



The Antarctic Meteorological Research and Data Center



A Data Repository for the Antarctic Meteorological Community

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About the AMRDC: Repository

The Antarctic Meteorological Research and Data Center (AMRDC) has developed a formal data repository in service to the entire Antarctic meteorological community.

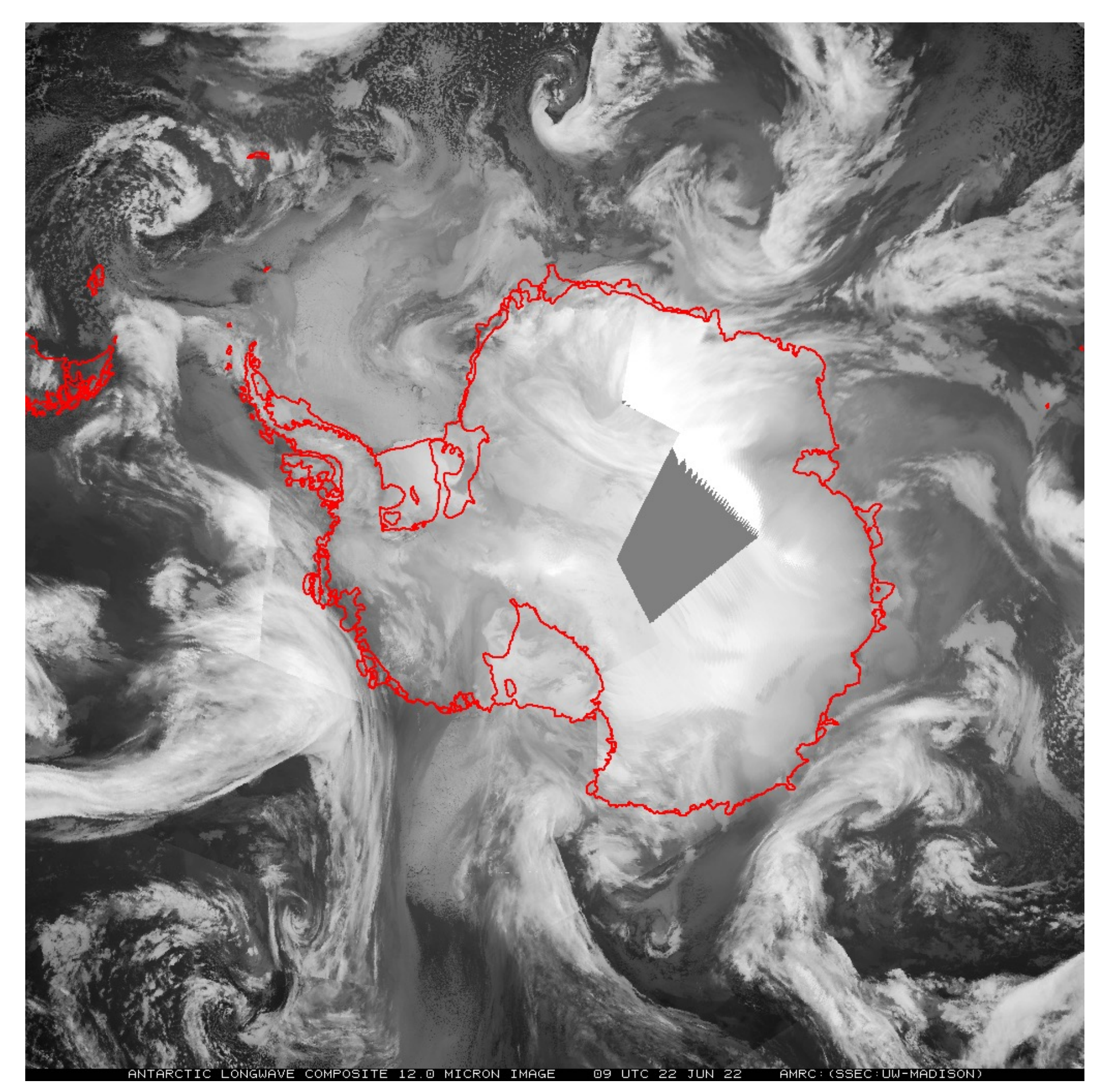
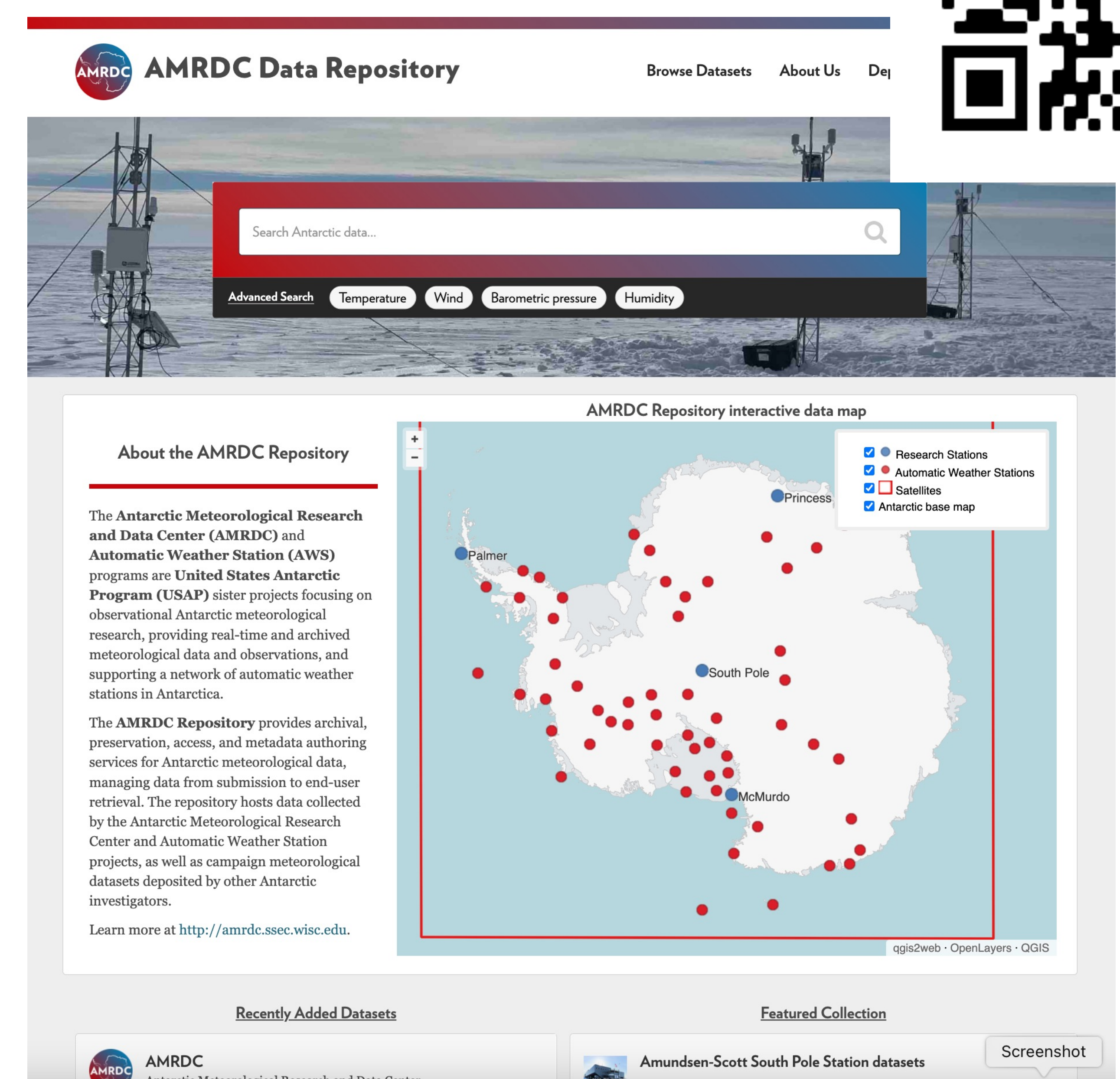
- Built on the Comprehensive Knowledge Archive Network (CKAN) open-source data repository software system,
- Access to the data holdings via search capabilities and a clickable map.
- Host Antarctic meteorological datasets from a variety of sources including many that have historically been a part of the AMRDC's archive over the past 30 years. (e.g. the Wisconsin datasets – AWS, satellite composites, and beyond such as USAP stations, field camps, etc.!)
- Host links to external data holdings found in other repositories (e.g. Pangea, Zenodo, etc.),
- Provide a place for investigator provided datasets, meeting USAP data expectations and requirements.
- Provide and follow proper metadata protocols such as:
 - Digital Object Identifiers (DOI)
 - FAIR principals (Findable, Accessible, Interoperable, and Reusable).
- Offer basic visualization of archive datasets in the service to the community. (Coming soon)

<https://amrdcdata.ssec.wisc.edu>



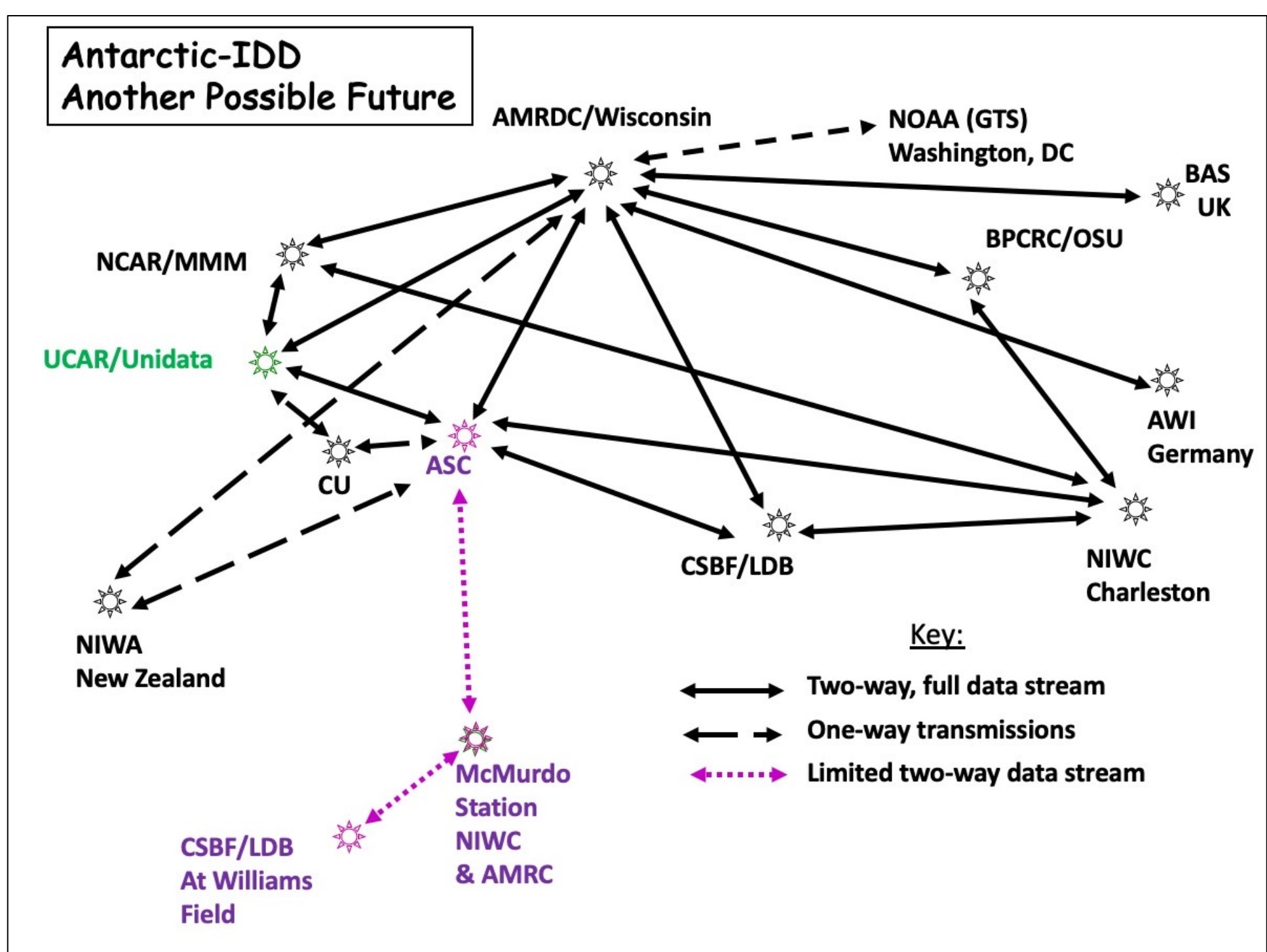
Data Samples & Products

Data Archive



An infrared longwave channel (12.0 micron) Antarctic satellite composite image. These are generated operationally as a part of this project and used for forecasting, research and education.

Data Sharing: Antarctic-IDD

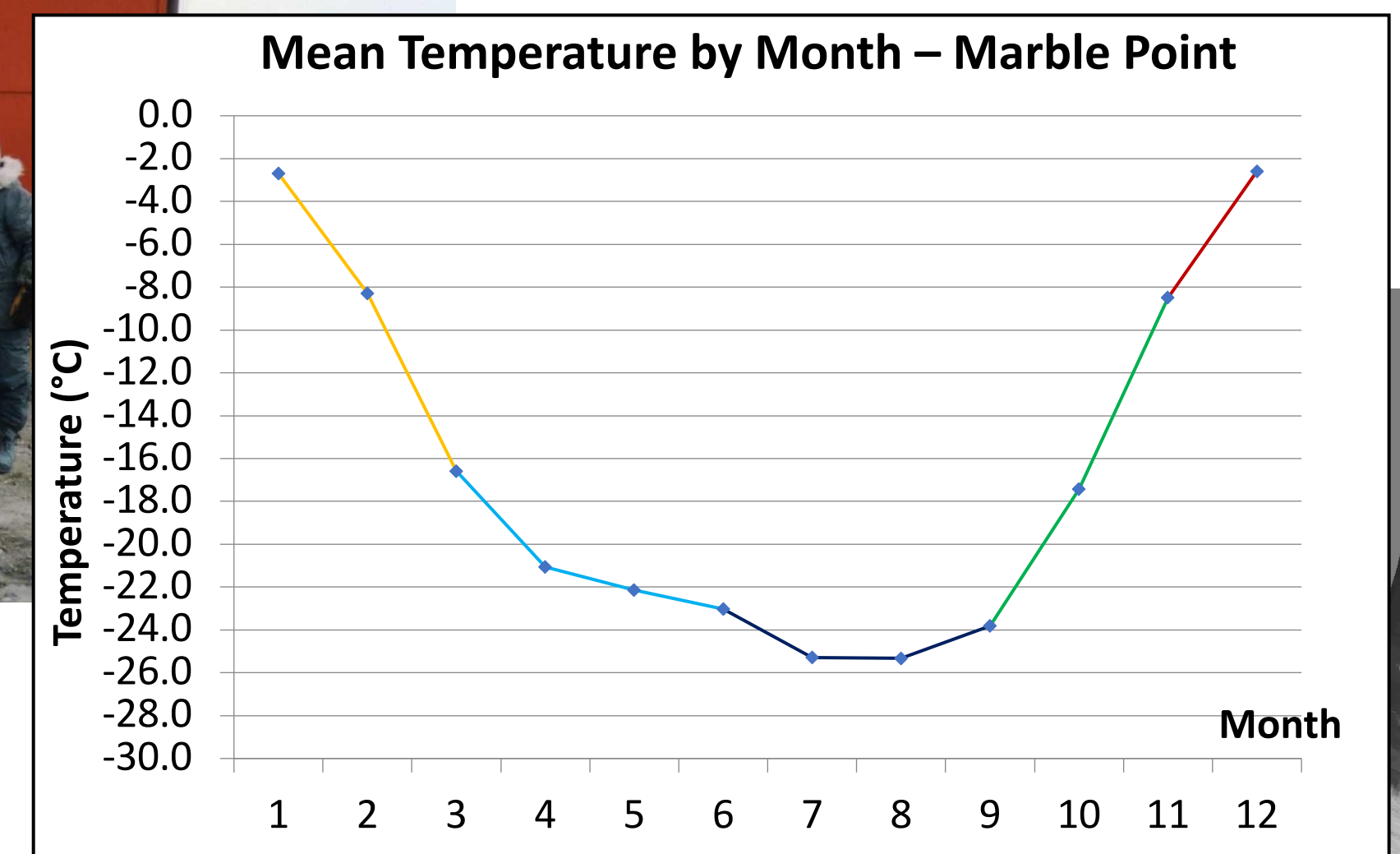


The Antarctic – Internet Data Distribution (Antarctic-IDD) is a federated sharing network across the Antarctic community and offers a variety of meteorological data in real-time to researchers, forecasters and educators. This network diagram outlines the current data exchange pathways and the possible future for the network with expanded involvement from the broader community.

Data Use: Case Study & Climate Analysis and Special Projects



Photo Courtesy of Bruce Hurley



Discussion

Date Issued: 07/14/2022

The reduction in the four spike upper level pattern is providing greater meridional flow by Sunday. Jet max's will bring flows into the Peninsula, East Antarctica, and a significant flow from New Zealand to the Ross Sea is expected to drive a measurable AR's next week.

- System approaching Davis and Casey is expected to be marginal for AR measures but the temperature and extent showing on Saturday AMPS IR product may make this more significant over Davis and possibly extending over Casey. This system will quickly fill as the Jet support moves off continent.
- The jet winds will push southward out of the Indian Ocean around an upper level low centered over George V Land. This upper level Low will be forced north in support over Davis and Casey early next week. The two major waves will deepen the low and provide a path from New Zealand toward Ross Island by early next week.
- A migrating wave moving across the Bellingshausen Sea will provide an AR over the area by Sunday. This flow will remain in the area but weaken over time.

6 Day Predicted Impact Regions

Best Guess for 10 Day Outlook (products display not available)

No AR's expected	EC all levels and elements w/SFC Press 07/20/2022 00Z	EC PCPN and 925hPa temps w/SFC Press 07/20/2022
Palmer's E-Waters Land	George V-M. Byrd Land	Antarctic Peninsula

Extended Outlook:
Davis - Casey: Major wave into the Ross Sea hampers activity over the region during this extended outlook period. No AR activity expected.
Ross Island area: Island by Ross Island! ECMWF and GFS are coming into agreement today for a major depression moving into the Ross Ice Shelf. This appears predicted with significant moisture, extreme winds and a 20C temperature rise through the mid to end of next week.
Palmer area: The continued flow from the Pacific into the Weddell will have a weak AR move through the Drake passage as a ridge advances into the Bellingshausen Mid-week.

Acknowledgments

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The AMRDC project includes the development of case studies and climate analysis (this example is Marble Point AWS Climatology Project) that compliment existing projects. These efforts are student led efforts.

