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| Instructions |  |
| Write a short essay about your expectations from this course, with focus on   * What is the extent of your exposure and experience with remote sensing and images? * What are your ‘exact’ expectations or research objectives? * Any future plans around what you will learn? * Career, acquire new skills, research interest, curious, advised, etc. * Keep it simple | |

As a recent third year PhD student in Hydrology with a Master’s in Crop, Soil, and Environmental science from Auburn University, my experience with remote sensing is highly diverse. During my master’s I worked with CropScape and DEM’s of the Apalachicola-Chattahoochee-Flint River Basin to make a regional and field-scale SWAT model. It was in Fall 2020, however, that I took a departmental course which taught us how to use python to manipulate .nc data. I have since decided to minor in remote sensing and began this journey last semester by taking Remote Sensing for the Study of Planet earth with Dr. William Smith. In this course I was introduced to google earth engine and ArcGIS Pro (previously I had only used ArcGIS 10.4). Now for my current research I’m attempting to work with GRACE CSR Mascons in order to better determine groundwater levels across the state of Arizona in conjunction with ground-truth well data from ADWR. Our hope is to use this information and other remote sensing data for soil moisture and evapotranspiration in a ParFlow model of Colorado and Arizona. My ultimate dream after my PhD is to do research for NASA in whatever way is needed, but with a special interest in extraterrestrial agriculture or similar areas.

In this course I hope to solidify the concepts of working with remotely sensed data as well as learn new ways to manipulate the data in python. In particular, I’m hoping to better conceptualize and easily work with hierarchal data for timeseries analyses. I am a big fan of the concept of “slicing” the data and hoping these next few months will benefit my journey to manipulate other remotely sensed datasets for future publications. I’m also excited to be introduced to machine learning and considering using this class as an opportunity to better identify locations of wells in Arizona for my project.