Term Project Proposal CE394K Heather Davis

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Title: ***Historical Drought Mapping of the Lake Travis Watershed***

Background: Drought is a multifaceted phenomenon that is not easily quantified. In the state of Texas, droughts occur frequently, and their impacts are exacerbated by the rise in water demand due to population growth. Consequently, drought hydrology has been receiving much attention. The goal of this project is to learn more about the drought historty of the Lake Travis Watershed in order to help predict when future droughts might occur.

Objective: As the availability of usable water becomes scarce, competition for water among agricultural, industrial, commercial, and residential sectors starts to propagate. For this reason, it would benefit those in charge of water resources management to be able to predict when a drought might occur. A number of concepts have been applied to modeling droughts, ranging from simplistic approaches to more complex models. The Lake Travis Watershed is the focus of this project. It contains the Pedernales River which flows into Lake Travis. The major objective of this analysis is to use historical rainfall information within the Lake Travis Watershed to analyze drought frequency pertaining soley to weather conditions to aid in the prediction of future drought occurrence. The affect of water demand on drought conditions has been neglected from this study due to feasibility limitations. A culmination of available data from the USGS, National Hydrography Dataset, National Weather Service and Texas Water Development Board, among other sources, will be used in this assessment.