Downloading rainfall data from weather radar

Motivation

Rainfall is the main source of water for plants, animals and humans and doubles as the input variable in the soil water balance. Accurate rainfall measurement is important for monitoring environmental events such as drought and flooding. Rainfall measurement is typically measured with rain gauge, which only gives point data. In recent times, there is increased interest in rainfall measurement at the mesoscale and global level and thus radar data has become very useful in undertaking this purpose. Although many weather-mentoring agencies make their data freely available for download through their website, obtaining radar data via websites is often complicated. In addition, the data is usually not clean.

Objective

Create a python function to retrieve clean rainfall data from the NOAA weather radar

Outcome

I want to create a .csv file with a clean radar-derived rainfall data for a particular location.

Sketch

Find the nearest weather radar to using the input lat/ lon coordinates and retrieve rainfall data

Replace missing values

Datasets without missing values

Export result to a new .csv file

User input: lat/lon coordinates, data interval, start date, and end date