# Lab 4 Report – Jacob Wall

## 3/8/2014 – 3/13/2014

# Procedure

We were tasked with finding the accuracy and precision of organizations that predict weather for the DFW metroplex. We used a variety of sources, government to private companies, to see who would be the most accurate and if there were any trends. Using online resources we downloaded their weather predictions, imported them into Excel, and from there were able to deduce the trends that weather predictions that each organization has.

# Charts and Graphs

# Analysis & Discussion

**(1) How close were the forecasts by the NWS and the other organizations to the actual temperatures? Who appears to make the best forecasts and the worst forecasts during the week? Was anyone consistently accurate for the entire 6-day period? Why do you think this is the case?**

The NWS was one of the least accurate organizations to the actual weather. The average error was 5.525 degrees per day. The best forecasts were provided by Accu-Weather with an accuracy of 4.175 degrees per day with the worst going to CBS11 with an average error of 6.675 degrees.

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| --- | --- | --- | --- | --- | --- | --- |
| **NWS** | **FOX4** | **CBS11** | **NBC5** | **ABC8** | **W. Channel** | **Accu-Weather** |
| 5.525 | 6.025 | 6.675 | 4.192 | 5.325 | 5.275 | 4.175 |

To me there didn’t seem to be a consistently accurate organization. They all tended to be either habitually high or habitually low, rather than my expected outcome to see the weather organizations be randomly high or low. For example, the NWS typically has a low bias.

**(2) Across the board, for which kinds of temperature, highs or lows, was there less error between the forecasts and the actual temperatures? Why do you think this was the case?**

Typically most organizations predicted the high to be too low whereas the predicted low was split evenly between a high and low bias across all six organizations. I think this is the case because weather develops from the heating and cooling of the earth. When the sun is out, there is more unpredictability (Texas, especially) as far as the expected cloud cover and formations.

**(3) Were the forecasts more accurate or less accurate as the days progressed from**

Day 1 to Day 6? Why do you think this was the case?

The forecasts become more inaccurate as the timeframe went out further. This can be simply explained by the fact that we don’t know the future.

**(4) Were any days particularly tough for all the organizations to forecast?**

As seen from the chart that is also in question 3, 3/11/2014 had a low temperature error of 9.9 degrees. That, along with the low temperature on 3/8/2014 were tough for organizations to accurately forecast.

**(5) On which days was there the best precision (the lowest standard deviation) across all the organizations in the temperature forecasts? On which days was the precision the worst (the highest standard deviation)?**

The lowest SD across all organizations was day 1 for the high and shockingly day 4 for the low. The highest SD across all organizations was day 4 and 5 for high and low respectively.

**(6) Did any of the organizations have a persistent bias, either high or low (for at least 5 days out of 6), in their forecasts of high or low temperatures?**

All of them had a high temp being too low bias in at least five of the days. CBS11 had a high temp being too low bias every day. On the flip side, for the low temperature, none had five or more days with a bias on either side.

**(7) Based on this lab, who would you use to help you plan an outdoor event 6 days from now?**

I would use Accu-Weather to help plan an outdoor event.