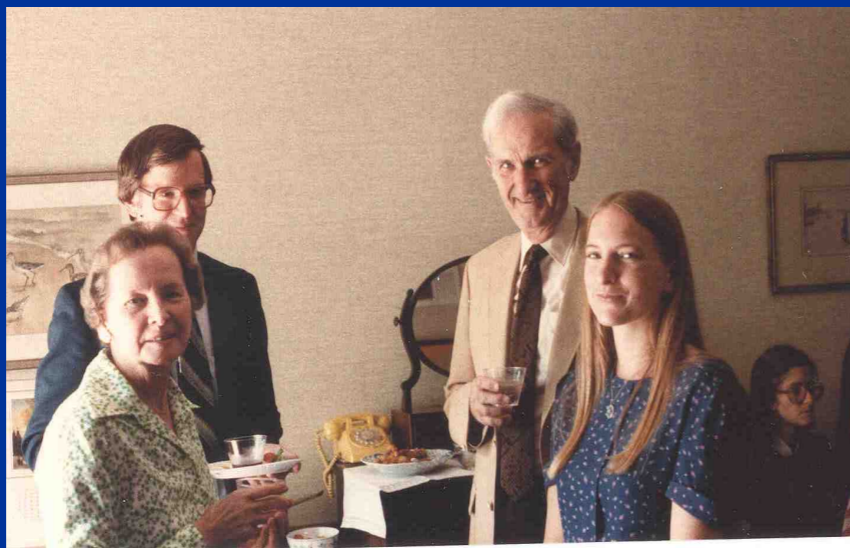


# Introduction to Incoherent Scatter Radar – Part 1

Anthea Coster

*MIT Haystack Observatory*

With credit and thanks to Anja Strømme,  
Craig Heinselmann, Phil Erickson, Bill  
Rideout, Josh Semeter, Juha Vierinen

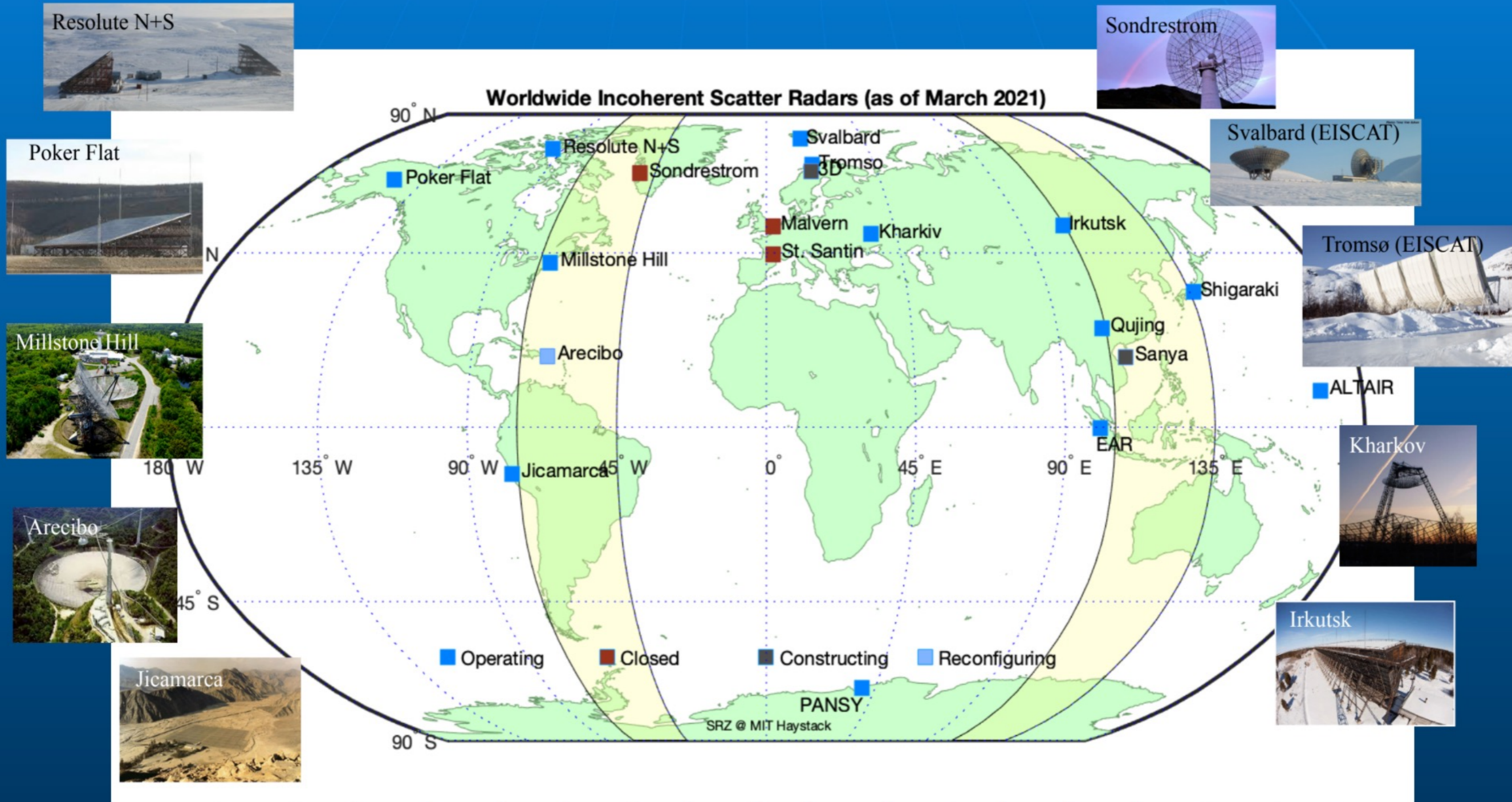


William E. Gordon

# Incoherent Scatter Radar

- Radar
  - Scatter
  - Incoherent

# Global Network of ISRs



*Can Measure Physical Properties of the Space Environment AS A FUNCTION OF ALTITUDE*  
 electron density, electron temperature, ion temperature, plasma velocity

*Can Infer:*

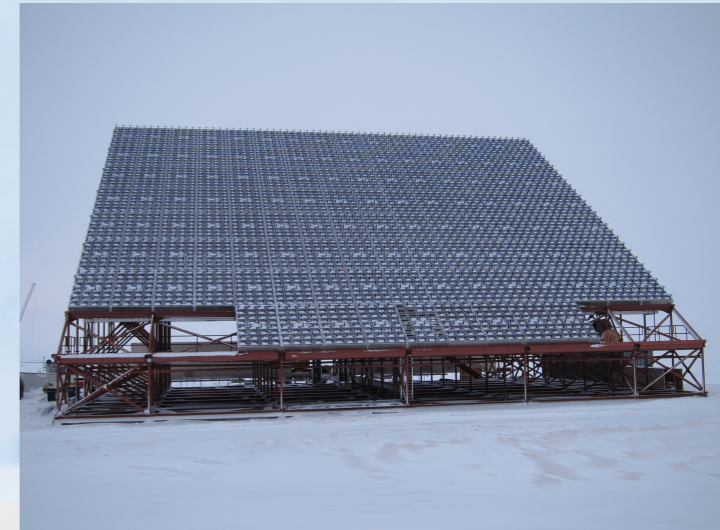
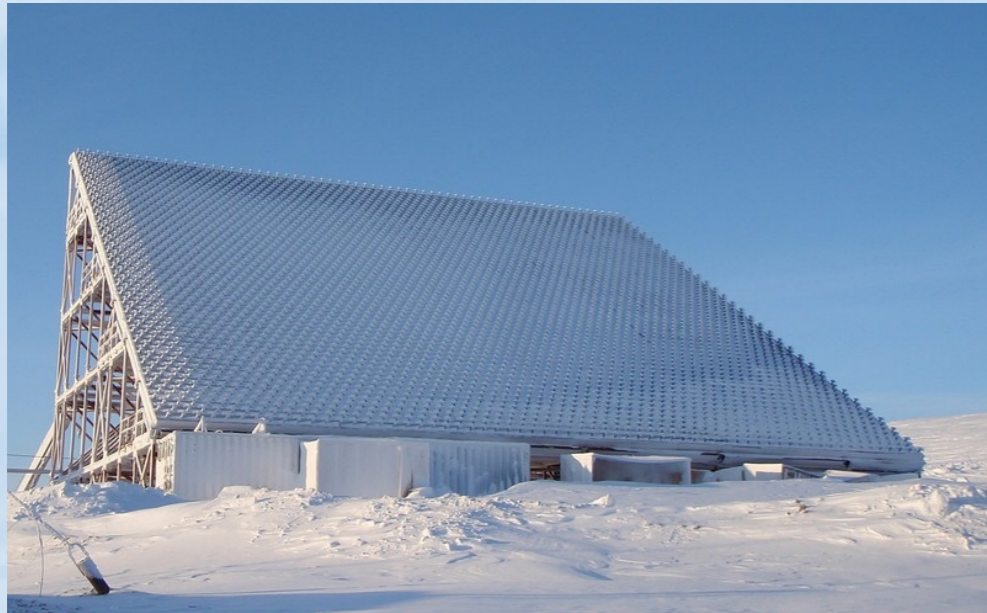
electric field strength, conductivity, current, neutral air temperature, wind speed



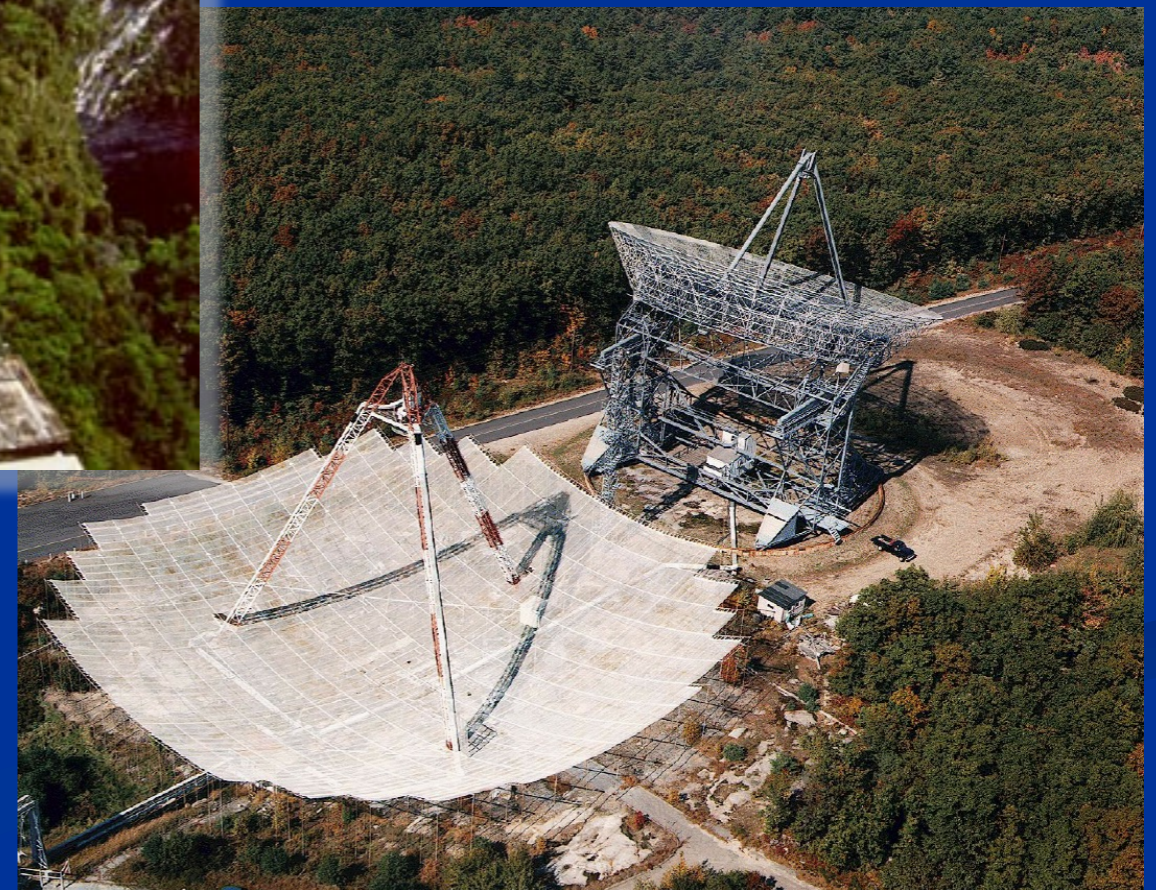
## High-Latitude Incoherent Scatter Radars



# PFISR (Poker Flat Incoherent Scatter Radar) and RISR-N (Resolute Bay Incoherent Scatter Radar)



# Mid-Latitude Incoherent Scatter Radars



# Low-Latitude Incoherent Scatter Radars



# Millstone Hill Zenith Density during Oct 15, 1999 Geomagnetic Storm

