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CE 394K: GIS in Water Resource

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Term Project Proposal: Kenedy Co, TX - Where Does the Water Go and How Do the Cows Survive?

Kenedy County is a coastal county in South Texas, approximately halfway between Corpus Christi and the U.S.-Mexican Border. In Exercise 2 when we loaded the Gulf Region Basin, I was intrigued by the extremely large HUC 8 sub-basin with no watersheds or subwatersheds that covers most of Kenedy County along with most of two other counties.

For my term project, I want to explore the hydrology of the area and how it impacts the population, which consists primarily of ranches. Specific questions I plan to address are: what are the annual precipitation patterns? How much of the rainfall evaporates, how much infiltrates, how much is runoff to the ocean, etc.? Is there a reliable groundwater source, is it fresh or brackish? How did an area with practically no rivers, streams, or creeks become home to the famous King Ranch? And in a drought prone area where cattle outnumber people 100 to 1, how do either survive? Or are the small towns in the area slowly 'dying'.

The datasets I plan to use include: historical precipitation; aquifer depth and quality, historical population, topography, and historical and current landcover.