SuperDARN DDWG meeting minutes
JUNE 10 2025 (zoom online)

Attendees

Name	Institution
Ma Fuli (Chair)	NSSC
He Dabin	NSSC
Simon Shepherd	Dartmouth
Evan Thomas	Dartmouth
Paul Breen	BAS
Timothy Barnes	BAS
Draven Galeschuk	University of Saskatchewan
Theodore Kolkman	University of Saskatchewan
Kevin Sterne	Virginia Tech
Judy Stephenson	University of KwaZulu-Natal
Enrico Simeoli	INAF
Mikko Syrjäsuo	UNIS

Topic-1: CVW and CVE data that dates to mid-2019 needs to be replaced on all mirrors.

The group discussed and planned to gradually replace CVW and CVE across all mirrors, with the following steps:

1) BAS shall generate a separate block-list. This list must be kept distinct from the previous block-lists used by three mirrors to filter data. NSSC and USASK will then delete data based on this new list.
2) BAS shall coordinate with the PI to agree on a feasible data-upload procedure, clarifying how CVE and CVW data should be uploaded to the BAS mirror. Once that procedure is confirmed, CVE and CVW data can be uploaded to the BAS mirror.
3) Once BAS begins synchronizing the updated CVE and CVW data, the NSSC and USASK mirrors may start synchronizing from the BAS mirror as well.

Topic-2: A lot of file were excluded from Globus due to the file checking software at USASK.

We discussed how RST and pydarnio handle missing data in the files slightly

differently. While RST reads “everything it can”, pydarnio will produce an error. After some discussion, our preferred way for error handling in pydarnio would be to try to mimic RST’s reading routines. So, read “everything that can be read” and possibly provide a warning rather than an error that stops the processing. This would be desirable for compatibility with RST, which then also simplifies reproducing science results with either RST or pydarnio. In summary：

- RST and pydarnio read up to the same point in files, RST currently returns data loaded in up to the problem point in a file, while pydarnio throws an error and exits.
- pydarnio will be changed to mirror RST performance on reading in data from files. All data loaded up to the problem point in a file will be read in, and pydarnio will simply raise a warning but not exit.
- An additional option will be implemented to allow users of pydarnio to error and quit when encountering an error in a record.

At USASK， when they’re checking files from radars, they will be running pydarnio in the strict mode before uploading files to the mirrors. However, the default performance of pydarnio will be to raise a warning but continue, and they will use this mode when they use it to verify files synced to their mirror.

Topic-3: NSSDC mirror added the data of six NSSC radars in April 2025. The shared data starts from January, 2024. PIs have problems to access to NSSC website to get the new data.

USASK plans to begin synchronizing the six new radar datasets from the NSSC mirror by August at the latest. However, BAS has not yet provided a clear timeline for this process. Therefore, anyone requiring the new radar data currently needs to obtain it from the NSSC mirror, which offers both web-based and FTP access. Access via the web service requires an authorization process, but all PIs within SuperDARN are granted unconditional access to the complete data set. If the PIs encounter any problems, please contact with Ma Fuli (mafuli007@nssc.ac.cn).

Topic-4: Sounding file upload procedure needs to be discussed. The end time of the sound file is 2024-10-31, no more new data is uploaded yet.

By October 31, 2024, all sounding file had been uploaded by Evan via the BAS mirror. The current plan is to allow radar stations to directly upload sounding files to the corresponding mirrors, using the same method as for raw files. There are

currently two ways to generate sounding files—either directly by the radar station or by Evan processing raw files. The plan for these two cases is as follows:

1) For sounding files generated directly by the radar station: Evan will coordinate with the responsible PIs at the radar stations to determine whether the sounding files can be uploaded directly to the mirror.
2) For sounding files generated by processing raw files: Evan will build an automated processing pipeline that generates the sounding files and uploads them to the BAS mirror; thereafter, the USASK and NSSC mirrors will synchronize these files from the BAS mirror.

Topic-5: Data storage limitation at all three mirrors.

A brief overview of SuperDARN data volume growth:

- The yellow pillars represent the current status, with trend analysis based on the data rates of the existing radars.
- The blue pillars represent the projected new data volume trends after accounting for the new radar.