

MAE598 Fall 2012 Homework #1

This is a self-discovery exercise. There is no definite answer to the questions but you should try your best. The difficulty level of this exercise is **E** for both Prob 1 and 2.

Prob 1. (a) Use online resources to find the forecast of weather in Phoenix area for the afternoon of Saturday, September 1, 2012. The forecast you consider must be one that is made on or before Thursday, August 30, 2012. At least two elements, near-surface air temperature and precipitation, should be included in the forecast. (b) Use the observation available online on September 1, 2012 to validate the forecast you find in (a) and comment on the accuracy of the prediction. Please cite your sources of the forecast and observation by providing the URL's of the websites and supplementing them with relevant screenshots.

Prob 2. You have probably read in the news about the current drought conditions in many regions in the United States. Use online resources to answer the following questions: (a) How do climate researchers and forecasters quantify the severity of drought? What is the level of severity of the drought condition (compared to historical events) in Kansas and in Arizona, in August, 2012? (b) What is the prediction of the drought condition (or the lack of it) for Kansas and Arizona in Winter, 2012? (c) What observations will be needed to validate the prediction you find in (b)? Please cite your sources of the climate assessment and forecast by providing the URL's of the websites and supplementing them with relevant screenshots.