

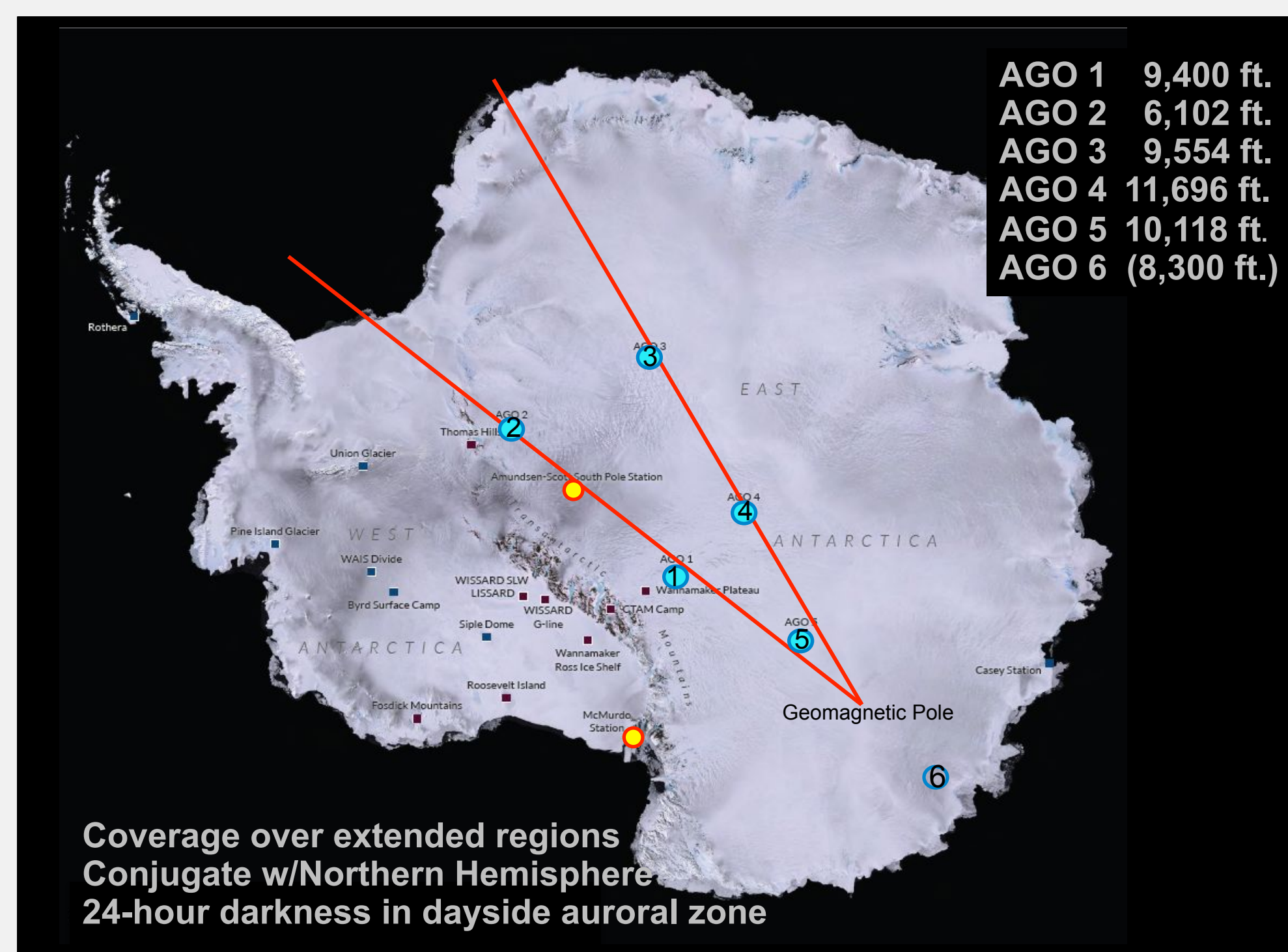
The Antarctic Geospace Data Portal

Abstract

The Antarctic geospace data portal was created in order to host and distribute data and quicklook plots from the instrumentation located at South Pole Station, McMurdo Station, and the Automated Geophysical Observatories in Antarctica. At this time, all fluxgate magnetometer data from all of the stations are posted for a time period covering the late 1990's to today's synoptic data. In the coming months, additional datasets (e.g., searchcoil magnetometers, photometers, and riometers) will be likewise posted. This data portal, linked through antarcticgeospace.org or directly via antarcticgeospace.njit.edu, is now open to community use.

Data Sites

There are currently nine sites submitting data to this data portal. AGO1- AGO6 are named P1-P6, respectively. South Pole Station (SPA) data is named P7. McMurdo Station (MCM) is named P9. Our field site at the Jeffer Observatory, near Hope, NJ, is our test station and named P0.



Data Transfer From SPA and MCM

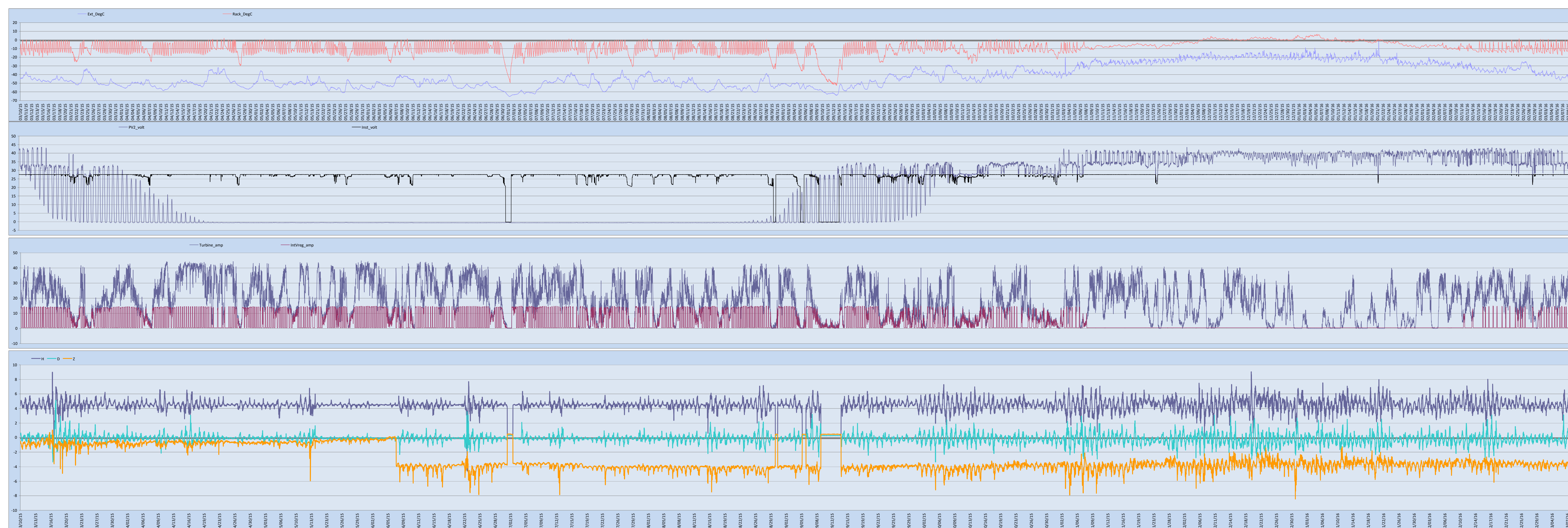
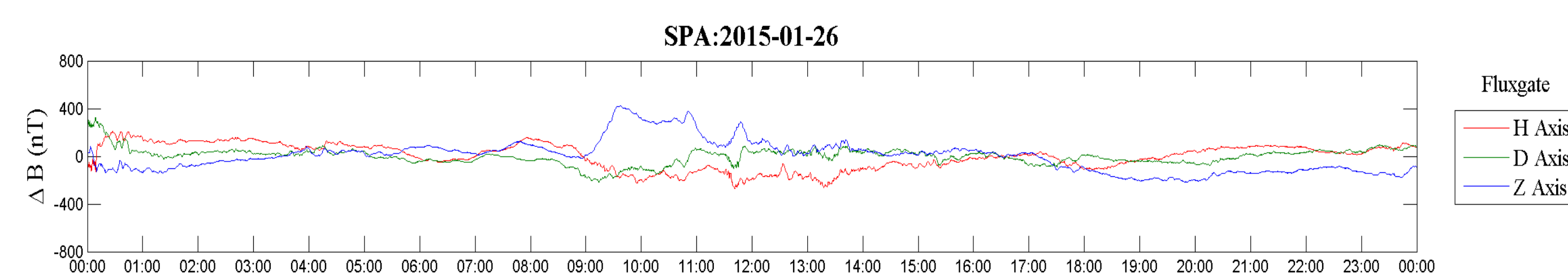
SPA and MCM each have two DAQ systems, which collect data and transmits via a store-and-forward account to the ASC in Denver, CO, on a daily schedule.

Due to both the limited daily coverage and the slow rate of network transfer from SPA, the data is compressed on-site prior to being sent out.

Data Transfer From AGOs

The AGO sites have not been visited for over 4 years. In that time, and even earlier, the original University of Maryland (UMD) DAQ systems slowly stopped transmitting data via Iridium. We will know the full status of the AGO DAQ systems this coming 2016-2017 field season and assess the situation at that time.

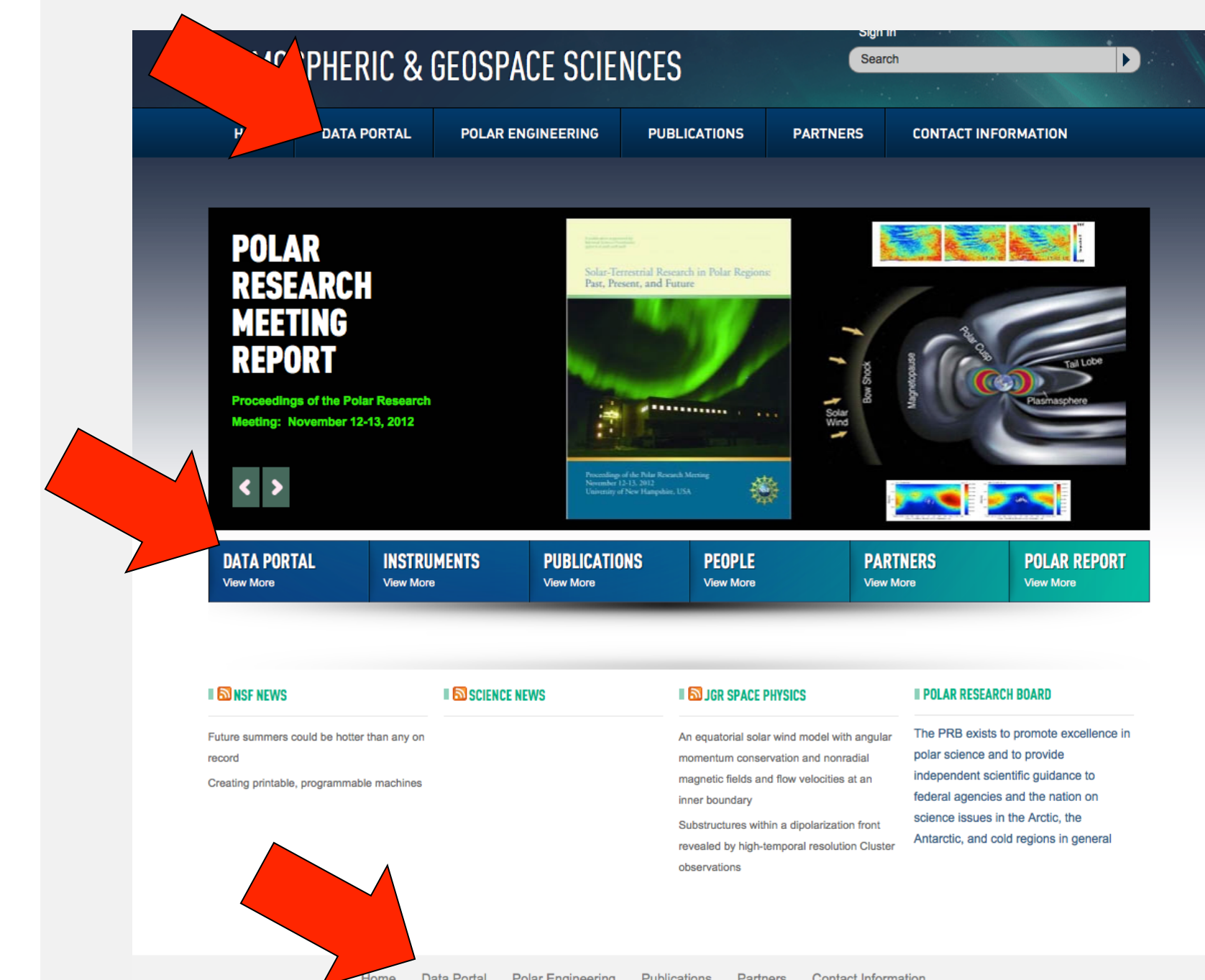
Due to concerns regarding the original UMD DAQ system and spotty Iridium data transmission, the NJIT field team installed an independent DAQ system that transmits via the Iridium Short Burst Data (SBD) protocol, to run in parallel with the UMD DAQ. These SBD systems transmit housekeeping data, and at AGO 1 also transmit fluxgate magnetometer data. Because of these systems, we know that all of the AGOs are still powering instruments [though we are unsure if the data are being written to the CF cards on the original UMD DAQ].



AGO 1 data from 2015. Top panel shows the external and rack temperatures. Second panel shows the raw photovoltaic voltage and power system supplied instrument voltage. Third panel shows wind turbine current. The bottom panel shows the raw H, D, and Z voltage from the fluxgate magnetometer at the station.

The Data Portal

The data portal is maintained on NJIT's Andrew File System (AFS), a distributed file system. Linked through antarcticgeospace.org to antarcticgeospace.njit.edu, it currently hosts the fluxgate data from various Antarctic sites over the past 34 years, as well as quicklook plots.



In the coming months, more of the SPA, MCM, and AGO data will be made available on the data portal.

Quicklook plots will also be made available in the near future.

In January 2017, we anticipate that all the fluxgate data, from all 7 Antarctic sites, to be made available synoptically.

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