

Max Solution Basic API Package

Overview

The Weather Company Max Solution Basic API package allows you to integrate new insights to make business decisions where weather has a significant impact on the outcome. This package includes the most essential weather APIs: forecasts, current conditions as site-based currents and time-series observations or generated from our currents on-demand system, as well as daily and intraday forecast data.

We round out the essential weather package with lifesaving government weather alerts, informative almanac data, and a useful search utility. These resources are all brought to you by The Weather Company, rated as the industry's most accurate forecaster by a ForecastWatch independent study.*

Drive better decisions with more accurate results

Access insightful weather data and help ensure your station stays informed of the core conditions with our accurate, accessible and dependable forecasts to drive fact-based decisions.

Visit www.weathercompany.com/media or reach us by email at business@weather.com.

* The Weather Company is the world's most accurate forecaster, according to a 2010-2017 study, which is the most recent, most comprehensive study available from ForecastWatch.

Key Benefits

Benefit from daily and intraday forecast data for 24-hour periods that run today through the next 10 days and hour-by-hour forecasts for the next 2 days.

- Customize this data for display in your Max broadcast display system as well as anywhere the API is implemented using the Forecast Editor integrated into the Max interface.
- Current conditions include both site based and currents on-demand.
- Show current conditions (temperature, wind direction and speed, humidity, pressure, dew point, visibility, and UV index), either where available from official reporting stations, or as generated from our currents on-demand system for any latitude and longitude.

Learn more about Weather Data APIs





ForecastWatch
Accuracy Defined

Three-Region Accuracy Overview

2010 through 2017

By ForecastWatch.com,
a Service of Intellovations, LLC

Eric Floehr
Founder and CEO
Intellovations, LLC

6724 Perimeter Loop Road, #275
Dublin, OH 43017
eric@forecastwatch.com
<http://www.forecastwatch.com>
614-923-2050
855-609-9609



Executive Summary

Accurate forecasts form the core of every successful weather forecast provider. Being able to establish that accuracy and communicate it to the various public and private clients who rely on pinpoint forecasts is crucial. The better that consumers of weather information know your track record, the more reliance they can place in your ability to provide accurate forecasts in the future.

This analysis assessed the accuracy of forecasts from eleven weather forecast providers across three regions and three days-out groupings: one-to-three days, four-to-six days, and seven-to-nine days. Accuracy was measured as the average of the percentage of high temperature forecasts within three degrees, the percentage of low temperature forecasts within three degrees, and the percentage of precipitation and non-precipitation forecasts that were correct. The regions analysed were the United States, Asia-Pacific, and Europe. Forecasts for the United States were analysed for the full eight-year period while Asia-Pacific and Europe were analysed for the previous five years. More than 150 million forecasts were analysed.

Of the 54 region, year, and days-out groupings, The Weather Channel was the most accurate in 35 of them. Weather Underground was the most accurate in 12 periods and Foreca came in first 7 times (13% of all possible groups). Weather Underground and The Weather Channel are both owned by IBM. The Weather Channel acquired Weather Underground in 2012 and both have shown similar accuracy scores since late 2013.

Results

ForecastWatch calculated overall forecast accuracy for one-to-three days out, four-to-six days out, and seven-to-nine days out forecasts for Asia-Pacific, Europe, and the United States. The collection period was 2013 through 2017 for the Asia-Pacific and European regions, and 2010 through 2017 for the United States. As detailed in the individual tables, the analysis included eight providers for Asia-Pacific, nine providers for Europe, and ten providers for the United States. Two of the providers, The Weather Channel and Weather Underground, are owned by IBM. The Weather Channel acquired Weather Underground in 2012 and both have shown similar accuracy scores since late 2013.

ForecastWatch did not begin collecting forecasts from some providers until after the study period began, as indicated in the tables. For example, ForecastWatch began collecting forecasts from World Weather Online during 2010, Foreca and MeteoGroup in 2011, and Dark Sky in 2013. Thus the first full year of forecasts would be 2011 for World Weather Online, 2012 for Foreca and MeteoGroup, and 2014 for Dark Sky. Additionally, Weather Underground did not provide five-days out forecasts until 2011 and ten-days out forecasts until 2014.



Overall forecast accuracy was measured as the average of the percentage of high temperature forecasts within three degrees, the percentage of low temperature forecasts within three degrees, and the percentage of precipitation and non-precipitation forecasts that were correct. Total forecasts collected by region were over 6 million for the Asia-Pacific, over 20 million for Europe, and more than 132 million for the United States, for nearly 160 million forecasts.

The accuracy tables detailed for each group of forecasts is sorted by the number of times the provider had the highest accuracy. In the event of a tie, it is sorted on 2017 accuracy. The provider with the highest accuracy for each year is highlighted.

One-to-Three Days Out

Asia-Pacific

As shown in Table 1, The Weather Channel was the most accurate provider of one-to-three days out forecasts in the Asia-Pacific region for three of the five years analysed. In 2017, its accuracy was a mere 0.01% lower than Weather Underground, the most accurate provider. In 2014, MeteoGroup was the most accurate. The Weather Channel's 77.69% in 2017 score was its highest in the five years of tracking.

| | 2013 | 2014 | 2015 | 2016 | 2017 |
|-----------------------------|--------|--------|--------|--------|--------|
| The Weather Channel | 75.38% | 73.08% | 76.25% | 76.20% | 77.69% |
| Weather Underground | 70.98% | 73.13% | 76.18% | 76.13% | 77.70% |
| MeteoGroup | 74.12% | 74.10% | 74.31% | 73.11% | 74.43% |
| AccuWeather | 70.17% | 70.52% | 74.03% | 74.95% | 76.40% |
| Foreca | 71.06% | 71.92% | 72.83% | 72.93% | 74.39% |
| Intellicast | 71.40% | 69.56% | 71.71% | 72.19% | 73.40% |
| Dark Sky | | 69.75% | 68.20% | 68.40% | 70.17% |
| World Weather Online | 60.25% | 58.49% | 60.34% | 60.68% | 60.96% |

Table 1: Asia-Pacific One-to-Three Days Out Overall Accuracy, 2013-2017

Europe

For the fourth time in five years, The Weather Channel had the highest accuracy for one-to-three days out forecasts within Europe, with an accuracy percentage of 77.74% in 2017, as shown in Table 2. The Weather Channel was closely followed by Weather Underground at 77.62%. While the next four providers—Intellicast, AccuWeather, MeteoGroup and Foreca—were closely packed, three providers—BBC, Dark Sky and World Weather Online—lagged far behind.



| | 2013 | 2014 | 2015 | 2016 | 2017 |
|-----------------------------|--------|--------|--------|--------|--------|
| The Weather Channel | 73.39% | 75.42% | 76.33% | 76.74% | 77.74% |
| Weather Underground | 69.07% | 75.31% | 76.27% | 76.76% | 77.62% |
| Intellicast | 72.09% | 74.07% | 74.95% | 75.81% | 76.72% |
| AccuWeather | 69.05% | 72.11% | 75.92% | 75.98% | 76.62% |
| MeteoGroup | 73.21% | 74.34% | 74.63% | 74.44% | 75.44% |
| Foreca | 70.83% | 72.49% | 74.24% | 74.71% | 74.98% |
| BBC | 68.36% | 69.26% | 69.64% | 69.42% | 69.91% |
| Dark Sky | | 69.60% | 69.10% | 68.42% | 69.73% |
| World Weather Online | 61.87% | 62.13% | 63.78% | 64.28% | 63.17% |

Table 2: Europe One-to-Three Days Out Overall Accuracy, 2013-2017

United States

For the eight years of one-to-three days out forecasts for the United States (depicted in Table 3), The Weather Channel and Weather Underground were the top performers for all but one year. In 2012, MeteoGroup was the most accurate provider with an accuracy percentage of 74.48%. World Weather Online, at 59.3%, was the least accurate forecaster, and its accuracy percentage dropped more than 5% in the last year. There was a slight overall decrease in forecast accuracy from 2016 to 2017 among providers taken as a whole, even though The Weather Channel, Weather Underground, and the National Weather Service improved from 2016 to 2017.

| | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
|-----------------------------|--------|--------|--------|--------|--------|--------|--------|--------|
| The Weather Channel | 72.10% | 71.54% | 74.28% | 75.02% | 74.99% | 76.63% | 77.45% | 77.47% |
| Weather Underground | 69.87% | 68.35% | 69.45% | 70.76% | 75.25% | 76.65% | 77.38% | 77.42% |
| MeteoGroup | | | 74.48% | 74.95% | 75.21% | 75.32% | 75.54% | 75.34% |
| Intellicast | 71.77% | 71.20% | 73.59% | 74.19% | 74.26% | 75.99% | 76.69% | 76.54% |
| AccuWeather | 69.07% | 68.15% | 70.35% | 71.28% | 72.14% | 75.28% | 76.10% | 75.88% |
| Foreca | | | 70.40% | 70.97% | 71.92% | 74.23% | 72.87% | 72.75% |
| NWS Web | 69.43% | 68.73% | 70.06% | 70.34% | 70.27% | 71.30% | 70.55% | 71.81% |
| NWS NDFD | 68.55% | 67.87% | 69.36% | 69.88% | 69.41% | 69.85% | 70.43% | 70.52% |
| Dark Sky | | | | | 66.46% | 68.33% | 70.80% | 68.84% |
| World Weather Online | | | 61.45% | 61.13% | 63.99% | 64.59% | 64.62% | 59.30% |

Table 3: United States One-to-Three Days Out Overall Accuracy, 2010-2017



Four-to-Six Days Out

Asia-Pacific

As shown in Table 4, The Weather Channel’s overall accuracy of 72.45% in 2017 was essentially identical to Weather Underground’s, which was 72.46%. In 2014, the difference between The Weather Channel and Weather Underground was also 0.01%. In all five years, The Weather Channel and Weather Underground were the most accurate providers for four-to-six days out forecasts within Asia-Pacific.

| | 2013 | 2014 | 2015 | 2016 | 2017 |
|-----------------------------|--------|--------|--------|--------|--------|
| The Weather Channel | 69.97% | 67.73% | 70.54% | 71.10% | 72.45% |
| Weather Underground | 65.55% | 67.74% | 70.25% | 70.75% | 72.46% |
| AccuWeather | 64.69% | 65.05% | 67.60% | 69.17% | 70.22% |
| Intellicast | 66.86% | 64.77% | 66.67% | 67.48% | 68.98% |
| Foreca | 65.99% | 66.13% | 67.05% | 67.37% | 68.69% |
| Dark Sky | | 65.02% | 62.75% | 62.12% | 64.71% |
| World Weather Online | 56.73% | 55.33% | 57.18% | 57.39% | 58.08% |

Table 4: Asia-Pacific Four-to-Six Days Out Accuracy, 2013-2017

Europe

As detailed in Table 5, The Weather Channel had the highest accuracy in 2017 of any of the seven providers for four-to-six days out forecasts for Europe. Weather Underground was second, 0.10% lower than The Weather Channel. Intellicast and AccuWeather followed very closely behind The Weather Channel and Weather Underground in third and fourth place, respectively. Weather Underground’s performance has improved the most over the 5-year period, with an increase in overall accuracy of 7.71% over the period. World Weather Online’s overall accuracy has decreased by 6.89% over the period. During the period of data collection, Weather Underground was the most accurate provider between 2014 and 2016, while The Weather Channel was the most accurate in 2013 and 2017.



| | 2013 | 2014 | 2015 | 2016 | 2017 |
|-----------------------------|--------|--------|--------|--------|--------|
| Weather Underground | 59.42% | 65.77% | 66.59% | 66.86% | 67.13% |
| The Weather Channel | 63.75% | 65.70% | 66.58% | 66.84% | 67.23% |
| Intellicast | 62.89% | 64.71% | 65.63% | 66.16% | 66.58% |
| AccuWeather | 59.37% | 62.53% | 65.59% | 66.17% | 66.10% |
| Foreca | 61.93% | 62.42% | 63.81% | 65.61% | 65.39% |
| Dark Sky | | 60.80% | 60.76% | 59.68% | 60.32% |
| World Weather Online | 55.21% | 55.93% | 57.78% | 57.81% | 56.96% |

Table 5: Europe Four-to-Six Days Out Accuracy, 2013-2017

United States

As reflected in Table 6, The Weather Channel was the top performer for four-to-six day out forecasts for the U.S. for the sixth time in eight years. In 2015, it achieved a tie for first with Weather Underground. The 66.70% average for 2017 represents an increase of just more than 5% since 2010. This represents the largest accuracy increase of any provider in the eight-year period. All providers suffered a slight decrease in accuracy for 2017.

| | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
|-----------------------------|--------|--------|--------|--------|--------|--------|--------|--------|
| The Weather Channel | 61.62% | 61.55% | 63.83% | 64.75% | 64.51% | 66.50% | 67.38% | 66.70% |
| Weather Underground | | | 60.47% | 61.43% | 64.71% | 66.50% | 67.35% | 66.64% |
| Intellicast | 61.47% | 61.36% | 63.47% | 64.30% | 64.11% | 65.98% | 66.82% | 66.15% |
| Foreca | | | 62.08% | 62.32% | 62.59% | 64.47% | 66.14% | 65.67% |
| AccuWeather | 59.92% | 59.61% | 60.60% | 61.46% | 61.80% | 64.52% | 65.70% | 64.20% |
| NWS NDFD | 58.89% | 58.75% | 59.54% | 60.28% | 59.26% | 60.11% | 60.73% | 60.35% |
| Dark Sky | | | | | 59.92% | 59.75% | 60.93% | 60.08% |
| World Weather Online | | | 54.67% | 54.34% | 57.82% | 58.74% | 59.00% | 55.19% |

Table 6: United States Four-to-Six Days Out Accuracy, 2010-2017

Seven-to-Nine Days Out

Asia-Pacific

As detailed in Table 7, The Weather Channel has been the most accurate weather provider for seven-to-nine days out forecasts for the Asia-Pacific region for each year during the five-year period. AccuWeather displayed the most forecast improvement from 2013 to 2017, with an accuracy percentage rising from 58.93% to 64.23%. World Weather Online had the lowest accuracy percentage of 53.19%.



| | 2013 | 2014 | 2015 | 2016 | 2017 |
|-----------------------------|--------|--------|--------|--------|--------|
| The Weather Channel | 64.83% | 62.42% | 65.52% | 65.82% | 66.83% |
| Weather Underground | | | 65.33% | 65.41% | 66.76% |
| AccuWeather | 58.93% | 59.12% | 60.99% | 62.52% | 64.23% |
| Intellicast | 62.38% | 60.08% | 62.48% | 62.81% | 64.07% |
| Foreca | 61.90% | 60.50% | 61.46% | 62.44% | 63.75% |
| World Weather Online | 54.55% | 53.93% | 52.30% | 52.64% | 53.19% |

Table 7: Asia-Pacific Seven-to-Nine Days Out Accuracy, 2013-2017

Europe

The Weather Channel was the top performer for three of the five years analyzed with Weather Underground and Foreca having the best forecasts in 2016 and 2013, respectively. The difference in accuracy score for the first four providers was only 0.66%. MeteoGroup, Dark Sky, and BBC are not included in the analysis due to either not providing forecasts or ForecastWatch not collecting forecasts out to nine days.

| | 2013 | 2014 | 2015 | 2016 | 2017 |
|-----------------------------|--------|--------|--------|--------|--------|
| The Weather Channel | 50.44% | 56.85% | 57.81% | 57.70% | 57.77% |
| Weather Underground | | | 57.78% | 57.73% | 57.70% |
| Foreca | 55.24% | 55.35% | 56.06% | 57.56% | 57.11% |
| Intellicast | 54.55% | 56.18% | 57.08% | 57.21% | 57.33% |
| AccuWeather | 48.43% | 52.25% | 55.48% | 56.34% | 56.10% |
| World Weather Online | 49.51% | 49.89% | 51.11% | 51.21% | 49.71% |

Table 8: Europe Seven-to-Nine Days Out Accuracy, 2013-2017

United States

The Weather Channel and Foreca shared top billing for most accurate forecaster for the seven-to-nine days out period for the United States. The Weather Channel was the top performer in 2010, 2011, 2015, and 2017, while Foreca had the most accurate forecasts in 2012, 2013, 2014, and 2016. For 2017, Weather Underground was just 0.01% less than The Weather Channel for a very close second place finish. AccuWeather's accuracy was in the middle of the pack while World Weather Online lagged far behind as indicated in Table 9.



| | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
|----------------------|--------|--------|--------|--------|--------|--------|--------|--------|
| The Weather Channel | 52.66% | 52.88% | 54.86% | 56.02% | 55.66% | 57.07% | 58.44% | 57.36% |
| Foreca | | | 56.55% | 56.19% | 56.25% | 57.01% | 58.52% | 57.09% |
| Weather Underground | | | | 53.36% | 55.25% | 57.06% | 58.44% | 57.35% |
| Intellicast | 52.53% | 52.72% | 54.66% | 55.83% | 55.39% | 56.69% | 58.05% | 57.02% |
| AccuWeather | 50.93% | 49.98% | 49.84% | 51.17% | 51.63% | 53.43% | 55.94% | 53.55% |
| World Weather Online | | | 47.74% | 47.67% | 49.85% | 52.08% | 52.41% | 49.62% |

Table 9: United States Seven-to-Nine Days Out Accuracy, 2010-2017

Data Collection

Tables 10 through 18 show the total number of forecasts collected for this report across all three world regions and all three days-out categories. An empty field in the table indicates that the data was unavailable, either because ForecastWatch did not collect forecasts for that provider for the entire period, or because the provider did not provide forecasts for the entire days-out range for the period. Overall, over 158 million forecasts were analysed.

One-to-Three Days Out

Tables 10, 11, and 12 on the following two pages show the number of forecasts collected, matched to an observation, and determined to be valid for each provider for one-to-three days out forecasts for each year and region. Over 2.4 million forecasts were collected for Asia-Pacific for all providers and years, over 7.9 million forecasts for Europe, and over 56 million forecasts for the United States. A total of over 66 million one-to-three days out forecasts were collected from 2010 through 2017.

| | 2013 | 2014 | | 2015 | 2016 | 2017 |
|---------------------|--------|--------|--|--------|--------|--------|
| AccuWeather | 59,636 | 61,404 | | 63,214 | 63,693 | 62,868 |
| Dark Sky | | 64,518 | | 63,522 | 63,934 | 62,791 |
| Foreca | 61,425 | 63,692 | | 63,448 | 63,824 | 62,277 |
| Intellicast | 61,667 | 64,444 | | 63,439 | 63,852 | 62,894 |
| MeteoGroup | 61,669 | 63,493 | | 62,426 | 62,720 | 61,987 |
| The Weather Channel | 61,692 | 64,348 | | 63,517 | 63,934 | 62,965 |
| Weather Underground | 61,700 | 64,191 | | 63,258 | 63,479 | 62,223 |
| World Wide Weather | 61,182 | 63,060 | | 63,159 | 63,310 | 62,553 |

Table 10: Asia-Pacific One-to-Three Days Out Forecast Counts, 2013-2017



| | 2013 | 2014 | 2015 | 2016 | 2017 |
|----------------------------|---------|---------|---------|---------|---------|
| AccuWeather | 168,550 | 166,343 | 188,418 | 189,530 | 193,143 |
| BBC | 135,086 | 137,692 | 142,846 | 142,732 | 145,583 |
| Dark Sky | | 186,167 | 190,254 | 189,850 | 194,041 |
| Foreca | 176,166 | 183,984 | 190,355 | 189,578 | 191,140 |
| Intellicast | 177,604 | 186,522 | 190,606 | 189,891 | 193,981 |
| MeteoGroup | 175,836 | 182,714 | 188,398 | 187,879 | 192,400 |
| The Weather Channel | 174,322 | 185,048 | 190,610 | 189,909 | 194,000 |
| Weather Underground | 176,711 | 178,538 | 186,389 | 187,058 | 179,790 |
| World Wide Weather | 176,393 | 182,061 | 188,645 | 189,025 | 191,648 |

Table 11: Europe One-to-Three Days Out Forecast Counts, 2013-2017

| | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
|-----------------------------|---------|---------|---------|---------|---------|---------|---------|---------|
| AccuWeather | 838,810 | 780,123 | 806,935 | 804,956 | 817,375 | 814,343 | 810,324 | 813,596 |
| Dark Sky | | | | | 818,082 | 817,699 | 808,674 | 815,128 |
| Foreca | | | 804,376 | 801,553 | 810,830 | 812,716 | 809,022 | 805,491 |
| Intellicast | 842,621 | 815,138 | 807,766 | 806,303 | 818,806 | 817,911 | 811,534 | 815,206 |
| MeteoGroup | | | 781,167 | 779,074 | 792,202 | 790,505 | 784,365 | 794,414 |
| NWS Web | 778,545 | 746,761 | 773,951 | 781,800 | 791,917 | 789,267 | 788,238 | 790,487 |
| NWS NDFD | 828,909 | 783,562 | 779,748 | 767,934 | 809,123 | 803,679 | 804,696 | 779,730 |
| The Weather Channel | 841,679 | 812,824 | 806,194 | 805,610 | 814,078 | 817,912 | 811,517 | 815,081 |
| Weather Underground | 831,500 | 810,088 | 807,495 | 805,266 | 813,876 | 816,285 | 805,289 | 813,695 |
| World Weather Online | | | 801,676 | 800,828 | 805,824 | 805,655 | 804,499 | 807,999 |

Table 12: United States One-to-Three Days Out Forecast Counts, 2010-2017

Four-to-Six Days Out

Tables 13, 14, and 15 on the following page show the number of forecasts collected, matched to an observation, and determined to be valid for each provider for four-to-six days out forecasts for each year and region. Over 2.1 million forecasts were collected for Asia-Pacific for all providers and years, nearly 6.3 million forecasts for Europe, and over 43 million forecasts for the United States. A total of over 51 million four-to-six days out forecasts were collected from 2010 through 2017.



| | 2013 | 2014 | 2015 | 2016 | 2017 |
|----------------------|--------|--------|--------|--------|--------|
| AccuWeather | 59,646 | 61,401 | 63,139 | 63,633 | 62,863 |
| Dark Sky | | 64,508 | 63,451 | 63,873 | 62,788 |
| Foreca | 61,438 | 63,735 | 63,366 | 63,761 | 62,277 |
| Intellicast | 61,655 | 64,448 | 63,371 | 63,790 | 62,889 |
| The Weather Channel | 61,685 | 64,350 | 63,445 | 63,873 | 62,962 |
| Weather Underground | 61,696 | 64,169 | 63,205 | 63,602 | 62,246 |
| World Weather Online | 61,263 | 63,048 | 63,077 | 63,197 | 62,560 |

Table 13: Asia-Pacific Four-to-Six Days Out Forecast Counts, 2013-2017

| | 2013 | 2014 | 2015 | 2016 | 2017 |
|----------------------|---------|---------|---------|---------|---------|
| AccuWeather | 168,572 | 166,327 | 188,109 | 189,413 | 192,697 |
| Dark Sky | | 185,677 | 189,836 | 189,716 | 193,615 |
| Foreca | 176,132 | 183,929 | 190,044 | 189,470 | 190,694 |
| Intellicast | 177,504 | 186,489 | 190,297 | 189,778 | 193,574 |
| The Weather Channel | 174,224 | 185,011 | 190,303 | 189,794 | 193,590 |
| Weather Underground | 176,702 | 178,482 | 186,051 | 186,989 | 179,513 |
| World Weather Online | 176,280 | 192,061 | 188,304 | 188,884 | 191,209 |

Table 14: Europe Four-to-Six Days Out Forecast Counts, 2013-2017

| | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
|----------------------|---------|---------|---------|---------|---------|---------|---------|---------|
| AccuWeather | 838,742 | 780,608 | 806,860 | 804,898 | 817,330 | 814,329 | 810,247 | 813,565 |
| Dark Sky | | | | | 817,716 | 817,728 | 808,584 | 815,123 |
| Foreca | | | 804,286 | 801,814 | 810,596 | 812,664 | 808,952 | 805,446 |
| Intellicast | 842,627 | 815,318 | 807,708 | 806,259 | 818,766 | 817,938 | 811,452 | 815,197 |
| NWS NDFD | 731,571 | 758,588 | 694,922 | 716,481 | 753,568 | 742,825 | 647,197 | 682,567 |
| The Weather Channel | 841,698 | 813,102 | 806,011 | 805,555 | 814,136 | 817,937 | 811,446 | 815,082 |
| Weather Underground | | | 772,093 | 805,248 | 813,742 | 816,309 | 805,058 | 813,148 |
| World Weather Online | | | 801,594 | 801,062 | 805,601 | 805,350 | 804,432 | 807,957 |

Table 15: United States Four-to-Six Days Out Forecast Counts, 2013-2017



Seven-to-Nine Days Out

Tables 16, 17, and 18 below, show the number of forecasts collected, matched to an observation, and determined to be valid for each provider for seven-to-nine days out forecasts for each year and region. Over 1.7 million forecasts were collected for Asia-Pacific for all providers and years, over 5.1 million forecasts for Europe, and over 33.2 million forecasts for the United States. A total of over 40 million seven-to-nine days out forecasts were collected from 2010 through 2017.

| | 2013 | 2014 | 2015 | 2016 | 2017 |
|-----------------------------|--------|--------|--------|--------|--------|
| AccuWeather | 59,500 | 61,401 | 63,083 | 63,635 | 62,864 |
| Foreca | 61,289 | 63,650 | 63,309 | 63,769 | 62,267 |
| Intellicast | 61,476 | 64,442 | 63,310 | 63,762 | 62,889 |
| The Weather Channel | 61,505 | 64,352 | 63,387 | 63,873 | 62,963 |
| Weather Underground | | | 63,100 | 63,397 | 62,243 |
| World Weather Online | 61,039 | 63,035 | 63,032 | 63,192 | 62,553 |

Table 16: Asia-Pacific Seven-to-Nine Days Out Forecast Counts, 2013-2017

| | 2013 | 2014 | 2015 | 2016 | 2017 |
|-----------------------------|---------|---------|---------|---------|---------|
| AccuWeather | 168,466 | 166,303 | 188,098 | 189,564 | 192,563 |
| Foreca | 175,870 | 183,850 | 190,030 | 189,617 | 190,556 |
| Intellicast | 177,204 | 186,463 | 190,293 | 189,908 | 193,442 |
| The Weather Channel | 173,928 | 184,978 | 190,299 | 189,927 | 193,457 |
| Weather Underground | | | 185,987 | 187,122 | 179,276 |
| World Weather Online | 176,108 | 182,011 | 188,287 | 189,046 | 191,072 |

Table 17: Europe Seven-to-Nine Days Out Forecast Counts, 2013-2017

| | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
|-----------------------------|---------|---------|---------|---------|---------|---------|---------|---------|
| AccuWeather | 838,598 | 780,536 | 806,980 | 804,985 | 804,985 | 813,510 | 810,107 | 813,595 |
| Foreca | | | 804,445 | 802,256 | 812,260 | 811,760 | 808,786 | 805,432 |
| Intellicast | 841,923 | 815,146 | 807,833 | 806,338 | 820,736 | 817,135 | 811,323 | 815,230 |
| The Weather Channel | 841,698 | 812,886 | 805,970 | 805,591 | 816,029 | 817,136 | 811,307 | 815,118 |
| Weather Underground | | | | 804,641 | 814,239 | 815,112 | 803,470 | 812,086 |
| World Weather Online | | | 801,745 | 801,312 | 807,526 | 804,808 | 804,288 | 807,970 |

Table 18: United States Seven-to-Nine Days Out Forecast Counts, 2010-2017



Methodology

Accuracy

Total forecast accuracy was determined by four components that were equally weighted to arrive at the final percentage presented in the tables:

- Percentage of high temperature forecasts within three degrees Fahrenheit.
- Percentage of low temperature forecasts within three degrees Fahrenheit.
- Percent correct of icon precipitation/non-precipitation forecasts.
- Percent correct of text precipitation/non-precipitation forecasts.

Parameters for this report, both forecast and observed, were defined as follows:

- High temperature: The highest temperature that occurred between 7 a.m. and 7 p.m.
- Low Temperature: The lowest temperature that occurred between 7 p.m. and 8 a.m.

Precipitation: Measured or observed precipitation for the full 24-hour day, local time, midnight to midnight was considered a precipitation observation. Otherwise, it was considered a non-precipitation observation. A precipitation forecast icon showed precipitation, and a precipitation text forecast mentioned precipitation, however likely. If precipitation was not shown or mentioned, it was considered a non-precipitation forecast. In the event a provider did not provide icons, the text forecast was substituted as the icon forecast and weighted twice.

Validity

Forecasts were considered **valid** if they contained a high and low temperature forecast, icon forecast, and text forecast, and if they passed both manual and automated audits. These audits checked for out-of-bounds values and other indicators that suggested the forecast should be marked as invalid. Forecasts that were simply **bad** (inaccurate or wrong) were not considered invalid. However, forecasts issues caused by system bugs or delivery problems (such as a -32768 degree high temperature) were declared invalid.

Providers

Forecasts were collected from the following providers as discussed:

- **AccuWeather** <http://api.accuweather.com>. Forecasts were collected using the using the AccuWeather API at <http://api.accuweather.com>.



- **BBC** <http://www.bbc.co.uk/weather/>. Not all cities collected in Europe are provided.
- **Dark Sky** <http://api.darksky.net>. Latitude and longitude of the observation station were used to retrieve specific forecasts.
- **Foreca** <http://www.foreca.com>. 10-day forecast page. Location parameter used was the city and state of the observation location.
- **Intellicast** <http://intellicast.com>. Extended forecast page. Location parameter was a site-specific code for the location.
- **MeteoGroup** <http://www.weathercast.co.uk/> Forecast taken from the first page graph.
- **NWS NDFD** <http://graphical.weather.gov/xml/>. Forecast collected from the National Digital Forecast Database using the SOAP interface.
- **NWS Web** <http://www.weather.gov>. Forecast taken from the Extended Forecast.
- **The Weather Channel** <http://www.weather.com>. 10-day forecast page. Latitude and longitude of the observation site were used to retrieve specific forecasts.
- **Weather Underground** <http://www.wunderground.com/api>. Location parameter used to retrieve specific forecasts was the International Civil Aviation Organization (ICAO) code or surface synoptic observations (SYNOP) of the observation station.
- **World Weather Online** <https://www.worldweatheronline.com/>. Latitude and longitude of the observation site were used to retrieve specific forecasts.

Forecasts were collected from each of the three regions at specific times during the day. For each location, forecasts were requested at the exact same time from each provider.

| Region | Collection Time | Station Count (as of 2016) |
|---------------|-----------------|----------------------------|
| United States | 22:00 UTC | 806 |
| Europe | 16:00 UTC | 188 |
| Asia-Pacific | 08:00 UTC | 63 |

Table 19: Forecast collection times and regions.



Observation Data

Observation data was collected from the primary Automated Surface Observing System (ASOS) network in the United States as well as international equivalents. United States data was quality controlled by the National Climatic Data Center (NCDC) prior to delivery to ForecastWatch via the Quality-Controlled Local Climatic Data (QCLCD) product data set. International data came from the Integrated Surface Database product. Both products consisted of hourly and daily observation parameters.

About ForecastWatch.com

ForecastWatch, a service of Intellovations, LLC, has been the world's premier weather forecast monitoring and assessment company since 2003, when it released the largest public weather forecast accuracy study at the time. ForecastWatch compiles weather forecasts and observations from more than 1,200 locations around the world, including the United States, Canada, Europe, South America, Central America, Africa and the Asian Pacific. ForecastWatch maintains a historical database of more than 800 million weather forecasts from a number of providers and provides unbiased reporting.

Meteorologists, utilities and energy companies depend on ForecastWatch's accurate data and analysis. Agriculture, futures traders and other companies whose business depends on being right about the weather put their trust in ForecastWatch to help them achieve success. The data meets the highest standard of scientific inquiry and has been used in several peer-reviewed studies.

The Three-Region Accuracy Overview 2010-2017 is made available to the general public subject to certain restrictions. You may use the Three-Region Accuracy Overview 2010-2017 for your personal use, for educational or scholarly use, or for research purposes only. The Three-Region Accuracy Overview 2010-2017 may not be copied, distributed, transmitted, duplicated, reduced, or altered in any way for commercial purposes, or for the purpose of redistribution, without a license from Intellovations, LLC. Requests for information regarding a license for commercial use or redistribution of the Three-Region Accuracy Overview 2010-2017 may be sent via e-mail to reports@intellovations.com.