

Speedwell Weather



An Introduction

Company Introduction

Environmental Finance

Annual Market Rankings

Winners: 2007-2015

Best Advisory/Data Service

Environmental Finance 2016

Annual Market Rankings

Winner

Best Global Weather Risk
Management Advisory / Data Service
Winner for 10 years

- Independent, company providing weather services since 1999 owned by its senior employees
- Offices in the United Kingdom and the United States
- Our origins lie in index-based weather risk management: emphasis on quality
- Major provider of quality weather data and forecasts world-wide
- Major provider of software to the weather derivative industry for pricing and portfolio management: the Speedwell Weather System, SWS, since 2002
- Major provider of Settlement Data and Calculation Services for weather risk contracts
- Serving over 100 clients in insurance, weather derivatives, banking, energy and agriculture sectors world-wide
- weatherXchange Limited, FCA regulated subsidiary providing the weatherXchange® Platform which helps companies access index-based weather risk protection

www.speedwellweather.com

What we do

Speedwell Weather

Speedwell Weather Limited

Speedwell Weather
Data 

World-wide quality weather data. We consider weather data as a form of financial market data

Speedwell Weather
Forecasts 

Forecasts for energy and agriculture industries

Speedwell Weather
Speedwell Weather System 

Enterprise weather risk management software

Speedwell Weather
Commodity Product 

Tools for energy and agriculture traders

weatherXchange

weatherXchange Limited

A platform which helps companies access index-based weather risk protection providing free access to data and price comparison

Speedwell Settlement Services

Speedwell Settlement Services Limited

Provision of data and services for settlement of index based weather contracts

Speedwell Calculation Services

Speedwell Calculation Services Limited

Provision of weather derivative valuation services

Speedwell Weather Quality Weather Data

We carry tens of thousands of historical weather data sets from around the world.

We quality-control thousands of data sets every day.

We are the major settlement agent for over-the-counter weather risk contracts around the world.

Speedwell SuperPack® makes available an unprecedented range of quality historical weather data and weather data feeds for a single annual fee.

Speedwell Cleaned Data

Cleaned data is data that has been processed to fill missing values and correct erroneous observations. The end result is a data set that is ready to be used for analysis. We clean weather data from thousands of weather stations every day.

Speedwell's proprietary cleaning methodologies use a mixture of automated processing to flag possible errors followed by manual inspection.

Speedwell Recalibrated Data

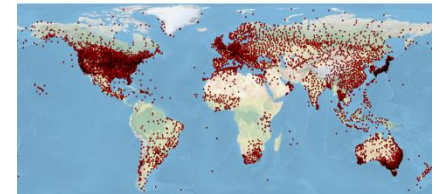
Recalibrated Data is an adjusted historic temperature time series which has been re-based to take into account discontinuities such as those arising from site moves or instrument changes.

Recalibrated data is the best possible baseline for risk analysis and weather risk contract pricing

Speedwell Gridded Data

Dozens of gridded data sets including proprietary wind speed data sets calibrated to required mast height.

Albania	Greece	Panama
Algeria	Greenland	Pakistan
Antarctica	Guatemala	Paraguay
Antigua	Honduras	Philippines
Argentina	Hong Kong	Poland
Armenia	Hungary	Portugal
Aruba	India	Puerto Rico
Australia	Indonesia	Romania
Austria	Iran	Russia
Bangladesh	Ireland	Saudi Ar.
Barbados	Israel	Senegal
Belarus	Italy	Serbia
Belgium	Jamaica	Singapore
Belize	Japan	Slovakia
Benin	Kazak.	Slovenia
Bolivia	Kenya	S. Africa
Bosnia	Korea S.	Spain
Botswana	Latvia	Sri Lanka
Brazil	Lebanon	Syria
Bulgaria	Liechtenst'n	Sweden
Burkina Faso	Lithuania	Switz.
Canada	Lux.	Taiwan
Cape Verde	Macedonia	Tajikistan
Chile	Malaysia	Tanzania
China	Maldives	Thailand
Columbia	Mali	Togo
Croatia	Malta	Trinidad
Cyprus	Mauritania	Tunisia
Czech R.	Mauritius	Turkey
Denmark	Mexico	Turkmenist'
Dominican	Moldova	UK
Egypt	Mongolia	Ukraine
Estonia	Montenegro	Uruguay
Ethiopia	Morocco	USA
Faroe Isles	Netherlands	Uzbekistan
Finland	New Zeal.	Vietnam
France	Niger	Zambia
Georgia	Nigeria	Zimbabwe
Germany	Norway	
Gibraltar	Oman	

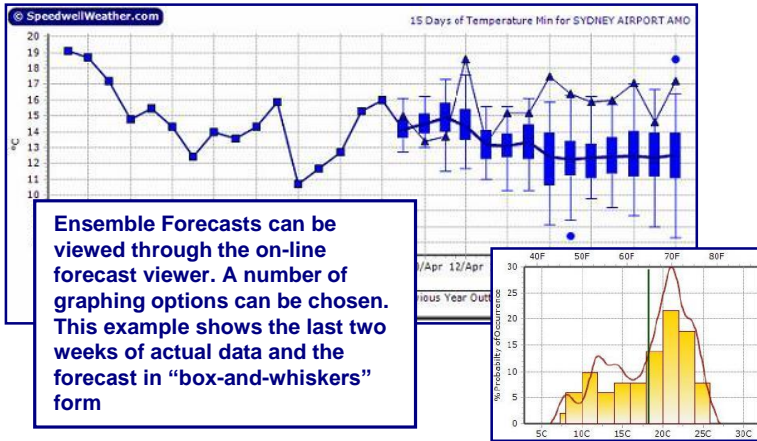


Speedwell Weather Forecast Products

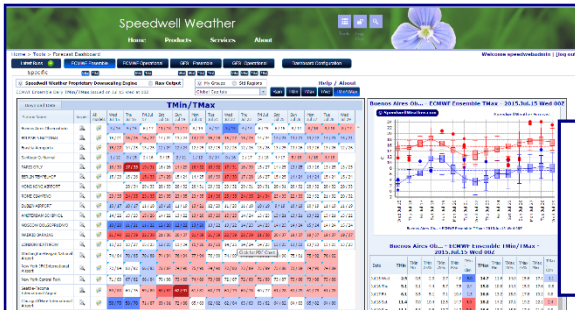
Speedwell Site-Specific Ensemble Forecasts

Downscaled site-specific ensemble forecasts for both single sites and weighted baskets are available for over 3,000 sites across the world covering 15-day and monthly periods.

The ensemble forecast is a fully downscaled **probabilistic** forecast which inherently captures information that is normally lost in a traditional deterministic forecast: the uncertainty of the forecast at each time step.

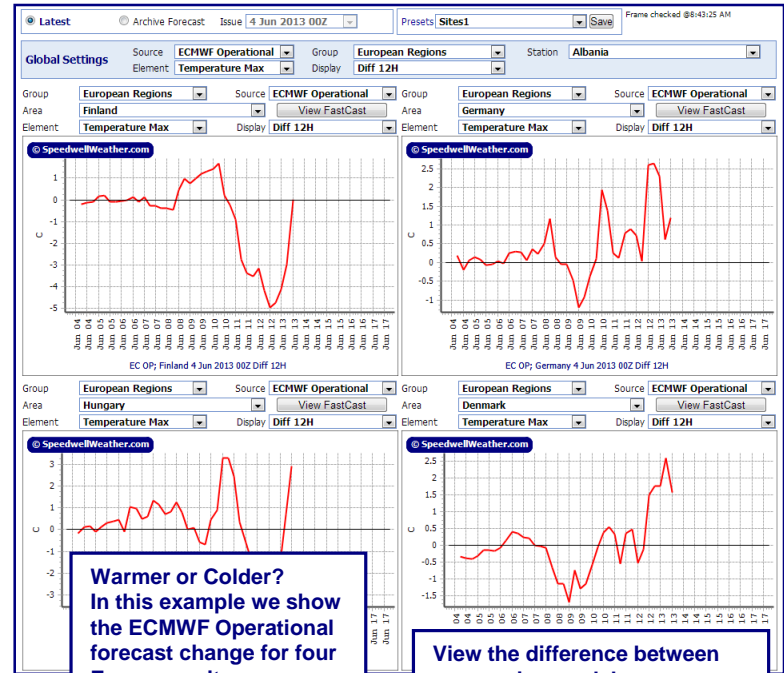


Forecast Dashboard



FastCast® Forecasts

Ultra-fast graphical representation of the change in forecast from the previous run. Updated as each time step becomes available.



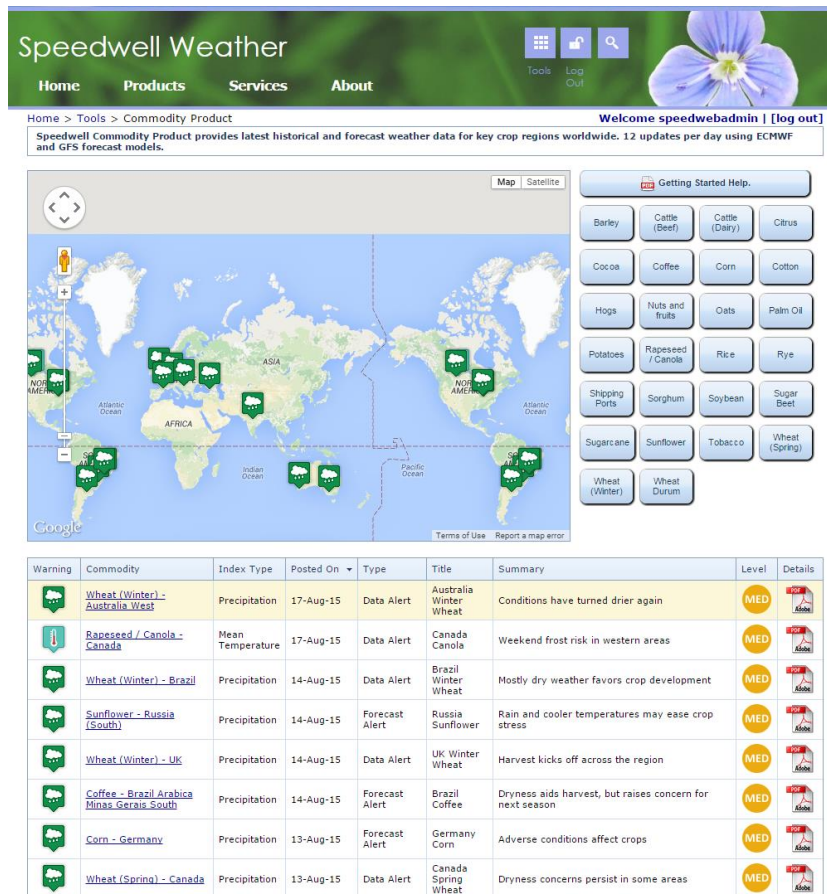
WDD: U.S. Weighted Degree Days

Uses weather data and forecasts combined with regional population data to estimate the EIA natural gas storage and withdrawal statistics.



Speedwell Weather Commodity Product

The Speedwell Commodity Product-Agriculture is a platform designed to bring weather data and forecast information directly to the trader in a concise format for a wide range of global agricultural crop areas. The equivalent Commodity Energy provides similar information for modelling regional energy consumption.



Speedwell Weather

Home > Tools > Commodity Product

Welcome speedwebadmin | [log out]

Speedwell Commodity Product provides latest historical and forecast weather data for key crop regions worldwide. 12 updates per day using ECMWF and GFS forecast models.

Map | Satellite

Getting Started Help.

Barley Cattle (Beef) Cattle (Dairy) Citrus
Cocoa Coffee Corn Cotton
Hogs Nuts and fruits Oats Palm Oil
Potatoes Rapeseed / Canola Rice Rye
Shipping Ports Sorghum Soybean Sugar Beet
Sugarcane Sunflower Tobacco Wheat (Spring)
Wheat (Winter) Wheat Durum

Warning	Commodity	Index Type	Posted On	Type	Title	Summary	Level	Details
	Wheat (Winter) - Australia West	Precipitation	17-Aug-15	Data Alert	Australia Winter Wheat	Conditions have turned drier again	MED	
	Rapeseed / Canola - Canada	Mean Temperature	17-Aug-15	Data Alert	Canada Canola	Weekend frost risk in western areas	MED	
	Wheat (Winter) - Brazil	Precipitation	14-Aug-15	Data Alert	Brazil Winter Wheat	Mostly dry weather favors crop development	MED	
	Sunflower - Russia (South)	Precipitation	14-Aug-15	Forecast Alert	Russia Sunflower	Rain and cooler temperatures may ease crop stress	MED	
	Wheat (Winter) - UK	Precipitation	14-Aug-15	Data Alert	UK Winter Wheat	Harvest kicks off across the region	MED	
	Coffee - Brazil Arabica Minas Gerais South	Precipitation	14-Aug-15	Forecast Alert	Brazil Coffee	Dryness aids harvest, but raises concern for next season	MED	
	Corn - Germany	Precipitation	13-Aug-15	Forecast Alert	Germany Corn	Adverse conditions affect crops	MED	
	Wheat (Spring) - Canada	Precipitation	13-Aug-15	Data Alert	Canada Spring Wheat	Dryness concerns persist in some areas	MED	



Local Run | ECMWF Ensemble | ECMWF Operational | GFS Ensemble | GFS Operational | Commodity Home | World Map | Help

Showing -> Downcasted GFS Ensemble issued on Nov 07 Fri at 06Z

Sort by: Name, Latitude, Longitude

Commodity	Region	Station	Last 90 Days	Last 60 Days	Last 30 Days	Last 15 Days	Last 7 Days	Forecast All Days	Forecast 15 Days	Temp	Precip	Temp Fcast	Precip Fcast	Temp Last 7 Days	Precip Last 7 Days	Temp Last 15 Days	Precip Last 15 Days
Barley		Argentina Corn Index	217.2	183.3	108.9	69.2	54.8	7.6	25.7	115.0							
Citrus		Brazil Corn Index	311.0	253.6	114.7	88.0	38.3	31.6	31.8	145.4							
Cocoa		Bulgaria Corn Index	221.7	145.3	63.6	54.7	6.0	5.3	10.0	54.1							
Coffee		Canada Corn Index	223.8	127.7	36.4	23.8	11.2	18.5	19.1	43.7							
Corn	Argentina	China Corn Central Index	245.5	190.6	35.8	5.1	1.1	0.5	2.2	7.3							
	Brazil	China Corn North Index	127.4	40.9	19.5	4.9	1.5	1.2	2.7	7.6							
	Bulgaria	China Corn South Index	404.5	261.1	88.4	60.8	26.9	8.4	15.6	83.7							
	Canada	France Corn Index	197.3	141.2	87.6	37.9	37.0	22.1	35.9	75.9							
	China	Germany Corn Index	214.0	126.7	73.7	16.0	13.0	8.8	18.6	34.8							
	China Central	Hungary Corn Index	244.0	175.3	81.7	30.7	3.4	7.7	15.7	25.0							
	China North	India Corn Index	380.6	170.1	69.2	28.2	0.1	14.4	16.9	44.6							
	China South	Italy Corn Index	230.1	152.4	87.6	48.8	46.7	43.8	80.0	110.1							
	France	Poland Corn Index	185.5	101.2	43.1	1.4	0.7	7.0	14.1	18.7							
	Germany	Romania Corn Index	175.5	120.8	56.1	32.5	0.0	6.0	11.0	27.6							
	Hungary	Russia Corn Index	97.7	76.8	42.5	10.1	5.1	2.2	6.2	16.8							
	India	Serbia Corn Index	213.8	148.5	57.0	11.3	0.3	6.5	13.4	14.9							
	Italy	South Africa Corn Index	57.7	52.5	47.8	30.8	30.2	18.5	29.5	67.8							
	Poland	Spain Corn Index	165.5	148.2	96.8	35.1	15.1	19.4	36.1	73.7							
	Romania	Ukraine Corn Index	98.3	64.8	29.4	5.1	0.0	1.6	7.1	9.4							
	Russia	US Corn (Delta) Index	9.8	6.8	3.7	1.1	0.8	0.1	0.3	1.6							
	South Africa	US Corn (East) Index	10.8	6.4	2.1	0.7	0.5	0.2	0.5	1.2							
	Spain	US Corn (West) Index	9.9	4.8	1.4	0.2	0.1	0.2	0.4	0.5							
	Ukraine	US Corn Index	10.5	5.6	1.7	0.4	0.2	0.2	0.4	0.8							

Standard Deviation from normal (Z-Score = equal to the difference from the mean divided by the standard deviation)

< -2.0 < -1.0 < -0.5 Normal > 0.5 > 1.0 > 2.0

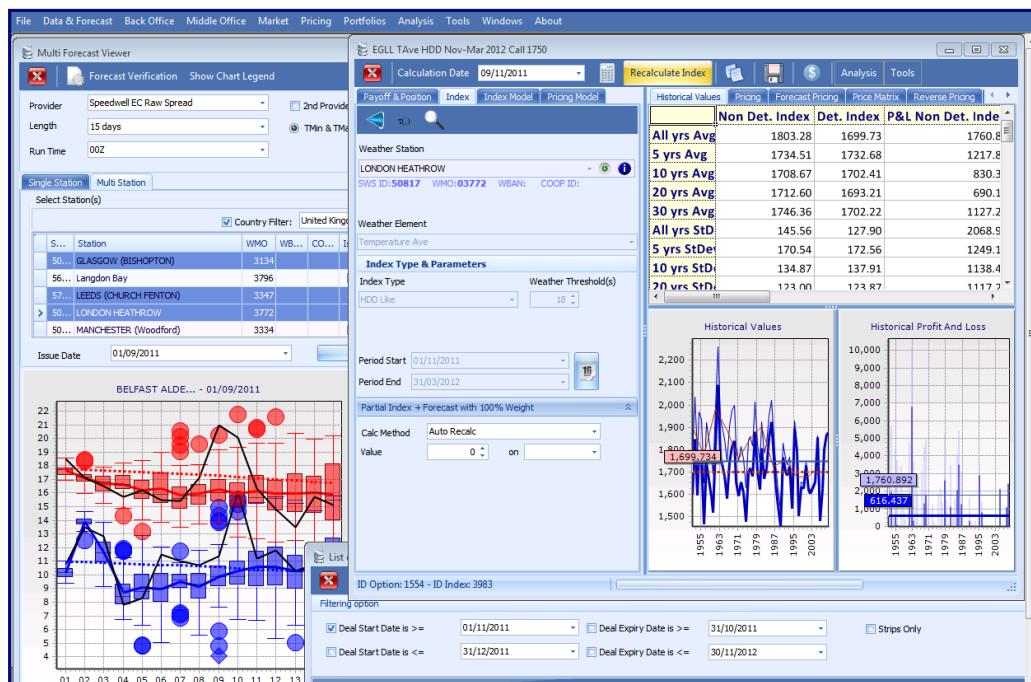


Speedwell Weather Enterprise Weather Risk Management Software

The Speedwell Weather System (SWS) is the definitive enterprise weather derivative pricing and risk management system. The product of over fifteen years' of continuous development, SWS offers sophisticated pricing tools as well as portfolio management and full back and middle office functionality including regulatory reporting.

SWS functions as a central warehouse for weather data and forecasts, automatically downloading into its data base. SWS is used by banking, insurance, energy and investment fund clients in the USA and Europe.

SWS is an open system and is available as an internally installed application or can be hosted remotely.



- **Weather risk contract pricing tools**
- **Gas-quanto pricing**
- **Portfolio management**
- **Back office trade flow management / settlement / Dodd Frank / EMIR regulatory reporting**
- **Automatic weather data and forecast importation into dedicated weather data base**

weatherXchange® is a platform which helps companies with weather risk access index-based weather risk protection. The weatherXchange platform provides unprecedented access to tools and services:

- Free access to the highest-quality weather data for thousands of sites, basket indexes, and gridded data
- Free structuring tools to help new hedgers through the process of designing a hedge
- Free price comparison through streamlined communications between market participants
- Integrating access to Settlement Services
- Integrating access to independent middle-office Calculation Services
- Compliant with required regulations to address users based in the EU/UK/Switzerland, Australia, Bermuda, Brazil, Colombia and USA

weatherXchange Limited is regulated by the Financial Conduct Authority
weatherXchange®

The screenshot shows the 'Parameters' tab of a draft contract for 'London Heathrow' from 2017 Jan 01 to 2017 Mar 31. It includes a 'Historical Values Summary' table and a 'Historical Index Values' chart.

Num. Of Years	Index Average	Trend-Adjusted Index Average
20	581.76	568.66
15	571.07	559.14
10	564.95	555.88
5	560.26	554.92
1	560.48	578.64

The chart shows the index value over time from 1975 to 2020, with a trend-adjusted line and a strike level.

The dashboard offers several services and actions:

- Get Advice/Prices from Broker-Advisors
- Get Prices direct from Protection Sellers
- Request Settlement Data
- Request End of Day Valuations
- Rename this Draft Contract
- Move Draft Contract to Folder
- Edit Draft Contract
- Copy Contract Template
- View Historical Payouts
- Download Contract Spec
- View Historical Data
- View Forecasts

Speedwell Settlement Services

Speedwell is the major provider of Settlement Data for index-based weather risk contracts world-wide. Even the highest quality weather data is subject to missing values, erroneous observations, delayed reporting, instrument failure, and the potential for observation tampering. Speedwell Settlement Services (SSS) ensures accurate and reliable observations for the settlement of weather risk contracts.

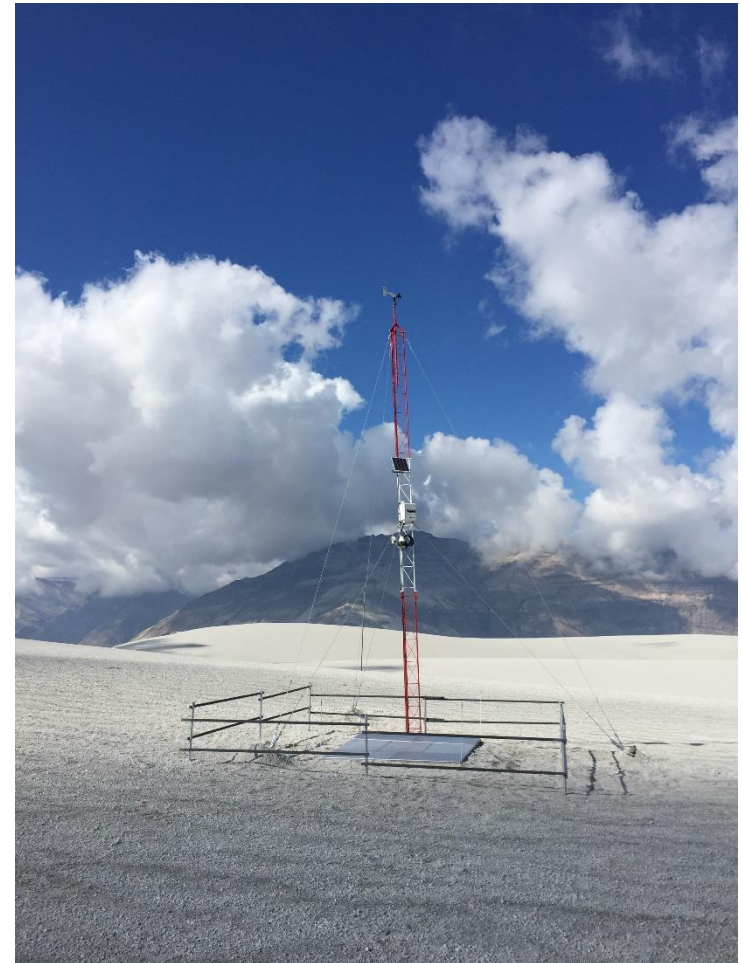
Weather Station Installation

The installation of weather stations is sometimes required in order to provide advanced quality control of pre-existing weather stations or to establish an observation point in close proximity to a risk location (minimize “basis risk”). SSS has many years of experience in the data requirements necessary for cost-effective weather risk placement. Using the latest instrumentation and communications systems weather stations can be deployed on quick notice to meet the needs of weather risk market.

Notable Projects

World Bank: UTE Transaction: \$450 million dollar hedge providing protection for UTE, a Uruguayan state-owned hydropower company. Speedwell’s role in this project included the installation of back-up weather stations across the region and provision of Settlement Data. Speedwell also acted as Calculation Agent and provided in-period valuations for the counterparties.

EPM, Colombia: \$250 million dollar hedge based upon cumulative precipitation at two weather stations. Multi-year project. Speedwell’s role in this project includes the installation of back-up weather station and performing in-depth quality control of observations as observed by the hedge counterparty.



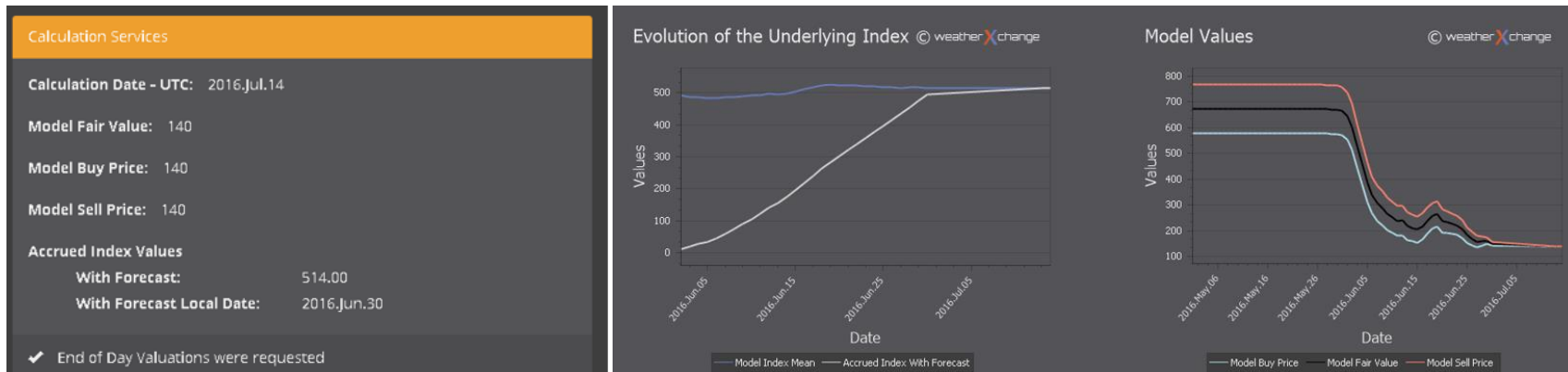
Speedwell Weather Station Installation: Chilean Andes

Speedwell Calculation Services

Speedwell Calculation Services provides weather risk contract valuations and middle office metrics via the weatherXchange platform. End of day valuations, VaR and greeks can be provided.

Regulatory reporting requirements are satisfied with an exportable report

Optionally, full portfolio based valuations can also be provided



Historical Values Summary Export To Excel

Calculation Date	Model Fair Value	Model Index Average	Model Index StDev	Partial Index With Forecast	Partial Index Date With Forecast	Model Buy Price	Model Sell Price	Delta	Gamma	Vega
2016-Jun-30	149	514.89	3.34	494.50	2016-Jun-29	142	156	10.00	0.00	0.00
2016-Jun-29	161	516.84	6.74	476.00	2016-Jun-28	148	174	161.02	0.00	0.28
2016-Jun-28	159	516.92	9.65	455.50	2016-Jun-27	141	178	159.42	0.91	1.23
2016-Jun-27	157	516.45	12.39	434.50	2016-Jun-26	135	180	157.23	0.03	2.05
2016-Jun-26	148	513.20	15.25	415.00	2016-Jun-25	142	185	156.24	0.60	2.37

End of Day Risk Reports

End of Day Risk Reports are calculated between 2pm and 4pm UK local time and provide independent mark to model values, value at risk measures and sensitivities.

Reporting Date: 14/07/2016 Refresh

Export To Excel

Executed Contract Name	Buy?	Counterparty	Model Fair Value	Model Buy Price	Model Sell Price	Expiry VaR 97.5%	Expiry VaR 99%	Expiry VaR 99.9%	Model Index Average	Model Index StDev
Miami TMax Jul-Aug-16	False		165	126	204	-350	-350	-350	2.16	3.19
Long Miami	True		500	500	500	300	300	300	30.10	10.27

Page 1 of 1 (2 items) Page size: 10

nb:

- Expiry VaR values are inclusive of the premium cashflow.
- Model Values are estimated using many different models to reduce model sensitivity for a given trade. In particular, several detrending methods are used, several forecasts are used, several history length are used, several stress-testing scenarios are used.

Please feel free to [contact us](#) for any additional information regarding the risk models.

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