

# G572 Lecture Notes 6: Potentiometric Surfaces

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## 1 Lecture Notes

We have now completed two basic modules in this class: an introduction to Python and an overview of working with time series data/Pandas. For the next two weeks, we will be working through Module 3, in which you will be learning how to read in data from USGS web services and how to use this data to create potentiometric surfaces.

All lecture notes and homework can be found here:

<https://github.com/dbabrams/G572-Lecture-Notes-6>

## 2 Lecture Videos

The videos this week have a lot of material that even seasoned Python programmers will likely find useful. I strongly recommend taking time to watch the videos and understand what is happening. I have provided unworked Jupyter Notebooks if you prefer to follow along with the videos. I also have completed notebooks if you prefer to use those instead, although I recommend spending considerable time with these to understand what is happening.

### Important Concepts

[Potentiometric Surfaces](#)

[Kriging](#)

### Creating a Potentiometric Surface

[Introduction](#)

[Install Packages](#)

[Import Data](#)

[Trim Data](#)

[Kriging Objects](#)

[Grid of Kriged Data](#)

[Plotting a Surface](#)

[Creating a Function](#)

[High Plains Aquifer Function](#)

[Troubleshooting!](#)

[Wrapping Up](#)

### Web Service Reader

[Introduction](#)

[Dictionaries](#)

[Reading Data](#)

[Exploring Data](#)

[Troubleshooting](#)

[Alternative Approach](#)

[Plotting Data](#)

[Concluding Thoughts](#)

### 3 This Week's Homework Assignment

Please submit all material via your own private GitHub repository by March 9th at 5:00 pm. You may use the same repository as for the other assignments. Note that this homework represents both Homework 5a and 5b; there will not be a new assignment next week.