# An Investigation in Precipitation Prediction with Machine Learning

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Reliably predicting when and where precipitation will occur can reduce property damage and loss of life. The more accurate this prediction is, the more preparation can be made against these unfortunate events. Here we looked at two separate machine learning models and how their accuracy changed depending on the provided data. The two models are only differentiated by the layers used to create them. One set of data consisted of Dew Point, Pressure Change, Relative Humidity, Visibility, Wind Direction, and Wind Speed measured on an hourly basis for the city of Mobile, AL. Whether or not precipitation was present in the past hour was also contained within the training set for the model. The second set of data additionally included whether or not precipitation was present in the past hour for New Orleans, LA. Each of the two data sets were combined with the models for four different accuracy values. Varying degrees of model accuracy were found within the four combinations of models and data sets, with the New Orleans models being less accurate on average. The first model was also found to be on average more accurate than the second one.

**Awards Won:**