DVWG

Data • Visualization • Working • Group

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Data Visualization Working Group Report Overview 2025

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superdarn.github.io/DVWG

Overview

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- pyDARN v4.1 to v4.1.2 and future work
- pyDARNio v1.3 and future work
- Membership
- Need for active members

pyDARN v4.1.2

- pyDARN is SuperDARN's data visualization software, made to easily access and plot rawacf, fitacf, grid and map files
- Get the most recent pyDARN version (works in a conda env):

```
pip3 install pydarn
```

  - pyDARN now has an updated **Python 3.8** requirement
  - cartopy dependency installed automatically

pyDARN v4.1.x

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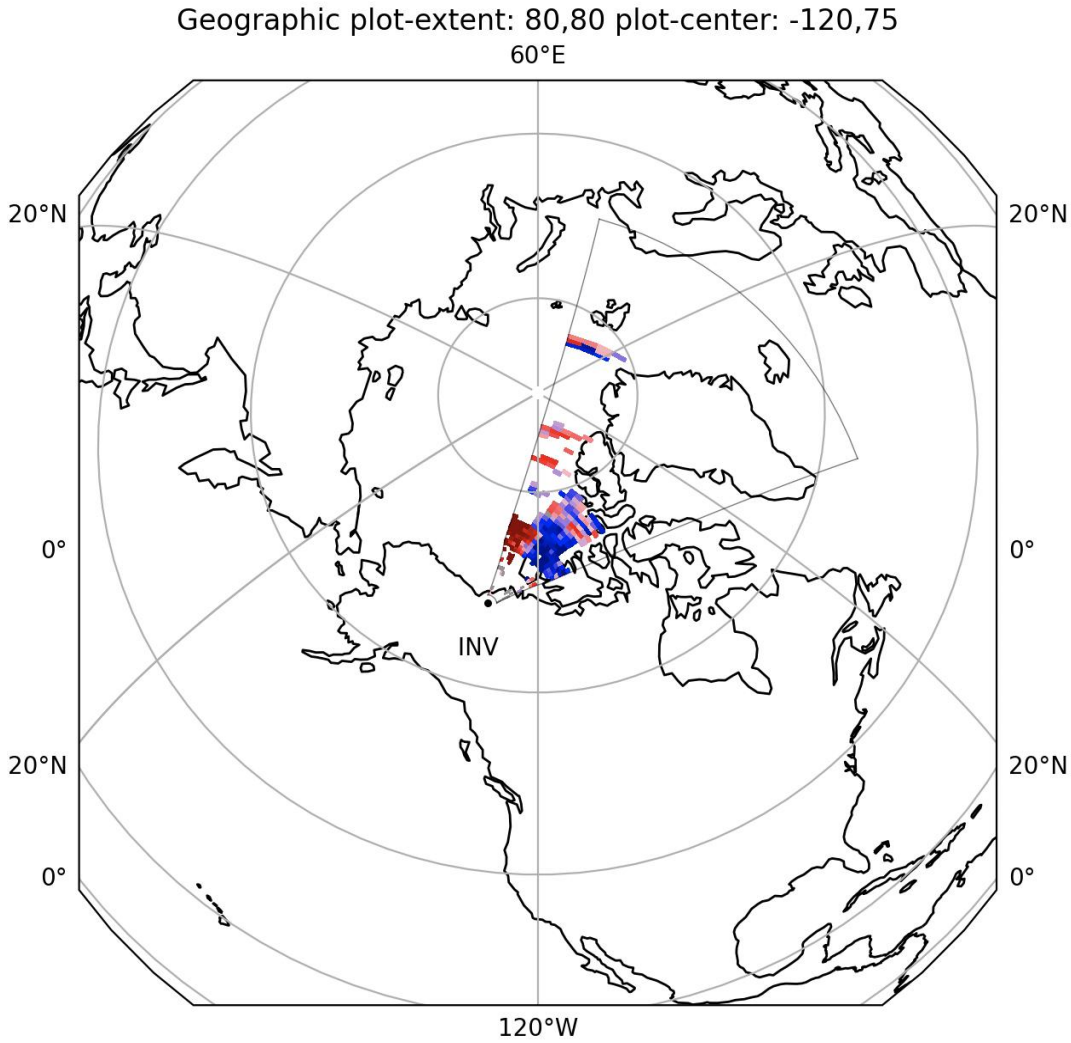
- V4.1 released Sep. 5th, 2024
- V4.1.2 released May 16th, 2025

New Features

- MAG projection
- Zoom feature for GEO and MAG projections
- NSSC radars
- Map potential calculations at lat/lon (including time series)
- User input fan plots
- Updated ADE, ADW, KOD, KSR, MCM, SPS affiliations
- Warn when embargoed data plotted
- RadarID enum to replace stid when specifying radars
- Matplotlib 3.10 compatibility
- and so much more…



pydarn.readthedocs.io

pyDARN v4.2?

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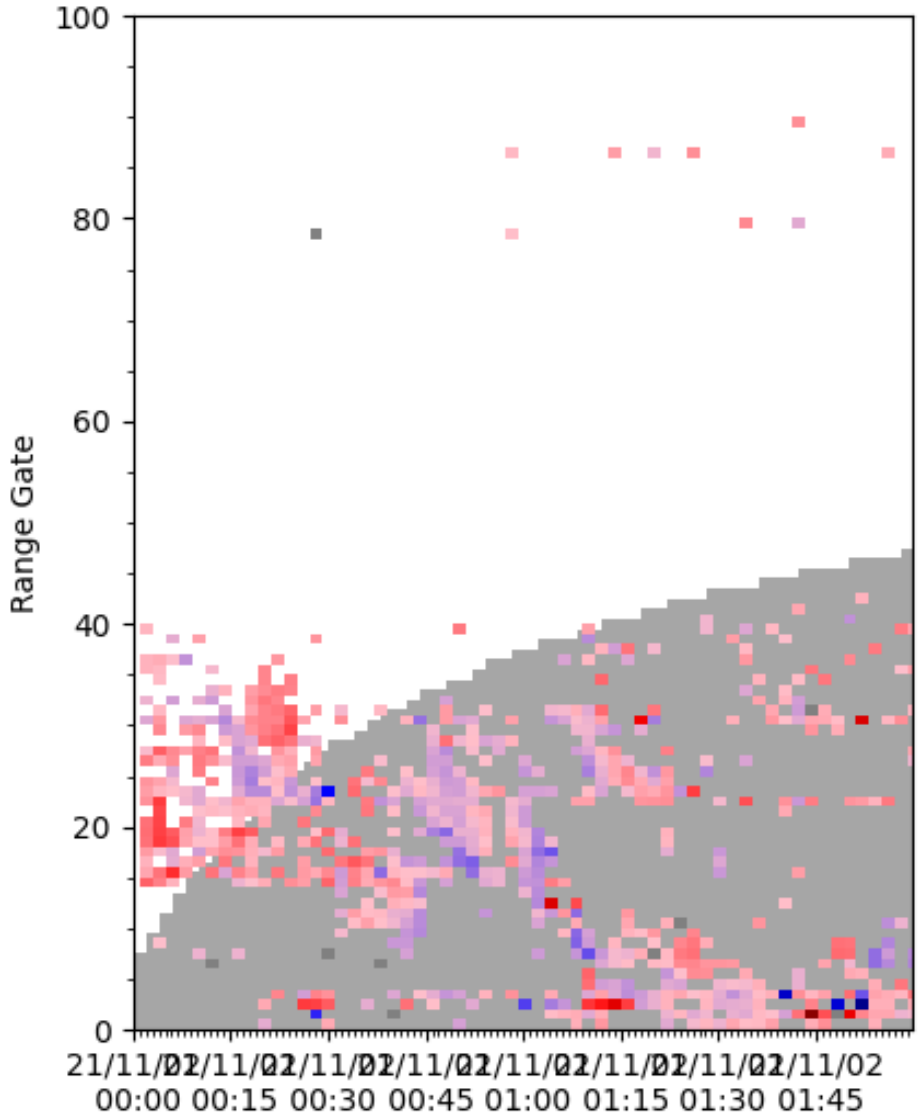
Future work planned this year (maybe):

- Terminator plotting (in the works)
- Better documentation for all the features and options

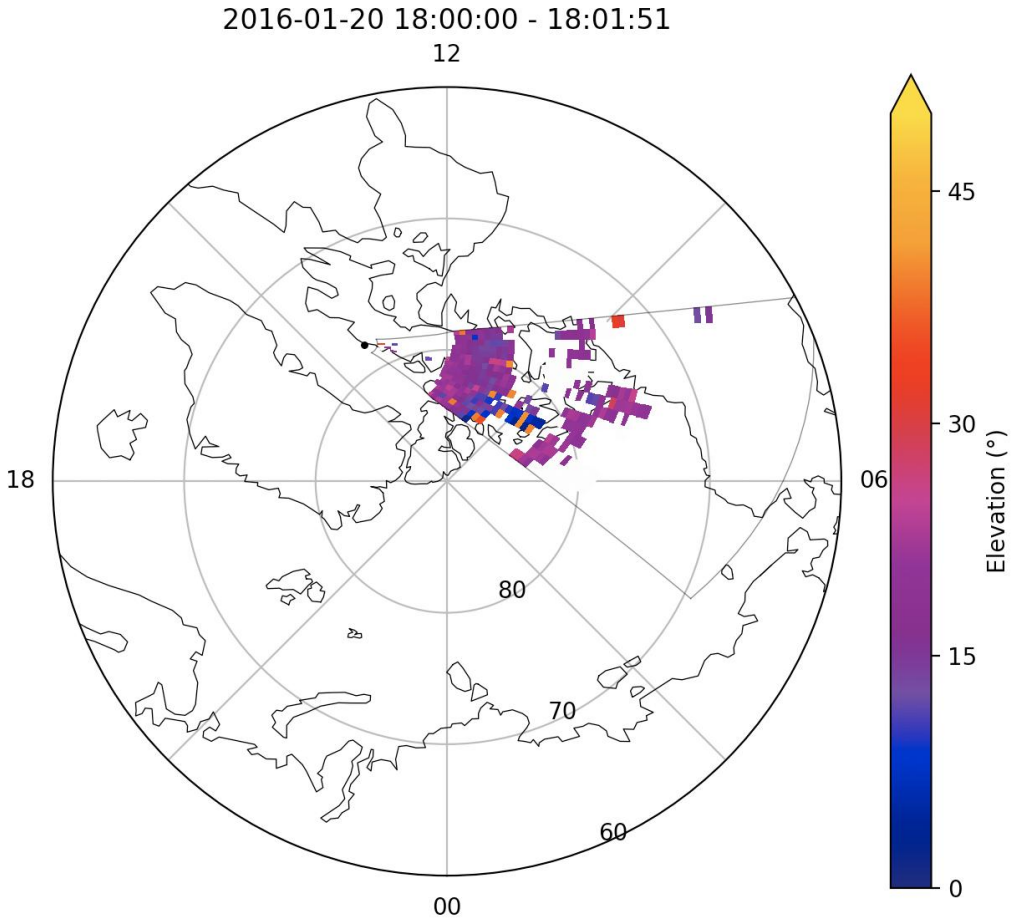


pydarn.readthedocs.io

pyDARNio v1.3

- pyDARNio is the read/write library for reading and writing all SuperDARN data types into a python program

- Released Aug 1st, 2024
  - Support for SND files
  - Support for Borealis v0.7 files
  - Requires Python 3.8+
- In the works:
  - Much faster I/O using Rust package behind-the-scenes
  - Support for srng field
  - Support for Borealis v1.0 files
- Future modifications include:
  - reading netcdf
  - xarray and other data formats
- Limited active development on pydarnio now it is working with minor issues



Membership 2024-2025

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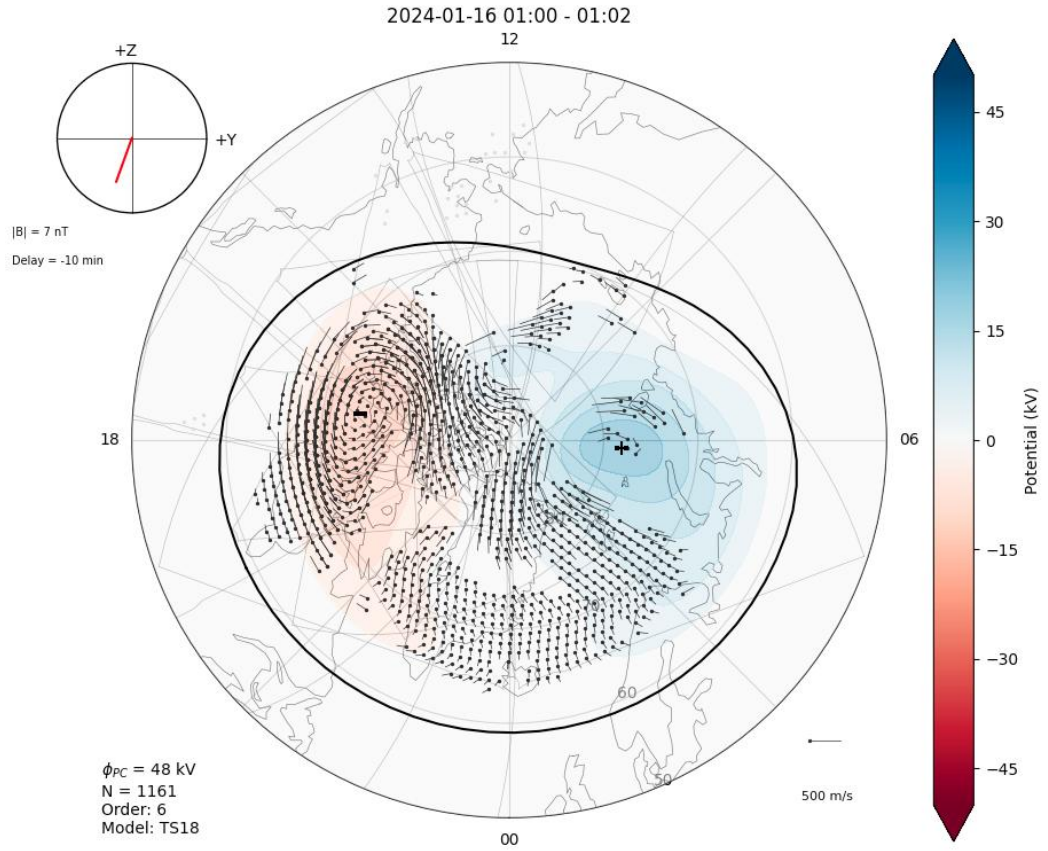
- No official membership list, but we track contributions on Github for releases
- If you would like to become a member please email or connect on Github!



Chairs: Bharat Kunduri (VT)
Carley Martin (USASK)

Active Contributors 2024-2025 (committed to repo this year):
Remington Rohel (USASK)
Daniel Billett (USASK)
Kevin Sterne (VT)
Draven Galeschuk (USASK)
Preston Pitzer (VT)

Longstanding thanks to:
Emma Bland
Marina Schmidt
All the issue makers (!)

Meetings

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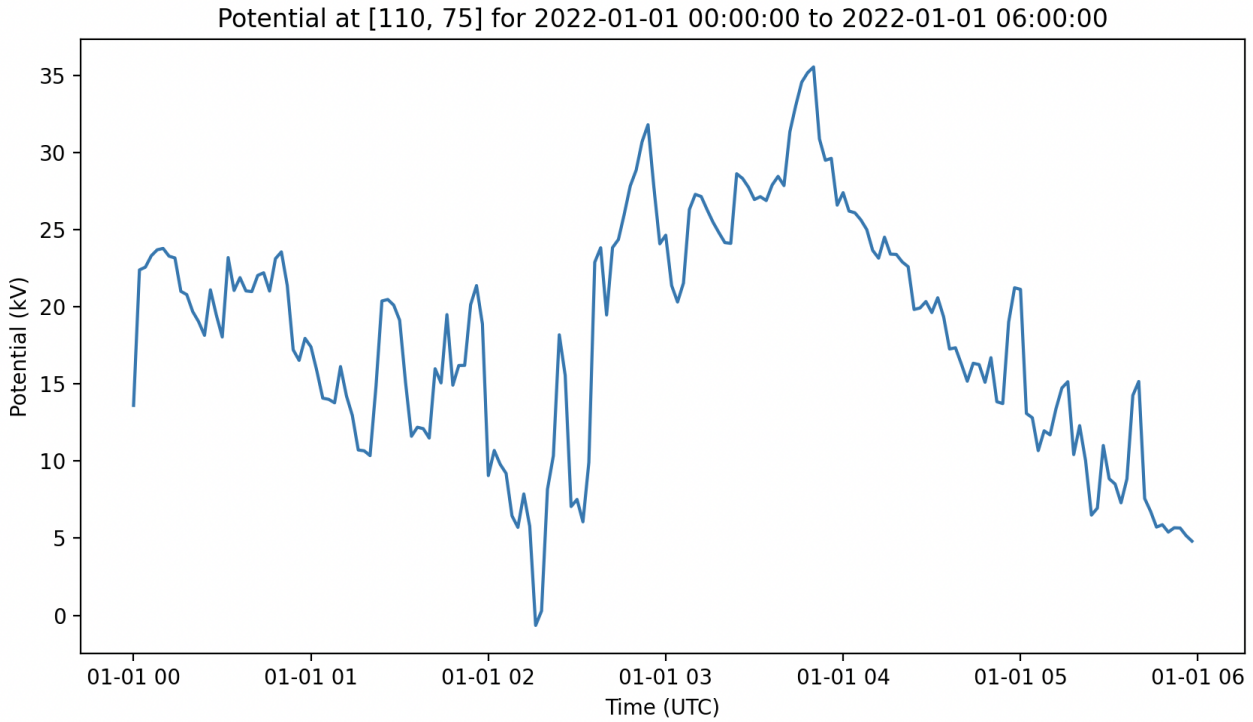

- No fixed meeting time, poll coming soon
- Everyone welcome to discuss developing and testing in pyDARN
- Discussion on future projects and direction of pyDARN

New Members

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- The DVWG ***needs*** new members
- Testing or developing
- Any skill level is welcome
- Learn useful career skills
- Get name on releases

DVWG is more than happy to give support to new students or staff wanting to get involved