CALIFORNIA STATE SCIENCE FAIR
2007 PROJECT SUMMARY

Name(s)

Christine E. Herrmann

Project Number

J0711

Project Title

Which Weather Forecaster?

Abstract

Objectives/Goals

Weather is an important part of our everyday lives. My science fair project analyzes the accuracy of seven different San Francisco Bay Area weather forecasters: weather.com, ktvu.com, kron.com, abclocal.com, nbc11.com, cbs5.com, and sfgate.com.

Methods/Materials

I collected sky formation, precipitation, and high and low temperature forecasts (one day and two day out forecasts) and actual occurrences for 47 consecutive days in the fall of 2006. In the middle of my data collection, I dropped cbs5.com for lack of detailed forecasts. To analyze the data, I entered the data points into an Excel database to compare the forecasts with the actual occurrences. Forecasts are given using qualitative descriptions, but I needed quantitative measures which would be meaningful to weather consumers. For each weather metric, I created conversion charts using embedded IF statements in my Excel database to automate the data translation to a 100% accuracy scale.

Results

For combined forecast accuracy, nbc11.com was the most accurate (87.7 %) followed closely by ktvu.com (86.2%). Forecasters were most accurate when forecasting precipitation (92 % accurate), followed by temperature (86% accurate and about 2 degrees off), and lastly sky (73% accurate).

Conclusions/Discussion

Although forecasting the weather is a challenging task, there is neither a significant difference between the accuracy of each forecaster nor the difference between one day and two day out forecasts.

Summary Statement

This project analyzes the accuracy of seven different weather forecasters by comparing their forecasts to what actually happened.

Help Received

Mother helped review Excel database; Stephen Kemper (with PRTM) showed me how to use an Embedded IF Statement.