Probabilistic Trader

Gain greater trading insights

For nearly 20 years, WSI Trader from The Weather Company, an IBM Business, has provided optimal forecasts for temperature and precipitation. The complicated process of creating our forecasts includes ingesting all of the best regional and global models, including the ECMWF model as well as our own Deep Thunder model. A thorough evaluation of the accuracy and bias of each model is performed automatically every hour as new observations come in. It is the intelligent combination of these models that allows for our superior accuracy.

But while our forecasts have proven to be industry-leading[1] in terms of accuracy, we are omitting useful information when only providing a "one true number" forecast.

Now, for the first time, we are using the outputs from each forecast model to construct a forecast distribution that weights each input as equally likely to occur. This allows the user to best answer questions like, "If the forecast is wrong, in what direction will it be wrong?" We call this new methodology Probabilistic Forecasting (PFP).

Even moderate changes in forecast certainty can reduce investment risk.

The development of PFP was driven by extensive feedback from global commodity traders. The solution enables users to:

- **Interpret** – quickly and easily – forecasted maximum/minimum temperatures for the next 10 days, along with a graphical representation of the forecast spread.
- **Access** a more robust suite of forecast information enabling users to access up to 100 equally likely forecasts and produce a distribution of expected business outcomes, which allows for better evaluation of risk.
- **Visualize** easy-to-read, probability graphics that allow for quick spatial evaluation of forecast uncertainty.
- **Evaluate** probability analysis and gain deeper insight into specific forecast sites, including threshold exceedance data that allows the user to quickly ascertain the probabilities for exceeding a certain key temperature or precipitation threshold.

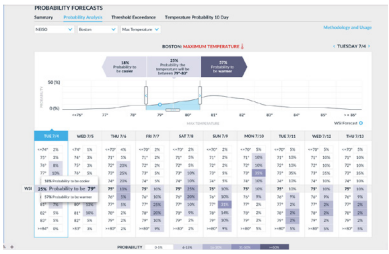
[1] https://forecastwatch.com/static/Three_Region_Overview_2010_201606.pdf

The Weather Company
An IBM Business

Key Features

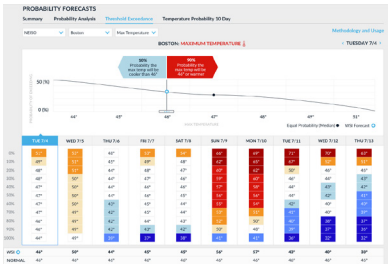
Summary Page

Quickly shows the forecasted maximum/minimum temperatures for the next 10 days, along with a graphical representation of the forecast spread as depicted by shading. The width of the distribution is defined by the difference between the 25th and 75th percentiles of the sorted forecast temperature distribution. This does not account for extreme outliers but does give a broad representation of the width of the distribution and the associated uncertainty.



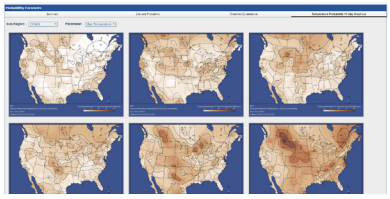
Discrete Probability

Allows for a deeper dive into temperature and precipitation forecast probabilities at any of the cities for which forecasts are available. The top of the interface allows the user to select the day of interest, and the line graph depicts discrete probabilities for each value of temperature or precipitation. The table provides the same data with explicit probabilities for each temperature or range and binned precipitation amounts.



Threshold Exceedance

Allows the user to drag a slider bar to a maximum/minimum temperature or daily precipitation value that may be of particular interest to their business over the next 10 days and evaluate the probability of that temperature falling on either side of that threshold.



Temperature Probability 10-Day Graphics

Provides a graphical view of forecast uncertainty. This is available for either maximum or minimum temperature. The maps display the forecast uncertainty by forecast day along with the forecast plotted for a number of cities. The forecast uncertainty is defined as the difference between the 75th and 25th percentile temperatures.

Learn more

The Weather Company
An IBM Business