Barrow, the Westernmost Magnetometer Site in the STEP Polar Network

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Within a global network system, we conducted an international program, the Solar Terrestrial Energy Program (STEP) with two types of magnetometer, fluxgates and search-coil types, distributed through the polar region of the northern hemisphere.

Both types of magnetometer detect variations in DC and AC magnetic fields caused mostly by fluctuation in the ionospheric currents and also by changes of magnetic fields in the magnetosphere. We placed both the fluxgate and search-coil magnetometers at 22 sites while eight sites had only search-coil magnetometers (Figure 1).

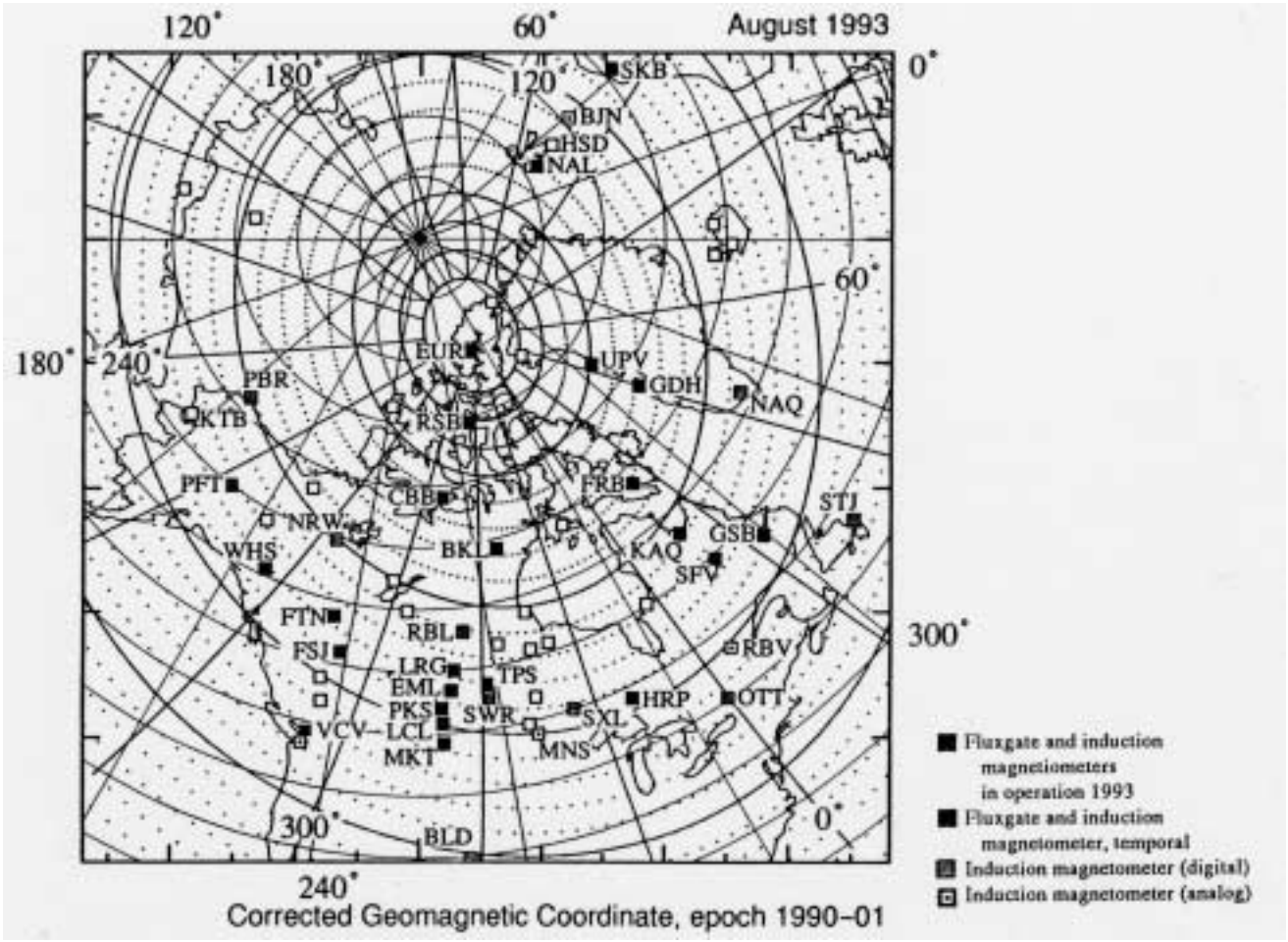

Fig. 1. Magnetometers in the STEP polar network.

The major objective of our network is to research magnetospheric disturbances in two-dimensional, dynamic nature mapped onto the ionosphere, especially in high-time resolution.

One search-coil magnetometer site operated courtesy of CMDL at Barrow, is situated at the key location of the westernmost location of our network station distribution.

The data acquisition at BRW started about 10 years ago and was intermittently activated. We plan to start a new data acquisition period at Barrow linked with the STEP program by the end of August 1994. A new datalogger capable of recording search-coil data of 10 Hz sampling rates continuously during a month will be shipped and installed before then.