

**Raytheon**

**Polar Services**

# UNITED STATES ANTARCTIC PROGRAM

**Introduction to Raytheon Polar Services**

**Meteorology**

**Michael Carmody**

**26 June 2007**

**[michael.carmody@usap.gov](mailto:michael.carmody@usap.gov)**

**(720) 568-2310**



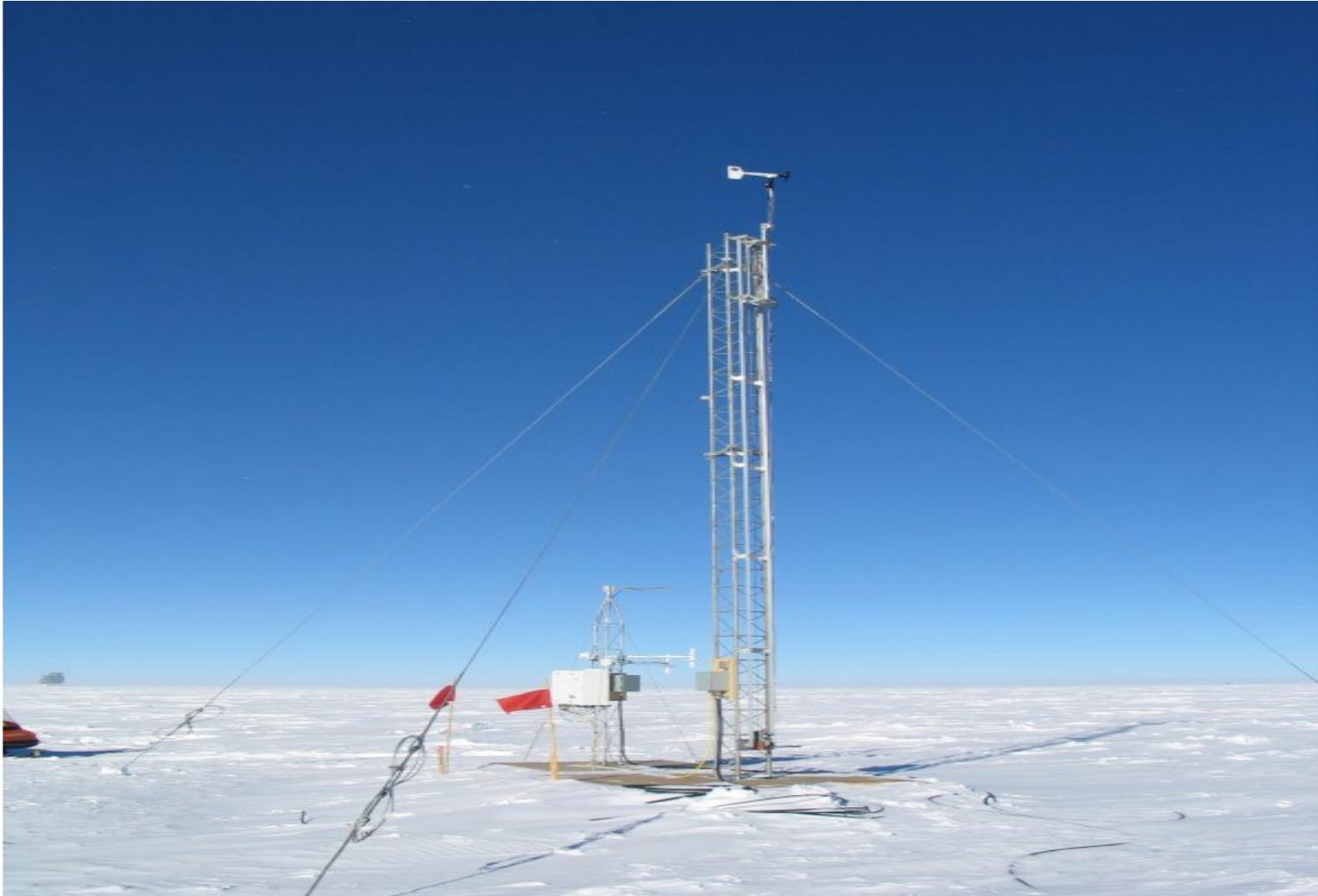
# U.S. ANTARCTIC PROGRAM **Raytheon**

## OVERVIEW

---

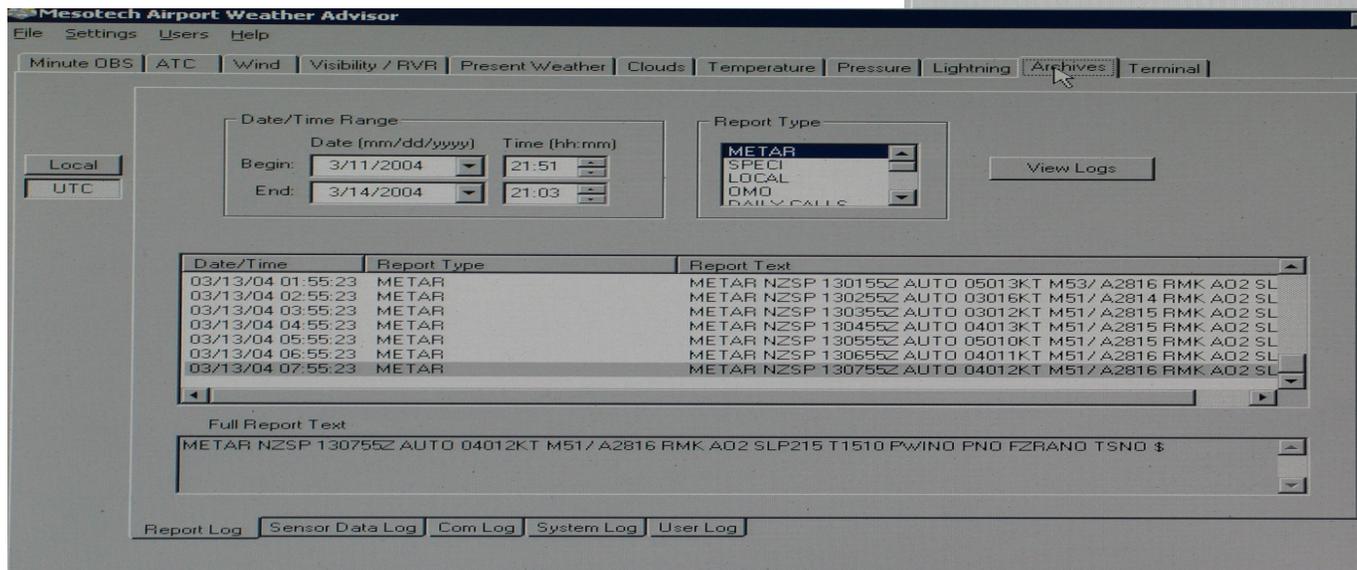
- **South Pole and Palmer Station**
  - **Projects and Highlights**
    - CLIMAT Progress
    - FMQ-19 issues (Fixed Meteorological Equipment)
      - Pole unique characteristics
    - Palmer Automated Station (PALMOS)
    - Field Observer Training Program
      - Focus on main camps
      - Plan to also include one POC from each science project with air support missions
      - Limited Observing Program (Mobile)
    - DigiCORA III recent discoveries
      - Difference between the two sonde types (RS92 and RS90)
      - RS92 in use at Pole since Feb 2005
      - Frequency spike

# South Pole Automated FMQ-19



# South Pole FMQ-19

- Standard US Air Force System
- All algorithms based on the FMH1 and not the Air Force AFI15-111



# PALMOS System

Consider the location in your data use



# Field Weather Observers

- Observations will be taken at each location with air support
- Limited training
- Goal is to improve support to aviation and to science.
- Data will be transmitted directly from the field to SPAWAR at McMurdo Station for use and distribution.

# Limited Observing Program

In development---use within the program has not been finalized

Observation is made up of individual digits

Individual description is selected from a menu of choices

Includes a separate menu for each element of a standard observation

Can be easily converted to METAR format

## Sky Condition menu example is below

May be useful for mobile teams

Code Digit #1	SKY CONDITION
0	CLEAR SKY
1	FEW
2	Not Used
3	SCATTERED
4	SCATTERED (HILLS IN CLOUDS)
5	BROKEN
6	BROKEN (HILLS IN CLOUDS)
7	OVERCAST
8	OVERCAST (HILLS IN CLOUDS)
9	Not Used

# Upper Air Soundings

- Recent discovery of erroneous winds from the RS-92 sonde---RS-90 sonde is fine
- Algorithm causing the error---data at Pole has been in error since February 2005
- Model ingestion of data
- Vaisala correction complete---install underway  
Notification of corrected data will come through the AMRC at University of Wisconsin-Madison e-mail
- Anyone else experience a 400MHz spike with the DigiCORA III system?



# U.S. ANTARCTIC PROGRAM **Raytheon** OVERVIEW

---

## QUESTIONS?

CONTACT

[michael.carmody@usap.gov](mailto:michael.carmody@usap.gov)

(720) 568-2310