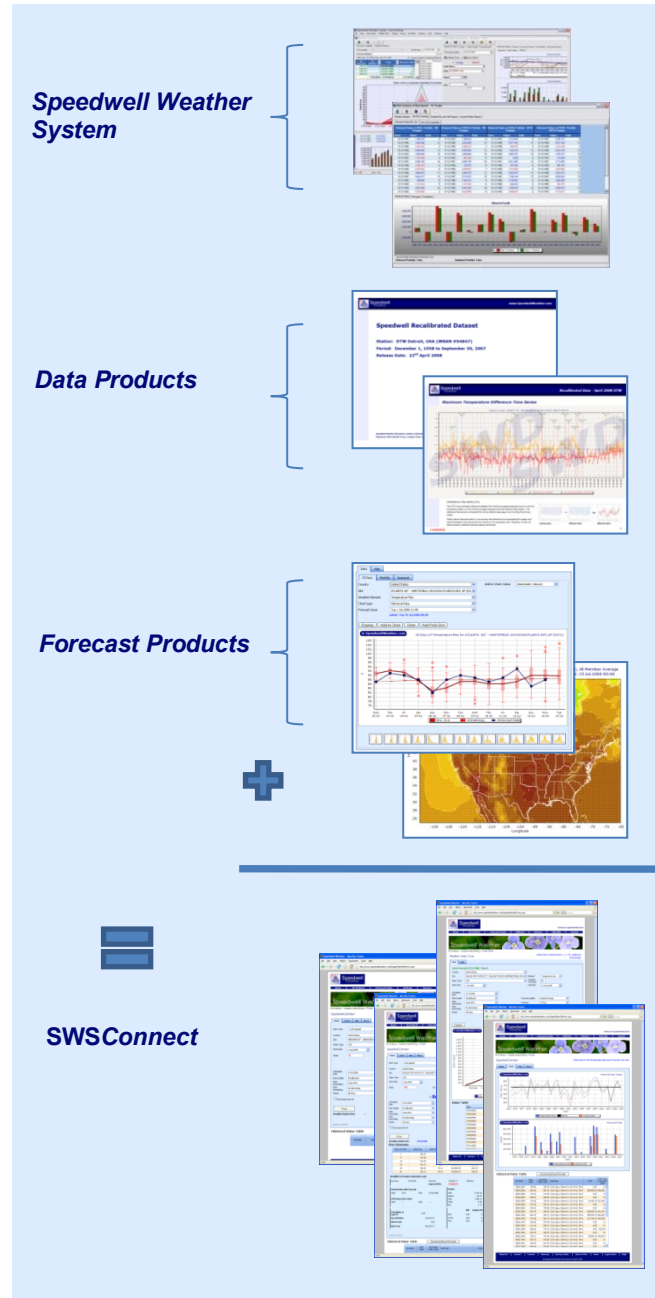
Speedwell Weather Limited

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## ***SWSConnect***

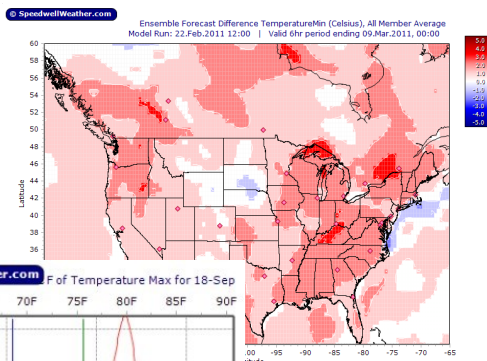
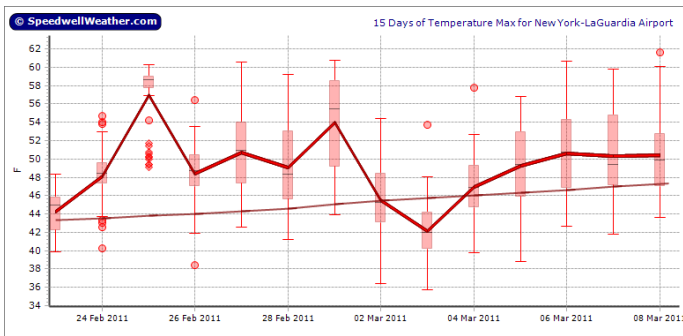
### **The web-based weather derivative pricer**

- **SWSConnect** is a web-delivered weather derivatives pricing tool built on the same core **SWS** components that have been tried and tested in the field since 2002. **SWS** is the preeminent enterprise weather derivative risk management system offering pricing, weather data management, portfolio management and back office features
- **SWSConnect** combines Speedwell products from all its business areas into one easy to use package:
  - Weather derivative pricing tools
  - Cleaned historical data and Speedwell Recalibrated weather data
  - Forecasts
  - CME Market information
- **SWSConnect** is easy to use while meeting the needs of pricing exchange-listed and standard OTC weather derivative contracts

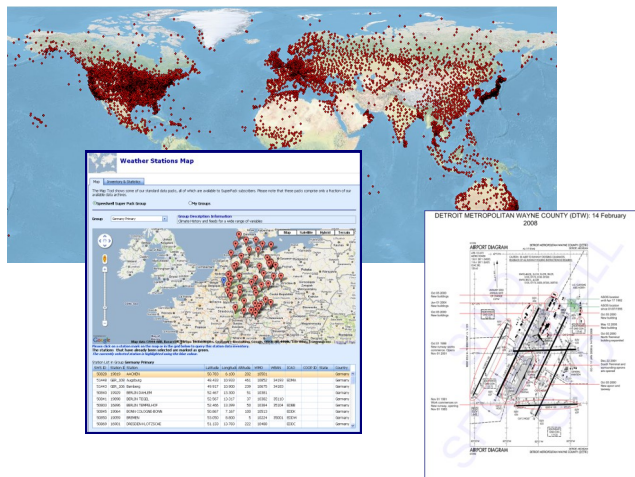


## SWSConnect Incorporates:

Fully downscaled-probabilistic forecasts



World wide weather data and ..  
Speedwell Recalibrated Data Sets





Weather Derivatives Pricer - Actuarial and Historical Pricing with Data Detrending, Forecast and Recalibrated data quality - Speedwell Weather - Mozilla Firefox

http://www.speedwellweather.com/Pages/Market/HrPricer.aspx?connect=pp

Welcome SpeedWebAdmin

**Standard Contract Periods:**

HDD	CDD	CAT
Seasonal	Seasonal	Seasonal
Nov -Mar 2011	May - Sep 2011	May - Sep 2011
Monthly	Monthly	Monthly
Oct 2011	Apr 2011	Apr 2011
Nov 2011	May 2011	May 2011
Dec 2011	Jun 2011	Jun 2011
Jan 2012	Jul 2011	Jul 2011
Feb 2011	Aug 2011	Aug 2011
Mar 2011	Sep 2011	Sep 2011

**Derivative Type - Call, Collar, Put, Straddle, Strangle, Swap**

**CME Sites and 1000's of global locations, most variables**

**Price CME, standard contracts and more exotic OTC structures (includes CME Australian contracts)**

- absolute extremes
- HDD / CDD
- critical events
- cumulative

**Cleaned data or Recalibrated**

**Select forecast source + how to incorporate the forecast**

**Modelling Options: Choice of multiple distributions and tool to test which is most appropriate (normal, log normal, gamma, kernel truncated at 0, weibull, inv. gauss, generalised beta, extreme, histogram, logistic, laplace,...)**

**Apply different detrending methods either on underlying data (important for critical day structures) or on final index, or both**

**Screen analysis for El Nino or La Nina years**

**Ability to override Mean and Vol**

**Popular pre-defined models - used for quick configuration**

**Pricing of in-period contracts:**

SWSCoconnect automatically values a weather contract by automatically combining:

- Available weather data that has already accrued
- User-specified period of the forecast
- Historical data which can be detrended where required and to which a distribution can be fitted.

**Configuration:**

Derivative Type: Call

Contract Specifications:

Country: United States  
Site: New York-LaGuardia Airport  
Index Type: CDD

Start Date: May 1, 2011  
End Date: Sep 30, 2011  
Element: Temperature Ave  
Weather Threshold: 65

Strike: 0 | Tick Value: 5000 | Monetary value per index unit (enter 1 for CME-style tick price)

Latest 15 Days Forecast: 22 Feb 2011 - Time: 12

**Pricing Options:**

Data Quality: Best (exc. Recalibrated)  
Data Detrending: No Detrending  
Final Detrending: No Detrending  
Forecast used: Speedwell ECMWF Ensemble  
Forecast Period: 15 Days  
Forecast Weight: 80%-20% All Days  
Index Weight: No Specific Weights

**Modeling Options:**

Period: All Years  
Distribution: Normal

**Other Options:**

Override Mean and Vol:   
Cash Flow: 0  
Calculation Date: Feb. 22, 2011

Mean: 0 | Vol: 0

Amount paid or received:   
Allows retrospective pricing:

**Results:**

Expected P&L: **5,692,193.76**  
Buy Price: 5,506,752.35  
Fair Price: 5,692,193.76  
Sell Price: 5,877,635.17

*Derived from the Fair Price by subtracting 20% of the payoff StDev.*  
*Estimated value of the contract based on numerical integration with chosen distribution and detrending methods.*  
*Derived from the Fair price by adding 20% of the payoff StDev.*

**Burn Summary**  
New York-LaGuardia Airport ; Temperature Ave; CDD; From 01/May/2011 To 30/Sep/2011; Call

Num. Of Years	Index Avg	Index StDev	Profit Avg	Non Det. Index Avg	Non Det. Index StDev	Non Det. Profit Avg
1	1,652.00	0.00	8,260,000.00	1,652.00	0.00	8,260,000.00
5	1,342.50	243.45	6,712,500.00	1,342.50	243.45	6,712,500.00
10	1,316.85	198.60	6,584,250.00	1,316.85	198.60	6,584,250.00
20	1,270.15	185.10	6,350,750.00	1,270.15	185.10	6,350,750.00
30	1,213.25	184.11	6,066,250.00	1,213.25	184.11	6,066,250.00
40	1,164.18	193.14	5,820,875.00	1,164.18	193.14	5,820,875.00
61	1,138.44	185.44	5,692,193.76	1,138.44	185.44	5,692,193.76

**Accrued Index including Chosen Forecast**

Value: 0.00 | Date: 30 Apr 2011

**CME Future Price Close**

Value: --- | Date: ---

**Probability of Loss %**: 0.00  
**Pay off StDev**: 927,207.06  
**Worst Case**: 3,840,000.00  
**Best Case**: 8,260,000.00

**Greeks**

Delta	5,000.00
Gamma	0.00
Vega	0.00
Theta	0.00
Rho	-343.06

**VaR** | **Empirical VaR** | **Return on Empirical VaR**

	VaR	Empirical VaR	Return on Empirical VaR
95%	4,167,073.95	4,188,375.19	135.90
97.5%	3,874,900.91	3,968,624.64	143.43
99%	3,535,187.22	3,640,000.00	148.23

Speedwell Weather

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**Modeled Results (based upon the distribution selected in the pricing features)**

**Burn Analysis (based upon historical observations)**  
- breakdown by # years  
- average  
- volatility  
- detrended vs. non-detrended

**Accrued index - useful during the risk period, quickly summarizes period-to-date**

**Probability of Loss statistics # of years of loss / total years**

**VaR analysis**  
- expiration VaR at 3 levels using the chosen distribution  
- expiration VaR at 3 levels using the actual detrended

**Greeks - Showing the sensitivities Delta, Gamma, Vega, Theta and Rho**

**Results**

**Expected P&L** **5,692,193.76**

**Buy Price** 5,506,752.35 *Derived from the Fair Price by subtracting 20% of the payoff StDev.*

**Fair Price** 5,692,193.76 *Estimated value of the contract based on numerical integration with chosen distribution and detrending methods.*

**Sell Price** 5,877,635.17 *Derived from the Fair Price by adding 20% of the payoff StDev.*

**Burn Summary**  
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5	1,342.50	243.45	6,712,500.00	1,342.50	243.45	6,712,500.00
10	1,316.85	198.60	6,584,250.00	1,316.85		
20	1,270.15	185.10	6,350,750.00	1,270.15		
30	1,213.25	184.11	6,066,250.00	1,213.25		
40	1,164.18	193.14	5,820,875.00	1,164.18		
61	1,138.44	185.44	5,692,193.76	1,138.44		

**Accrued Index including Chosen Forecast**

Value 0.00 Date 30 Apr 2011

**CME Future Price Close**

Value --- Date ---

**Probability of Loss %** 0.00

**Pay off StDev** 927,207.06

**Worst Case** 3,840,000.00

**Best Case** 8,260,000.00

**Greeks**

Delta 5,000.00

Gamma 0.00

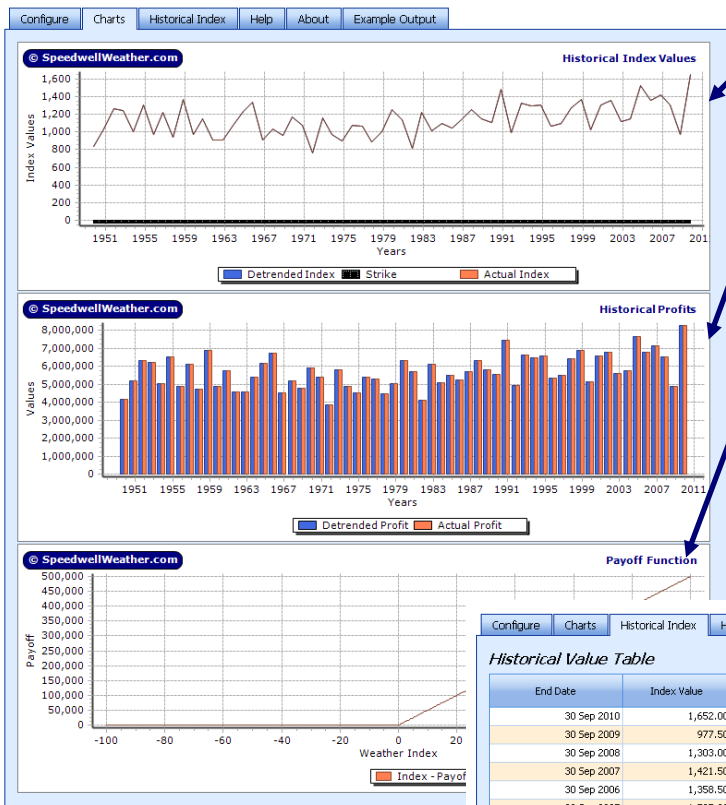
Vega 0.00

Theta 0.00

Rho -343.06

	VaR	Empirical VaR	Return on Empirical VaR
95%	4,167,073.95	4,188,375.19	135.90
97.5%	3,874,900.91	3,968,624.64	143.43
99%	3,535,187.22	3,840,000.00	148.23

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**Historical Index Values - This graph shows the historic values of the index on which the chosen weather derivative is based. This is shown on both a detrended and non-detrended basis. Right click to export.**

**Historical Profits - This graph shows the payout the structure would have generated for each historic year. This is done both on a non-detrended and detrended basis. Right click to export.**

**Payoff Function**

**Historical Value Table**  
- index values (detrended and non-detrended)  
- exportable to Excel  
- profit using non-detrended index

End Date	Index Value	Detrended Index Value	Data Type	Profit	Profit using Detrended Index
30 Sep 2010	1,652.00	1,652.00	153/153 days, Other=0, C=153, R=0, M=0	8,260,000.00	8,260,000.00
30 Sep 2009	977.50	977.50	153/153 days, Other=0, C=153, R=0, M=0	4,887,500.00	4,887,500.00
30 Sep 2008	1,303.00	1,303.00	153/153 days, Other=0, C=153, R=0, M=0	6,515,000.00	6,515,000.00
30 Sep 2007	1,421.50	1,421.50	153/153 days, Other=0, C=153, R=0, M=0	7,107,500.00	7,107,500.00
30 Sep 2006	1,358.50	1,358.50	153/153 days, Other=0, C=153, R=0, M=0	6,792,500.00	6,792,500.00
30 Sep 2005	1,527.00	1,527.00	153/153 days, Other=0, C=153, R=0, M=0	7,635,000.00	7,635,000.00
30 Sep 2004	1,149.50	1,149.50	153/153 days, Other=0, C=153, R=0, M=0	5,747,500.00	5,747,500.00
30 Sep 2003	1,114.50	1,114.50	153/153 days, Other=0, C=153, R=0, M=0	5,572,500.00	5,572,500.00
30 Sep 2002	1,355.00	1,355.00	153/153 days, Other=0, C=153, R=0, M=0	6,775,000.00	6,775,000.00
30 Sep 2001	1,310.00	1,310.00	153/153 days, Other=0, C=153, R=0, M=0	6,550,000.00	6,550,000.00
30 Sep 2000	1,025.50	1,025.50	153/153 days, Other=0, C=153, R=0, M=0	5,127,500.00	5,127,500.00
30 Sep 1999	1,370.00	1,370.00	153/153 days, Other=0, C=153, R=0, M=0	6,850,000.00	6,850,000.00
30 Sep 1998	1,277.50	1,277.50	153/153 days, Other=0, C=153, R=0, M=0	6,387,500.00	6,387,500.00
30 Sep 1997	1,093.50	1,093.50	153/153 days, Other=0, C=153, R=0, M=0	5,467,500.00	5,467,500.00



**CME Futures Value Board**

This tool calculates index averages and volatilities for U.S. CME weather derivative futures using up to four different pricing models.

Please select a View Latest 15 Days Forecast: 22 Feb 2011 - Time: 0

US Summer 2011   
  US Winter 2010-2011   
  AUS Oct-Mar 2011  
 EU Summer 2011   
  EU Winter 2010-2011

Choose Models

M1 - M1 - Recal - Loess - 4Cast (80-20)   
  M2 - M2 - Recal - Loess - No 4cast   
  M3 - M3 - Recal - No Det. - No 4cast

Choose Data

5 Year Mean   
  10 Year Mean   
  All Year Mean   
  5 Year Vol   
  10 Year Vol

Display    Download (Excel Format)

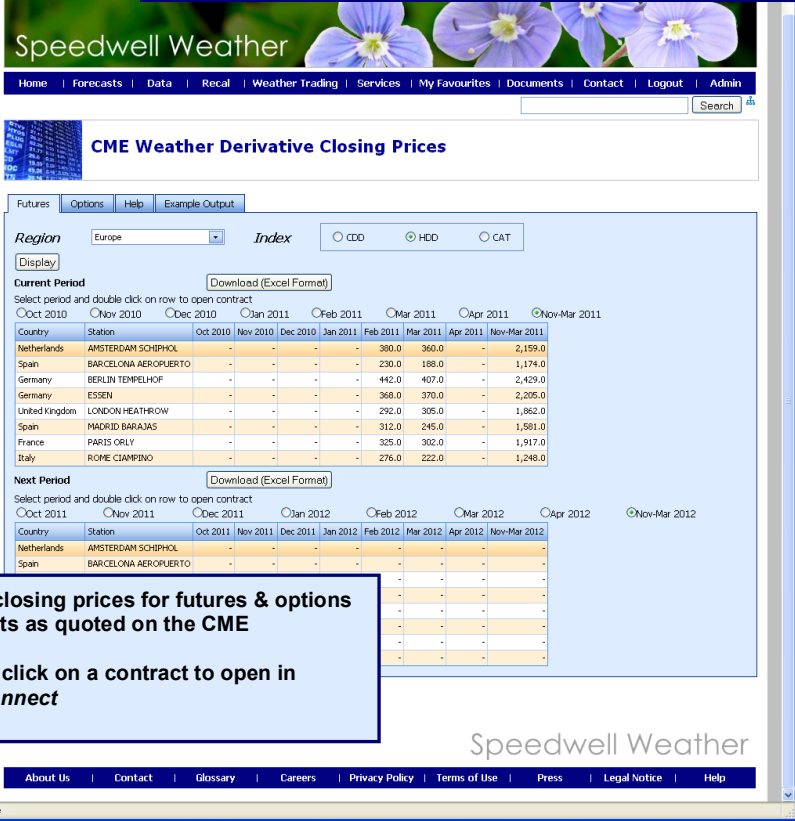
Station	Index Type	Period Start	Period End	Calc Date	M1 - Mean 10Yrs	M1 - Vol 10Yrs
KATL	CDD	May 11	May 11	22 08:19	190.27	
KATL	CDD	Jun 11	Jun 11	22 08:19	390.34	
KATL	CDD	Jul 11	Jul 11	22 08:19	449.34	
KATL	CDD	Aug 11	Aug 11	22 08:19	469.03	
KATL	CDD	Sep 11	Sep 11	22 08:19	296.84	

**CME Weather Futures Value Board**

An exportable grid showing critical valuation statistics for the CME weather derivative contracts. The grid offers up to four different simultaneous valuation methods.

**CME Weather Derivatives Prices**

View CME weather derivative prices



**CME Weather Derivative Closing Prices**

View CME weather derivative prices

Region: Europe    Index:  CDD     HDD     CAT

Current Period

Select period and double click on row to open contract

Country	Station	Oct 2010	Nov 2010	Dec 2010	Jan 2011	Feb 2011	Mar 2011	Apr 2011	Nov-Mar 2011
Netherlands	AMSTERDAM SCHIPHOL	-	-	-	380.0	360.0	-	2,159.0	-
Spain	BARCELONA AEROPUERTO	-	-	-	230.0	188.0	-	1,174.0	-
Germany	BERLIN TEMPELHOF	-	-	-	442.0	407.0	-	2,429.0	-
Germany	ESSEN	-	-	-	368.0	370.0	-	2,205.0	-
United Kingdom	LONDON HEATHROW	-	-	-	292.0	305.0	-	1,862.0	-
Spain	MADRID BARRAJAS	-	-	-	312.0	245.0	-	1,581.0	-
France	PARIS ORLY	-	-	-	325.0	302.0	-	1,917.0	-
Italy	ROME CIAMPINO	-	-	-	276.0	222.0	-	1,248.0	-

Next Period

Select period and double click on row to open contract

Country	Station	Oct 2011	Nov 2011	Dec 2011	Jan 2012	Feb 2012	Mar 2012	Apr 2012	Nov-Mar 2012
Netherlands	AMSTERDAM SCHIPHOL	-	-	-	-	-	-	-	-
Spain	BARCELONA AEROPUERTO	-	-	-	-	-	-	-	-

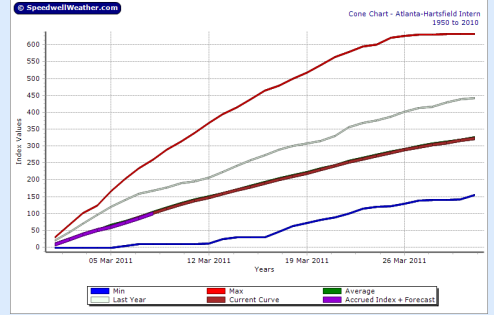
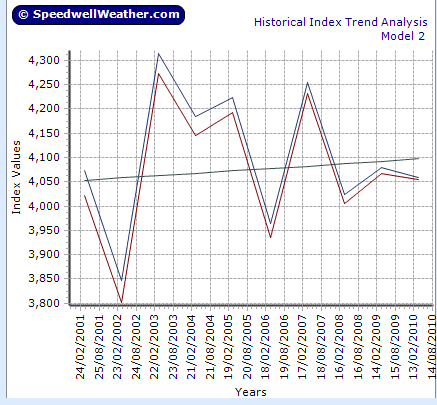
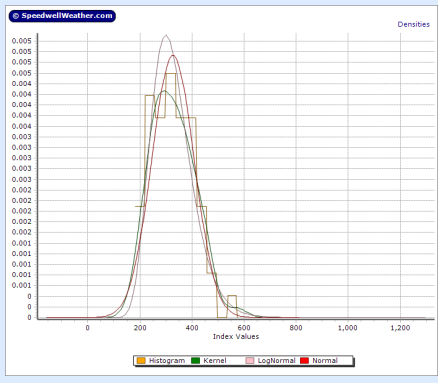
The "CME Futures Value Board" is the web version of the most popular feature of SWS for secondary market traders. It allows at-a-glance consensus pricing using four different models for all CME weather futures to give an instant feel for value.

Double click on a contract to open in SWSConnect

Latest closing prices for futures & options contracts as quoted on the CME

Double click on a contract to open in SWSConnect

**Additional Tools:**

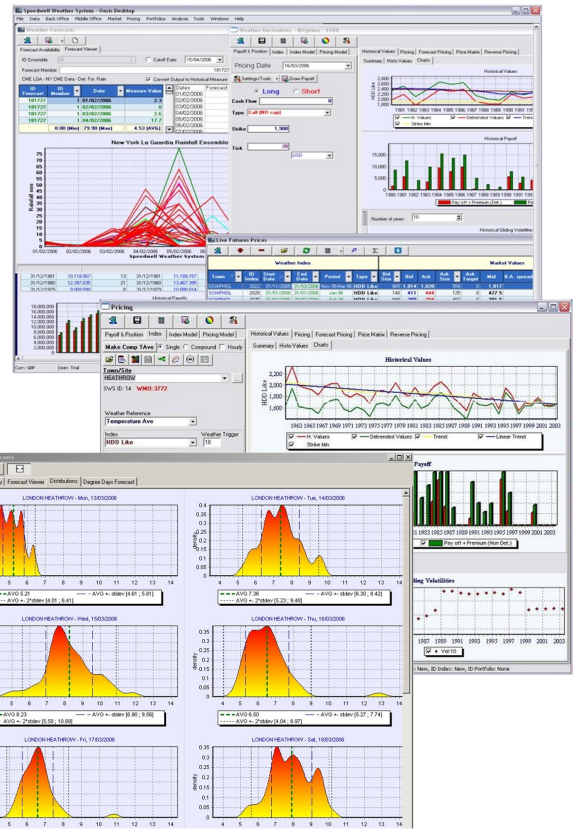




## Speedwell Weather System, SWS

For more information on the full, client-installed enterprise version, SWS please contact us.

- SWS Enterprise is a full client-server application offering portfolio risk management and back office tools including regulatory reporting and with full user permissioning.
- SWS is an open system supporting multiple data and forecast providers.
- SWS database and components can be called from other systems
- SWS can also be remotely hosted by us for our users.



## About Speedwell Weather Limited

Speedwell Weather provides quality weather data, weather forecasts, software, and weather-risk consultancy. With offices in the UK and the USA we serve clients in sectors including weather-risk, energy and agriculture world-wide. We are the dominant provider of settlement data for parametric weather risk contracts.

### Contacts

For more information about Commodity Product or other data and forecast services please see [www.SpeedwellWeather.com](http://www.SpeedwellWeather.com) or contact:

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