

Siphon is a Python library developed by Unidata for accessing data from remote data servers, such as the THREDDS Data Server (TDS). The TDS is a web server that provides metadata and data access for scientific datasets stored in a wide range of formats, using a variety of remote data access protocols, including:

- \succ OPeNDAP (DAP-2, DAP-4)
- CdmRemote
- NetCDF Subset Service (NCSS)
- ➤ OGC Web Map Service (WMS)
- > OGC Web Coverage Service (WCS)
- Data cataloging services (TDS) Catalogs)
- > Metadata services (ISO, NcML, UDDC)

Each protocol offers positive and negative aspects, and this can be quite confusing! The Siphon API has been extended to simplify the choice based on descried data interaction rather than specific protocols.

Not all data live on a TDS. With this in mind, Siphon has been extended to access remote data from simple web services, such as data portals with their own custom web-based APIs.

QR codes link to examples which demonstrate Siphon taking advantage of each new API.

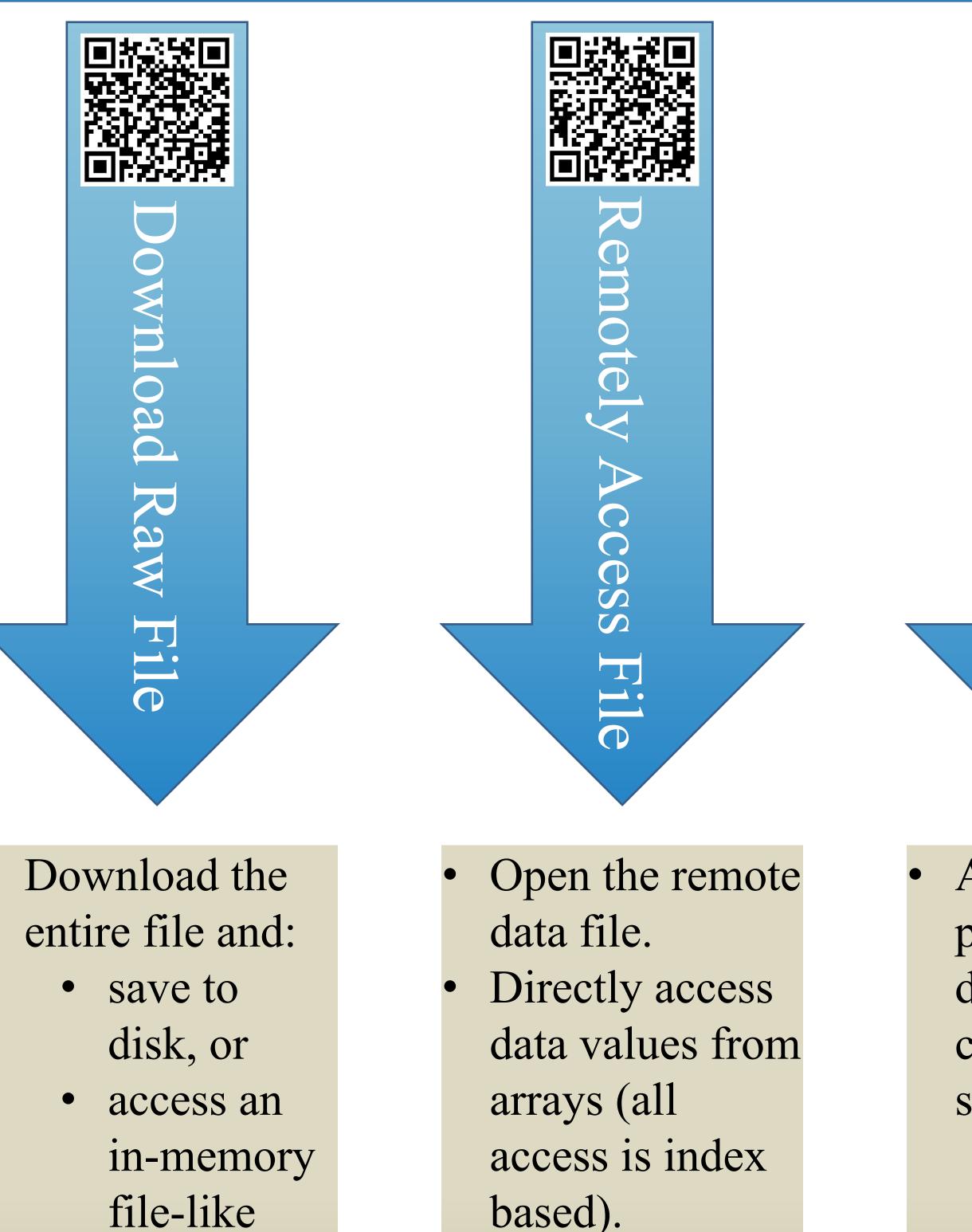


Simplifying Data Access and Expanding Data Sources Sean C. Arms (sarms@ucar.edu; @lesserwhirls), Ryan May (rmay@ucar.edu; @dopplershift), and

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NEXRAD HDF netCDF GRIB 4/5 Level 2/3 3/4 1/2

THREDDS Data Server



object.

Format of data

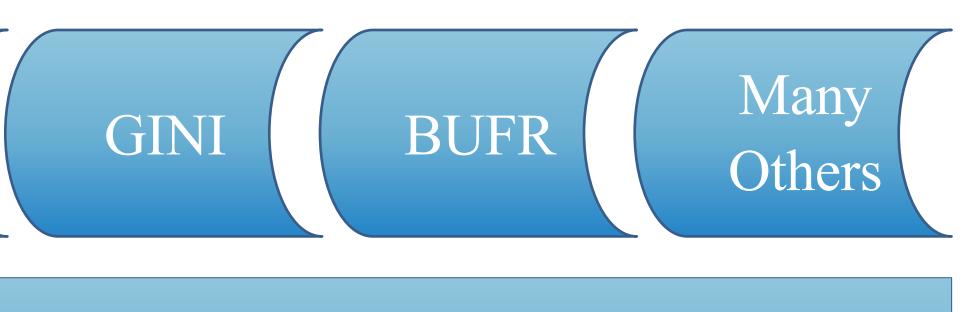
does not change.

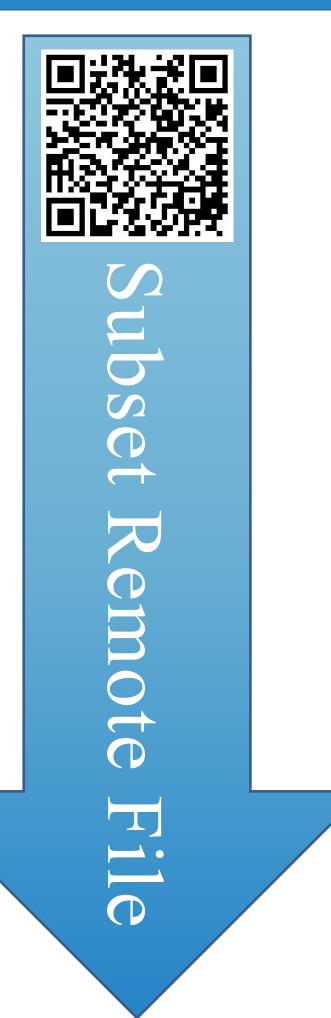
Access based on netCDF4python dataset or xarray interface.

Ask server to prepare a file for download that contains specific: • variables









- times
- location (point or area).
- Choose return
- file format.



• Find remote radar data files on Unidata's TDS. Specifically request data by:

adar

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- RADAR ID / location
- variable
- time

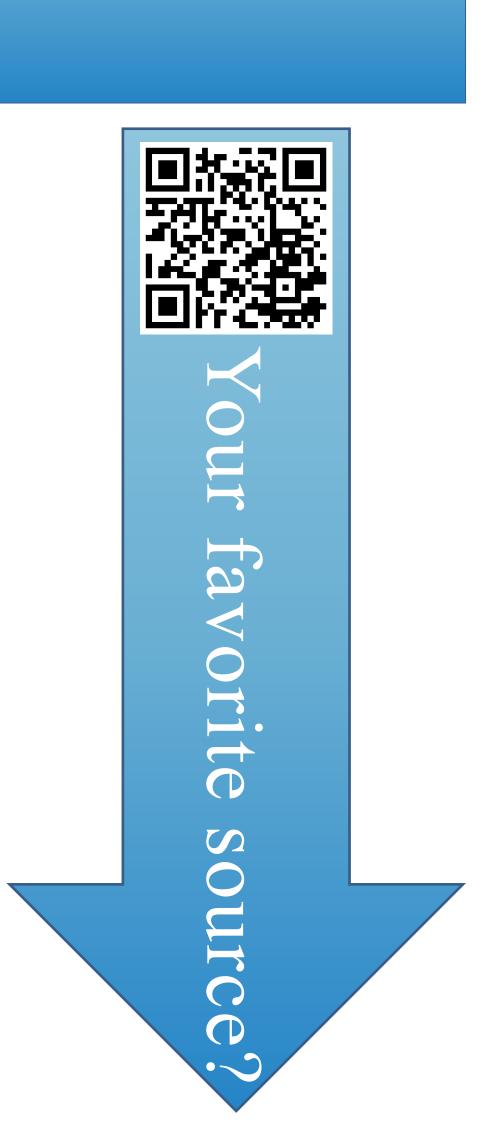
Find upper air observations using the University of Wyoming's archive. Specify the station and date. Receive data as a Pandas DataFrame.





Simple Web Services





Tell US!

