

# Archived and Real-Time Antarctic Meteorological Data

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## Abstract

The Antarctic Meteorological Research Center (AMRC) at the University of Wisconsin-Madison is one of the foremost data collection operations in place for the Antarctic community. The AMRC was developed as a distribution point and repository for a variety of Antarctic meteorological datasets, including AMRC's trademark satellite composite imagery. The AMRC has a large collection of Antarctic weather data from various sources, in some cases dating back to the 1950s. The data in this repository includes original collections from the AMRC as well as data from other projects and field campaigns. Data is also available from some international Antarctic programs. Within this collection, satellite imagery, weather station observations, model output, climatological data, and pilot reports are just some of the data available. This data is available in real-time via web, ftp, email, ADDE, or LDM, or as archived data, which can be accessed either via web or ftp, or by emailing the center for a specialized data request. All data is available to the public and scientific community free of charge. The purpose of this presentation is to introduce the full extent of the AMRC collection to the Antarctic community as a part of the International Polar Year and beyond.

## Available Data

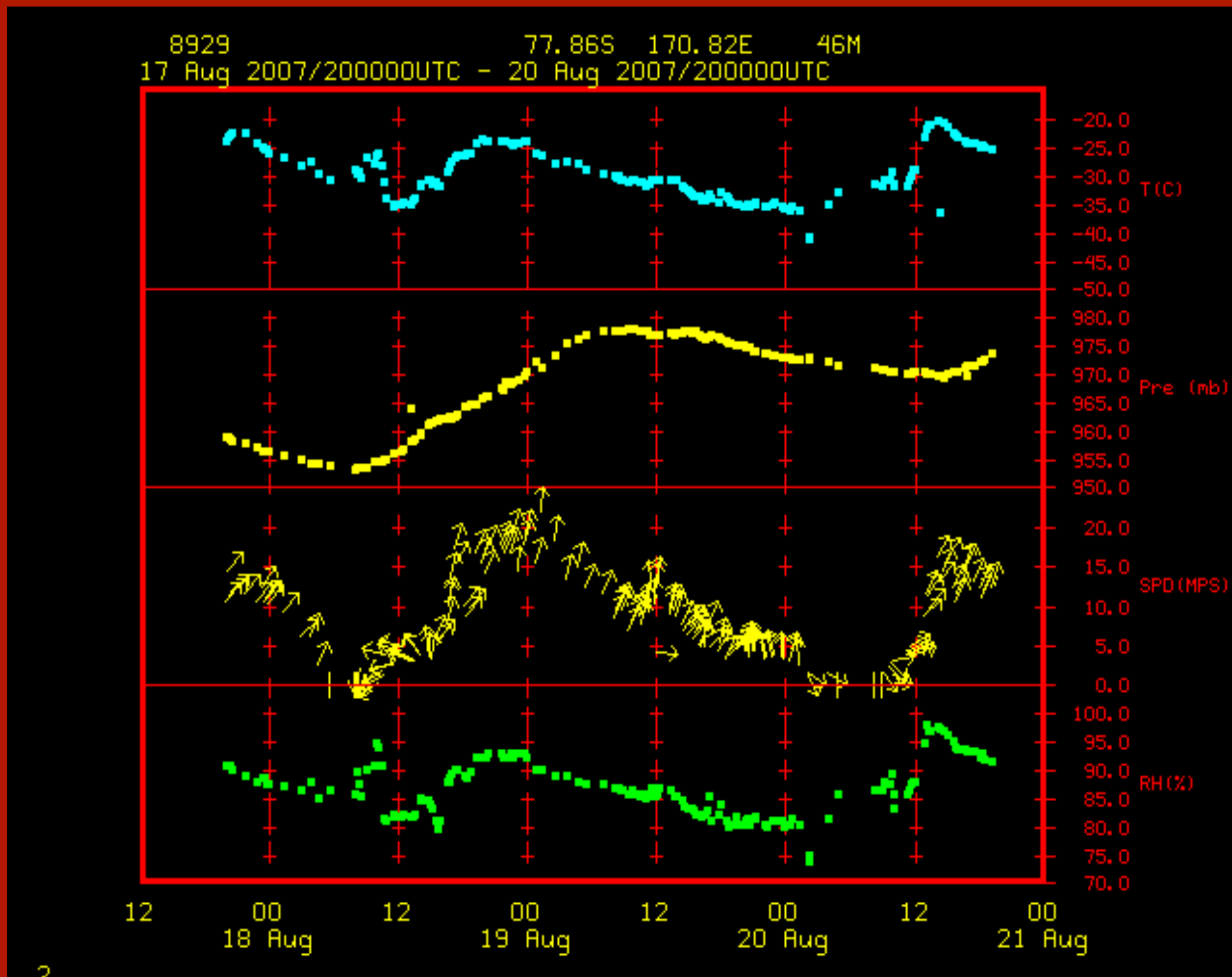


Figure 1. Meteogram from Ferrell AWS depicting temperature, pressure, wind speed, and relative humidity.

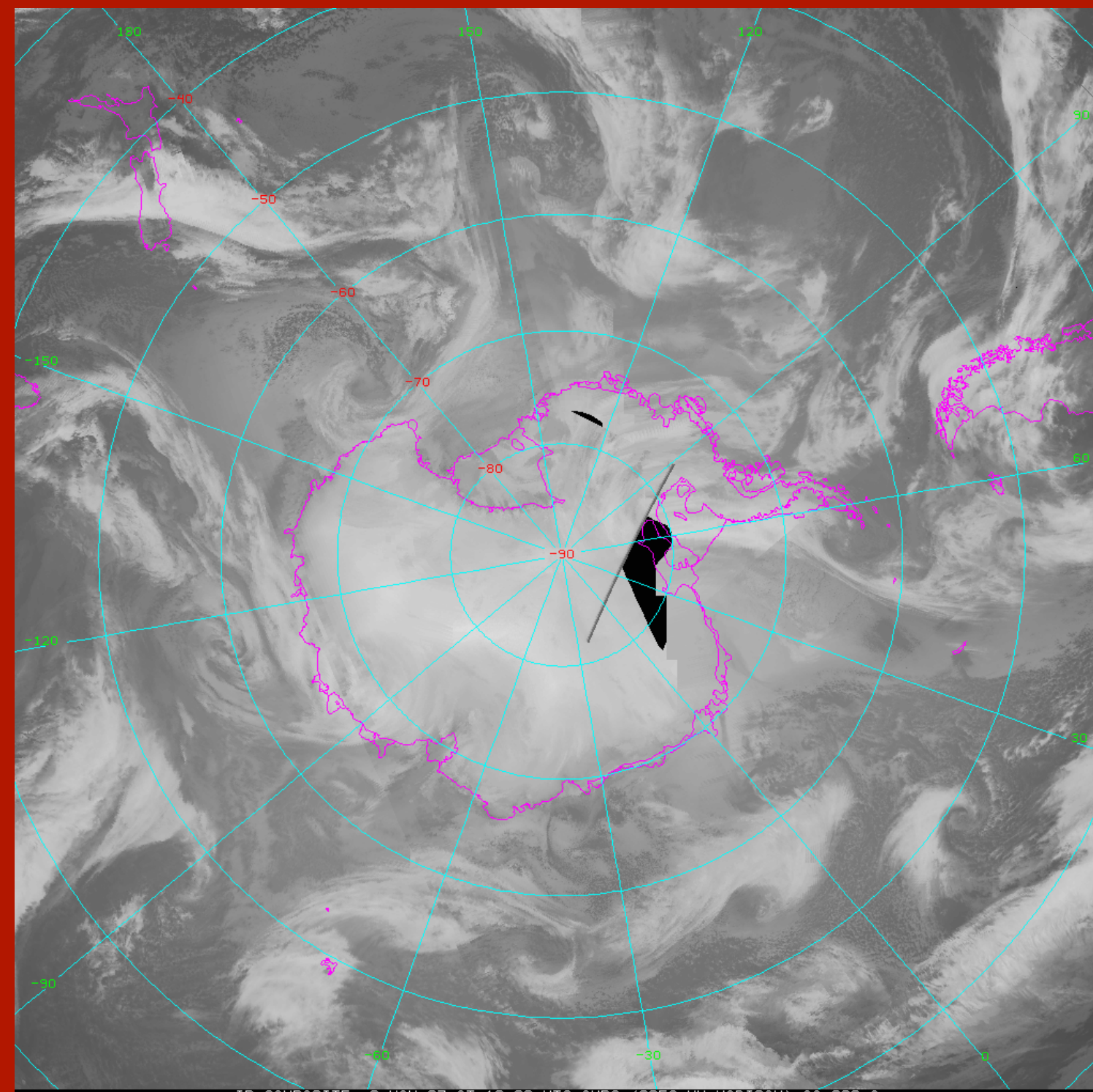


Figure 2. Example of AMRC infrared composite imagery over Antarctica.

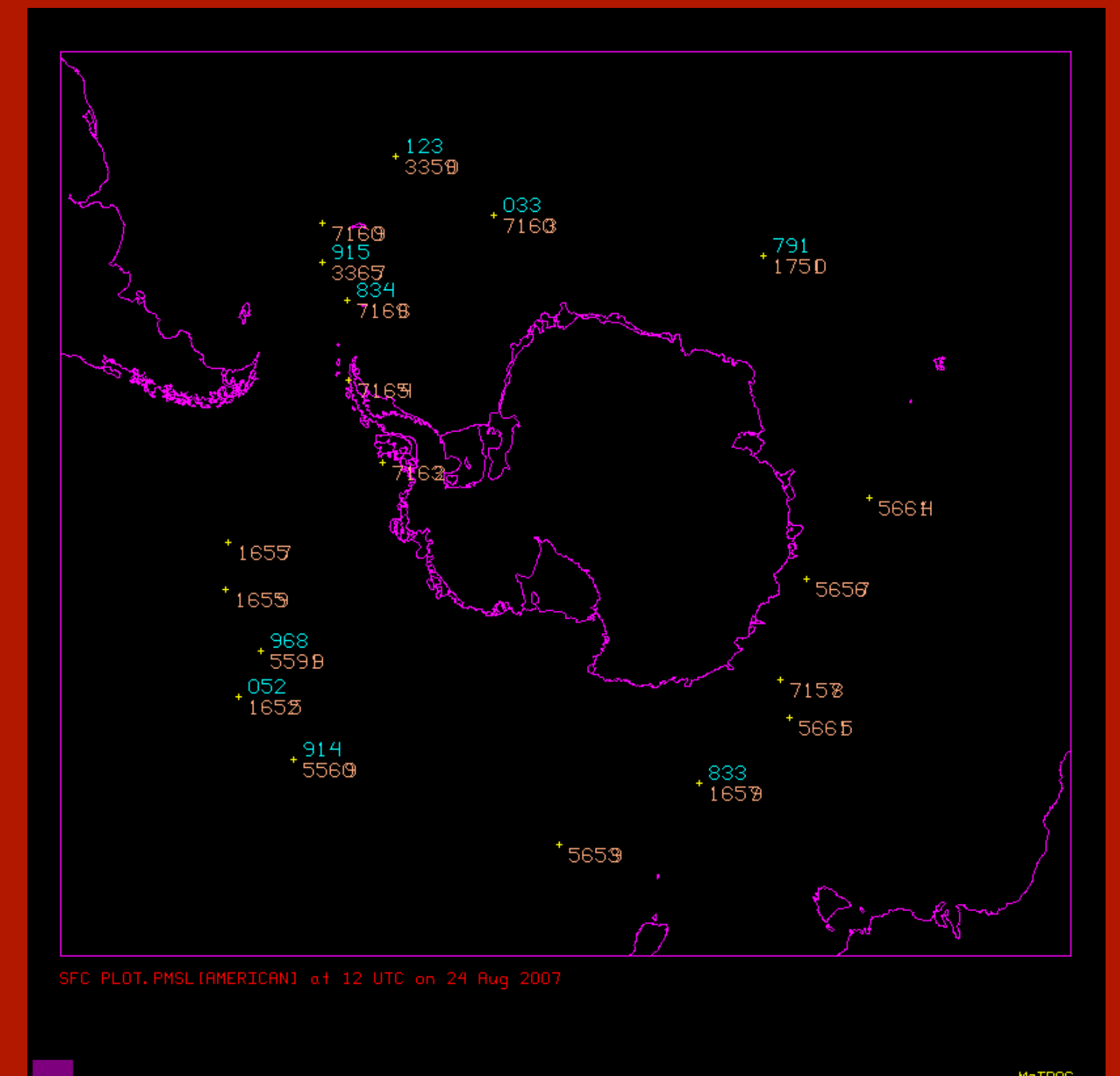


Figure 3. Ship locations and data collected across the Southern Ocean.

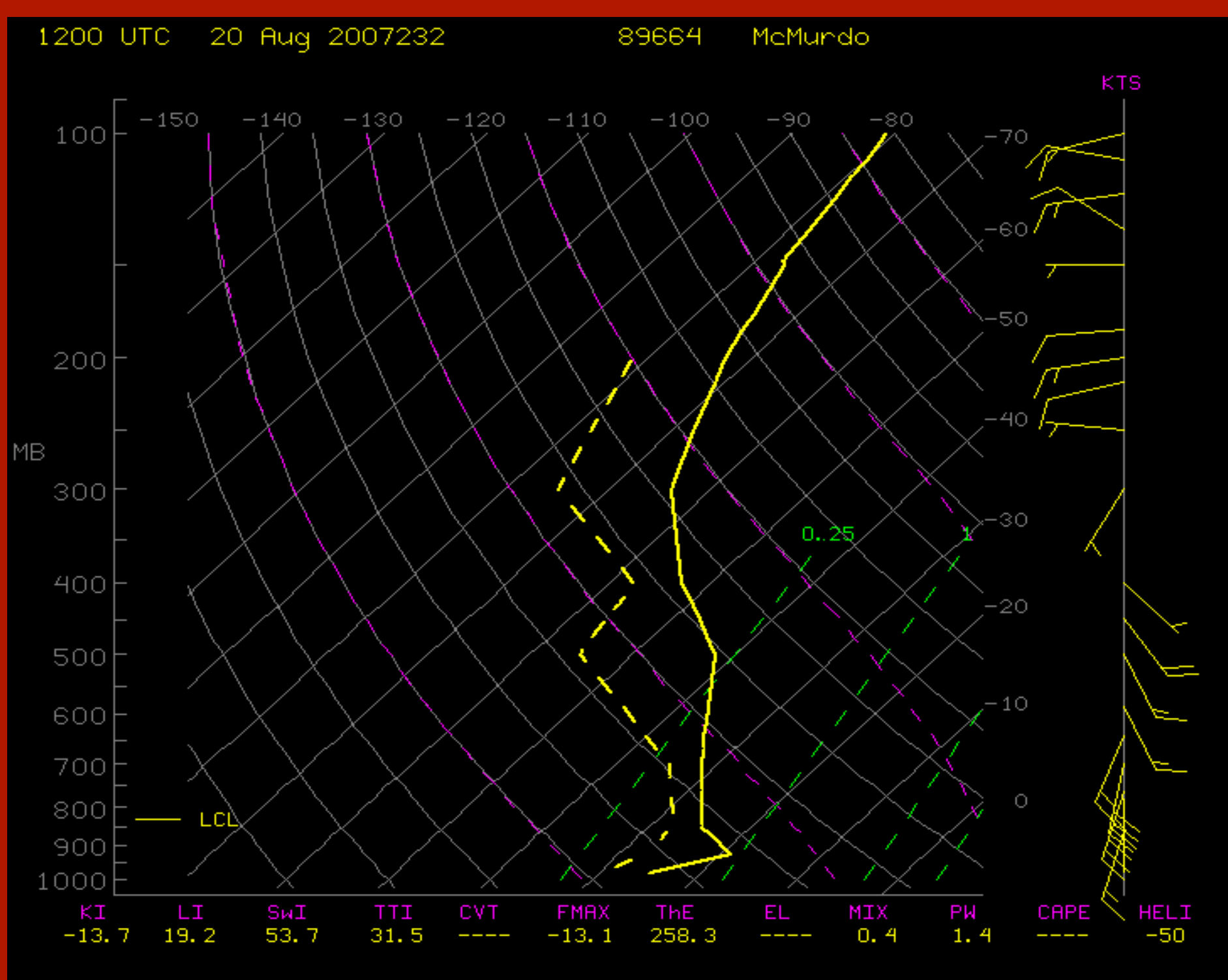


Figure 4. Skew-T diagram from a radiosonde released at McMurdo Station.

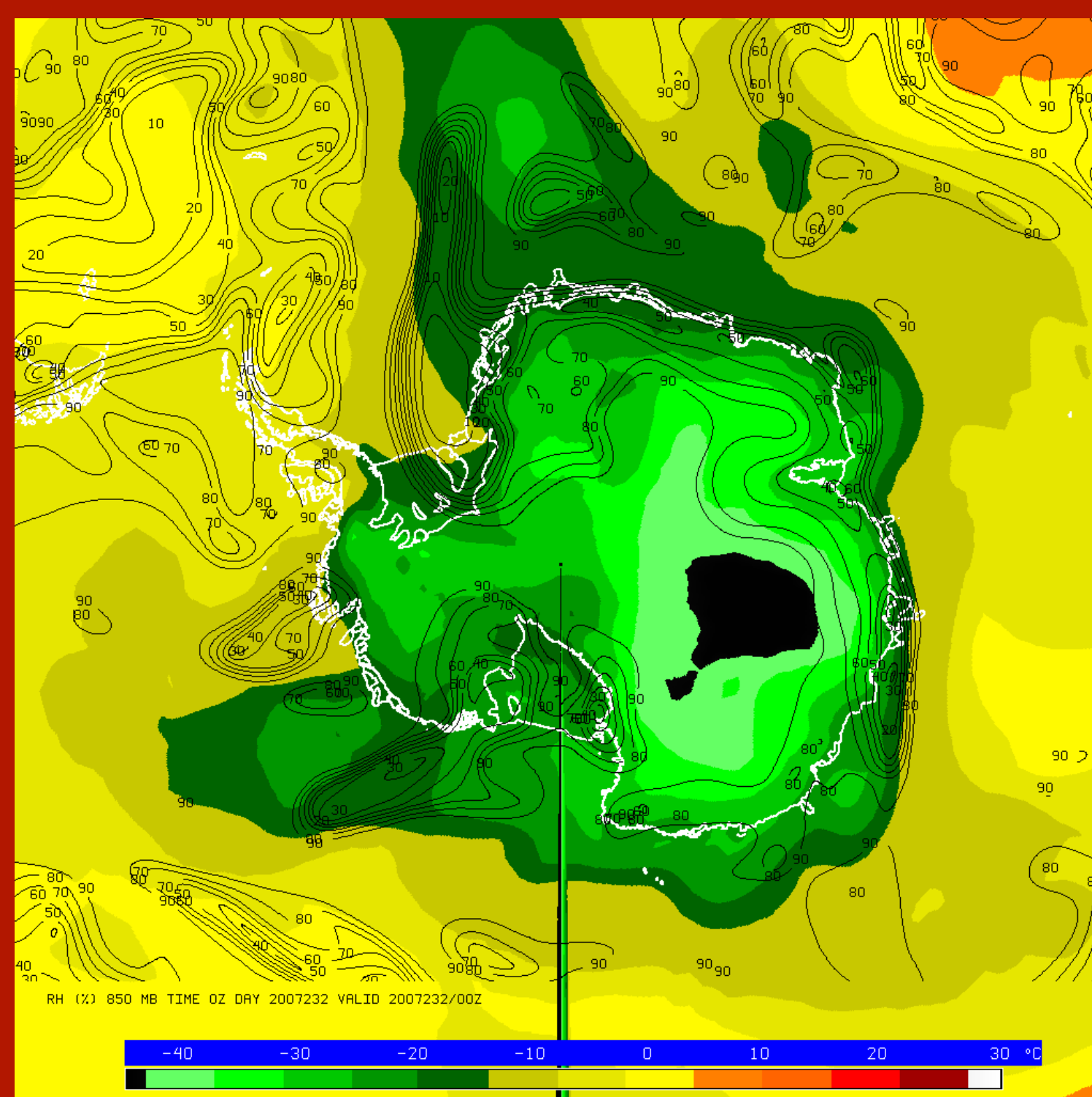


Figure 5. Example of model output from the GFS showing temperatures and relative humidity at 850 mb.

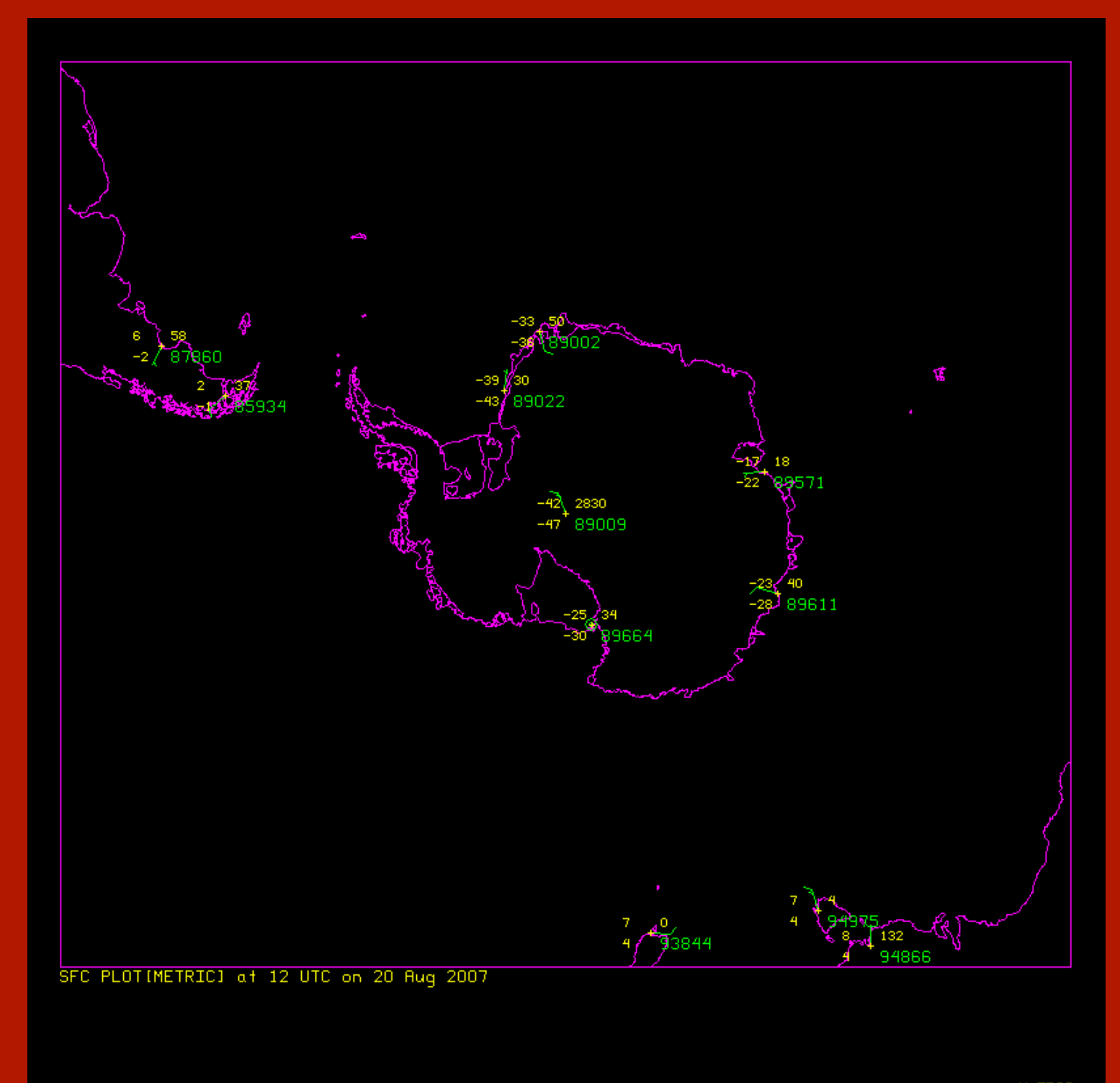


Figure 6. Plot showing all locations where radiosondes are released across Antarctica and parts of the southern hemisphere.

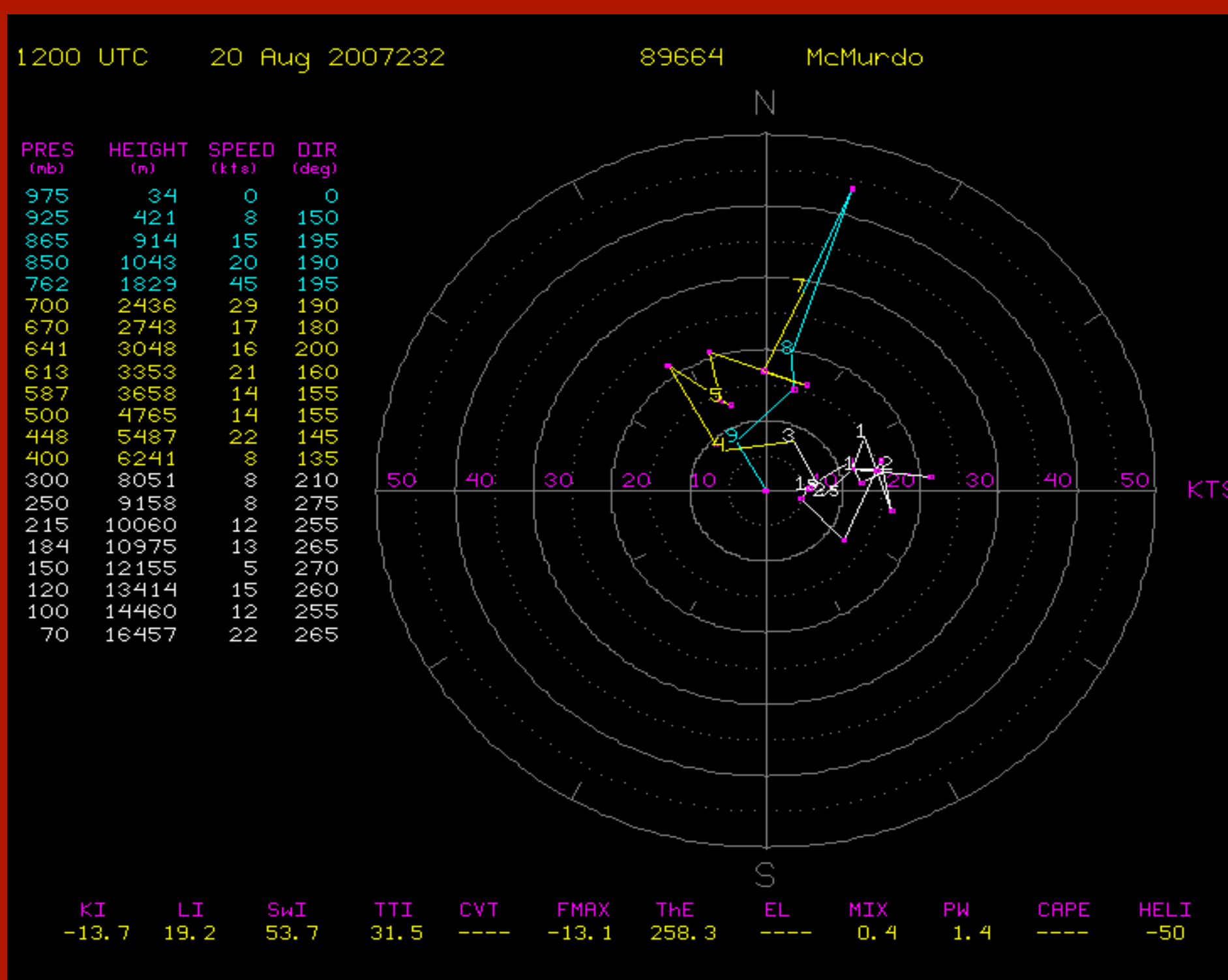


Figure 7. Hodograph from radiosonde released at McMurdo Station.

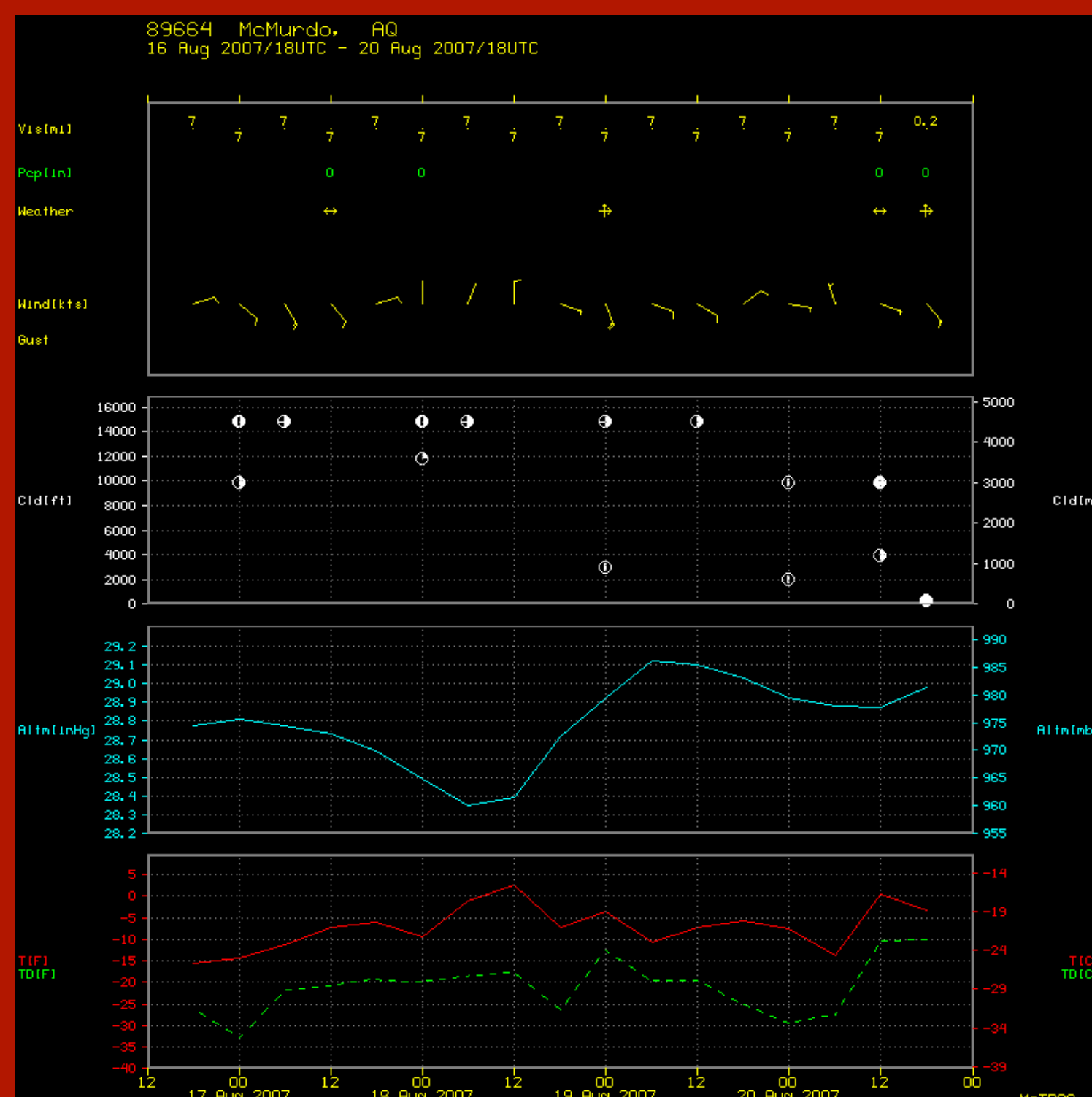


Figure 8. Synoptic meteogram from McMurdo Station depicting weather type, temperature, dewpoint, cloud height, and pressure.

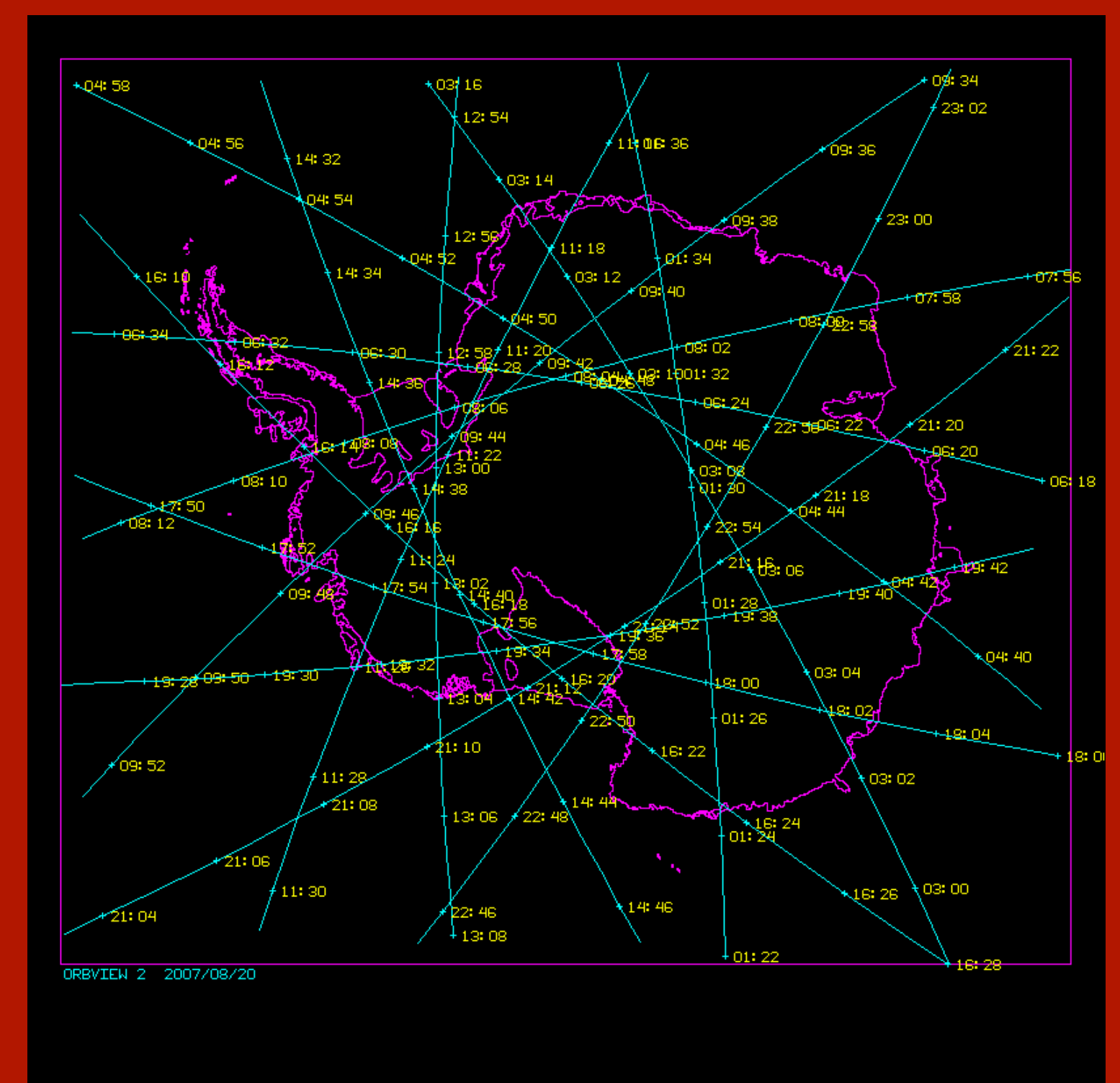


Figure 9. Image depicting satellite navigation tracks over Antarctica.

## Summary

The AMRC has been in operation since 1992, and is the foremost data repository for Antarctic meteorological data for the United States Antarctic Program (USAP) and beyond. The AMRC houses an original data collection that includes satellite composite and automatic weather station data, but also a collection of weather data from USAP and other sources including station climate data, synoptic and METAR data, radiosonde data, and pilot and ship reports. All data is available free of charge via web, ftp, and Antarctic IDD.

## Contact Information and Acknowledgments

This project is funded by NSF Grant Nos. OPP-0537827 and OPP-0338147.

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