Overview

Make more effective decisions and improve your weather forecast accuracy and quality with data and expert analysis from ForecastWatch.

Date Range

ForecastWatch has been collecting forecasts and observations since February 2004 in the U.S, since November 2004 in Canada, and Internationally, since September 2011.

Regions

ForecastWatch collects forecasts and observations from six continents and is currently expanding international coverage each month.

- United States: 808 locations
- Africa: 13 locations
- Canada: 50 locations
- Middle East: 21 locations
- Europe: 202 locations
- Central America: 10 locations
- Asia-Pacific: 65 locations
- South America: 15 locations

Collected Providers

ForecastWatch collects forecasts from 15 regional and international providers, and also collects private forecast feeds that may be available with the permission of the forecast owners. We are continuing to add providers.

- AccuWeather
- Global News (Canada only)
- National Weather Service (U.S. Only)
- BBC (Europe Only)
- Global Weather Corp (Temperature Only)
- The Weather Channel
- CustomWeather
- WeatherBug
- Dark Sky (forecast.io)
- Intellicast
- World Weather Online
- Foreca
- MeteoGroup
- Weather Underground

We also measure against two unskilled forecasts:

- Persistence (unskilled forecast)
- Climatology (unskilled – U.S. only)

Collection Times

ForecastWatch collects forecasts mid-afternoon relative to each of the eight regions locations are grouped into. The times, in UTC, in which collection occurs are as follows:

- 08:00 Asia Pacific
- 21:00 South America
- 13:00 Middle East
- 21:40 Canada
- 15:30 Africa
- 22:00 United States
- 16:00 Europe
- 23:00 Central America

Measured Metrics

ForecastWatch collects forecasts and observations for all the major weather parameters: temperature, precipitation, wind, and sky cover.

- High Temperature (24 hour, 7am–7pm LST, afternoon high)
- Probability of Precipitation
- Wind Speed
- Low Temperature (24 hour, 7pm–8am LST, morning low)
- Wind Direction
- Sky Cover (from Icon and Text Forecasts)
- Precipitation (Binary Rain, Snow, Thunderstorm)
- Opacity

Temperature Metrics

ForecastWatch calculates the following accuracy metrics for temperature forecasts. Metrics not shown can be computed on demand.

- Average Error (Bias)
- Root-Mean-Squared Error
- Standard Deviation of Error
- Percentage within 3 degrees F
- Error Bounds
- Percentage No Error
- Average Absolute error
- Percentage Greater than 10 degrees F error

Binary Precipitation Metrics

ForecastWatch calculates the following accuracy metrics for precipitation forecasts. Metrics not shown can be computed on demand.

- Bin Counts (YY, YN, NY, NN)
- Percent Correct
- Bias
- Odds-Ratio Skill Score
- Hit Rate
- Equitable Threat Score
- False Alarm Rate

Probability of Precipitation Metrics

ForecastWatch calculates the following accuracy metrics for probability of precipitation forecasts. Metrics not shown can be computed on demand.

- Bin Counts (Each 10% band)
- Brier Score
- Brier Skill Score (against Persistence)

Wind Metrics

ForecastWatch calculates the following accuracy metrics for wind forecasts. Metrics not shown can be computed on demand.

- Speed Average Error (Bias)
- Speed Average Absolute Error
- 8-point Compass Rose
  - Percent Same
  - Percent One Off
  - Percent Opposite
- Direction (Degrees) Average Error (Bias)
- Direction (Degrees) Average Absolute Error
- 16-point Compass Rose
  - Percent Same
  - Percent One Off
  - Percent Two Off
  - Percent Opposite

Opacity Metrics

ForecastWatch calculates the following accuracy metrics for opacity forecasts. Metrics not shown can be computed on demand.

- Average Error (bias)
- Average Absolute Error
- Average Standard Deviation of Error

Sky Cover Metrics

ForecastWatch calculates the following accuracy metrics for sky cover forecasts from both the text and icon forecast. Metrics not shown can be computed on demand.

- Same Normalized Group
- One Off Normalized Group
- Bias

Days Outs

ForecastWatch collects and calculates accuracy and quality statistics as far out as the providers provide forecasts for, up to 14 days out (i.e., A "15 day forecast").

Aggregation Levels

ForecastWatch aggregates accuracy and quality statistics on both a monthly and yearly basis. Overall statistics are available for each region, sub-region, and individual location. In the United States, he ability to drill down to the state level, and in Canada, to the province level. Internationally, the ability to drill down from each region to specific countries.

Custom Aggregations

ForecastWatch retains all data and can provide custom aggregations or statistics on parameters that are important to you. We can generate custom reports that provide information that is valuable and helpful to you.

About ForecastWatch

ForecastWatch is the world's premier weather forecast monitoring and assessment company. A full-service, technology consulting firm. ForecastWatch also maintains a historical database of more than 800 million weather forecasts from a number of weather providers.

ForecastWatch data and analysis has been used by meteorologists, utilities and energy companies, the agriculture industry, futures traders, and others whose business success depends on accurate weather information. Our data meets the highest standard of scientific inquiry, and has been used in several peer-reviewed studies, including a paper published in the Monthly Weather Review. In 2003, ForecastWatch.com released the largest public weather forecast accuracy study undertaken to that point.

ForecastWatch services are used to evaluate and compare weather forecast providers, improve decision-making where weather forecasts are used as input, improve weather forecasts and weather forecast websites by providing useful feedback, and educate customers with unbiased reporting.