

# 2006-07 Automatic Weather Station Field-Season Overview

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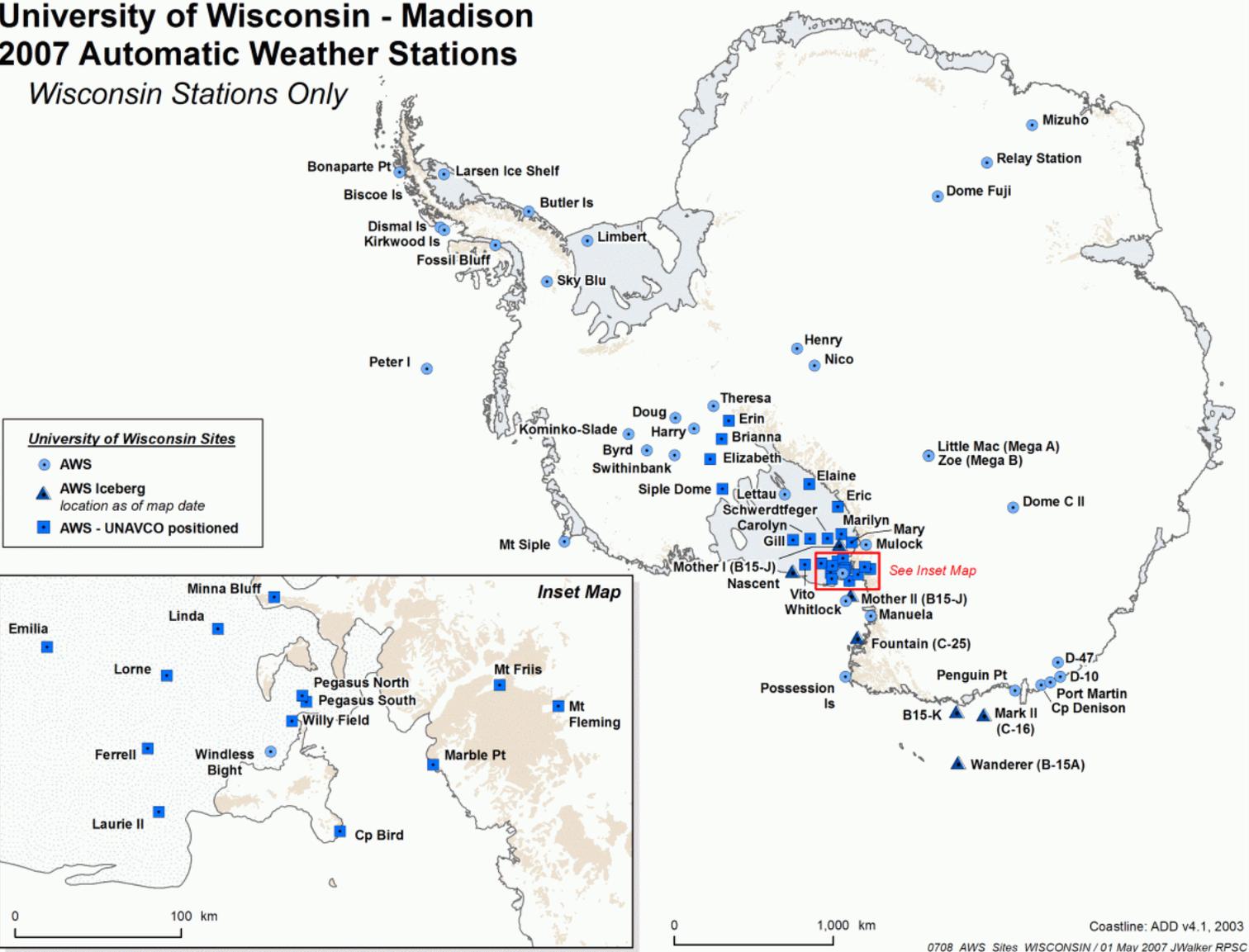
Thomas Nylen<sup>2</sup>

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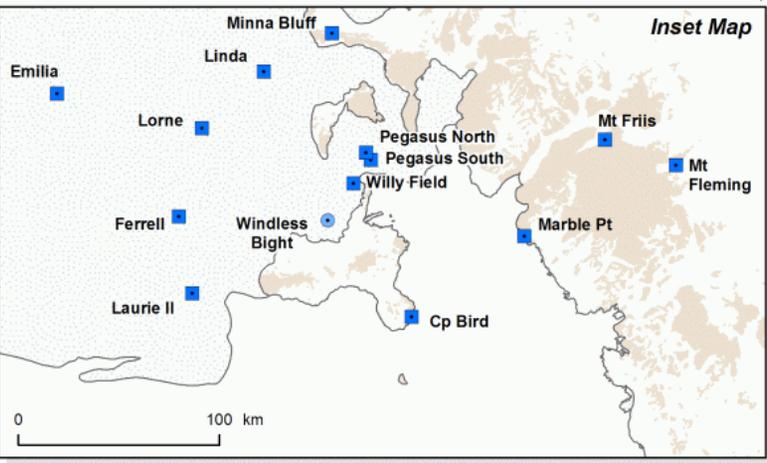
UNAVCO, Boulder, Colorado

# University of Wisconsin - Madison 2007 Automatic Weather Stations

*Wisconsin Stations Only*



- University of Wisconsin Sites**
- AWS
  - ▲ AWS Iceberg  
*location as of map date*
  - AWS - UNAVCO positioned



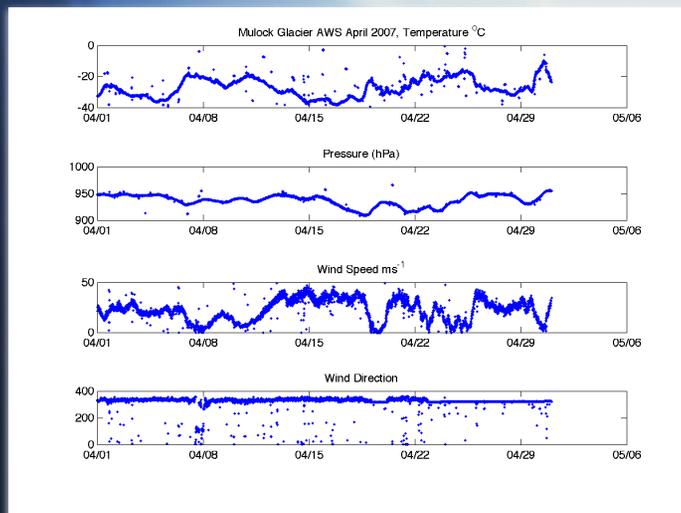
# New Installs

- Mulock Glacier  
79.018 S 160.156 E 434 m
- Lorne Site  
78.250 S 170.000 E 43 m
- Mount Fleming  
77.533 S 160.276 E 1868 m

# Mulock Glacier AWS



- Deployed on 25 October 2006, had attempted to install for three years
- In support of Ross Ice Shelf Air Stream (RAS) project
- Installed with high-wind speed system

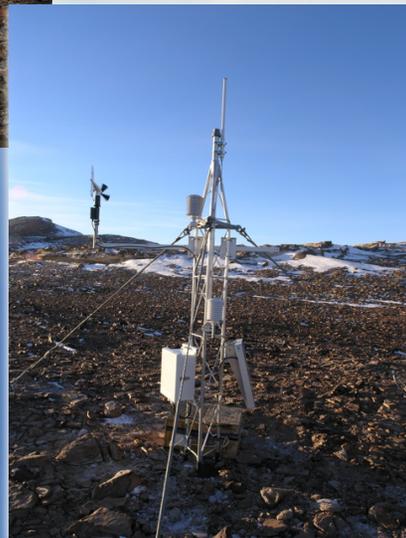


# Lorne AWS



- Located near old Meeley Site
- Located close to the Ferrell's original location (Ferrell has moved over 20 km since it was installed in 1979)
- Continues an arc of stations that are ~100 km from McMurdo (Laurie II, Ferrell, Lorne, Linda, & Minna Bluff)

# Mount Fleming AWS



- Original station installed by TAMDEF project
- Located at the TAMDEF/UNAVCO GPS site
- Concerned about R. M. Young Wind Monitor; currently, wind speed data is questionable

# Inherited AWS Sites

- Cape Hallet
  - LTER AWS site
  - Upgrade Campbell CR10X with Argos TX in 2007-08 field season if logistics support is available
- Mount Friis (Argos ID 28339)
  - Taylor Glacier Project AWS
  - 77.747 S 161.516 E 1580 m
- Megadunes (Argos IDs 2769 and 2516)
  - Currently two AWS locations (Zoe and Little Mac)
  - Only one will be maintained; equipment will be changed to UW-station
  - 80.775 S 124.527 E 2881 m

# AWS's Serviced in 2006-07

- Ferrell: Retrieved ADG data
- Windless Bight: Raised station
- Mary: Retrieved ADG data
- Linda: Replaced defective wind sensor
- Lettau: Raised station and replaced 8908 with 8928
- Marilyn: Replaced defective wind sensor
- Carolyn: Replaced defective wind sensor
- Emilia: Replaced 8919 with 8980
- Willie Field: Raised station and retrieved ADG data

## AWS's Serviced in 2006-07, cont'd

- Swithinbank: 21355 installed by Gordon Hamilton, currently off line
- Kominko-Slade: rebooted by Ben Parten
- Cape Denison: serviced by Australian Antarctic Historical Society
- Bonaparte Point: New wind system installed
- Equipment shipped to Dumont D'Urville and Syowa for deployment in 2007-08

# Instrumentation Issues

- Three bad potentiometers on R. M. Young Wind Monitors' direction
  - One was deployed for 5 years and two were deployed for only 2-3 years
  - A lot of our sites have very high constancy
- In the next 3 years all Bendix aerovanes will be replaced with R. M. Young Wind Monitors (\$1,000) or Taylor high-wind speed systems (\$3,500)
- Solar radiation loading on temperature sensors
  - Test station with multiple radiation shields will be installed at South Pole during 2007-08 field season

# 2007-08 Plans by Region

- Ross Island Region and Dry Valleys
  - Retrieve ADG data, perform wind system checks and upgrades, replace AWS at Pegasus South
- Ross Ice Shelf
  - Install new AWS at or near Roosevelt Island
  - Station raises and wind system upgrades
- West Antarctica
  - Upgrade Byrd AWS
  - Service as many AWS's from WAIS Divide Camp or Siple Dome, raising stations and replacing Bendix aerovanes.

# 2007-08 Plans by Region, cont'd

- Ocean Islands by icebreaker (yeah, right!)
  - Install minimal AWS/dog house stations at Scott Island, Young Island and Franklin Island.
- Adelie Coast by Institut Français pour la Recherche et la Technologie Polaires (IFRTP) at Dumont D'Urville
  - Reinstall AWS's at D-57 and D-80
  - Service existing AWS's as needed

## 2007-08 Plans by Region, cont'd

- East Antarctica work by Japanese Antarctic Research Expedition
  - Install new AWS between Dome Fuji Station and Kohnen Station
  - Service Relay station which is currently not transmitting
- Peninsula by USAP
  - Upgrade AWS at Bonaparte Point and Santa Claus Island

# 2007-08 “Ships of Opportunity”

- ITASE
  - It is proposed to have the traverse install one AWS at the top of Byrd Glacier and a second AWS on the traverse to Pole.
- UNAVCO and Ralph Harvey
  - Install new AWS in the Miller Range near the meteorite blue-ice areas.
- Norwegian Troll to South Pole Traverse
  - Is a collaboration possible to install an AWS along the route?

# Questions or Comments

If you would like a copy of the 2006-07  
AWS Field Report please talk to Matthew  
Lazzara, Shelley Knuth, or Jonathan Thom.  
It will also be available on our website:

<http://ice.ssec.wisc.edu>