

In Memoriam  
Dr. Charles R. Stearns  
1925-2015

# The Antarctic Automatic Weather Station Program

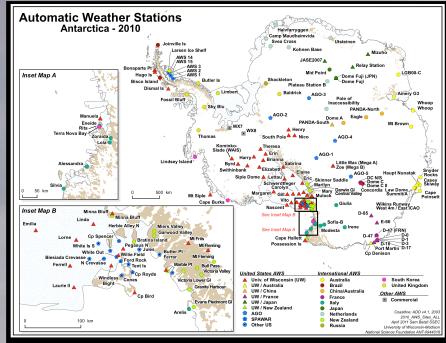
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<http://amrc.ssec.wisc.edu/>

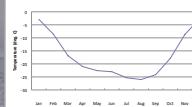


## Analysis:

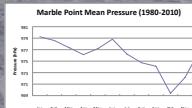
### \* Sample Station Climatology:

Marble Point AWS:  
Max Temp: 9.1°C Jan, 2000  
Min Temp: -45.0°C Jul, 2010  
Max Pres: 1017.5 hPa Jul, 2007  
Min Pres: 928.9 hPa Jul, 1993  
Max Wind: 40.4 m/s Jun, 2004

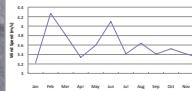
### Marble Point Mean Temperature (1980-2010)



### Marble Point Mean Pressure (1980-2010)



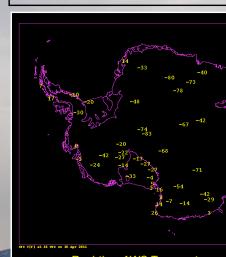
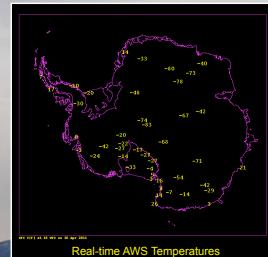
### Marble Point Mean Wind Speed (1980-2010)



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## Research Activities & Applications:

- \* Long Term Climatology
- \* El Niño/Southern Oscillation Studies
- \* Significant Weather Case Studies
- \* Boundary Layer Studies
- \* Ross Ice Shelf Air Stream (RAS) & Wind Studies
- \* Weather Forecasting
- \* Data Distribution & Archive
- \* Educational Outreach



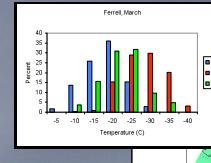
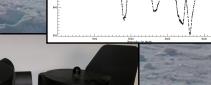
**Specifications: AWS2 SLI Model**

Air Pressure	Barometric	Model: SSM-A	Range: 800-1050 hPa (0-100,000 hPa)	Accuracy: +/- 0.25% (0-1000 hPa)
Air Temperature	Water/WET	Model: TSD-100	Range: -40-100°C minimum	Accuracy: +/- 0.5°C (0-40°C CSO)
Humidity	Vaisala HMP45	Model: HMP45	Resolution: 0.1 % (Resolved to 0.1%)	Accuracy: +/- 0.5°C (0-40°C CSO)
Wind Direction	IDS-Direction	Model: DWD-100	Range: 0-355 Degrees 25 degree dead zone	Accuracy: +/- 3.0 degrees
Wind Speed	Bentley-Belfort	Model: HAWK	Range: 0-100 m/s	Resolution Accuracy: 0.25% +/- 0.5% (0-100 m/s)
Acoustic Depth	Campbell Scientific	Model: SD-30	Range: 0-1000 m	Resolution Accuracy: 0.001 m (0-100 m)
Georg	UIC-2000	Model: UIC-2000	Range: 0-1000 m	Resolution Accuracy: 0.001 m (0-100 m)
Solar Radiation	Thermopile	Model: TSP-100	Range: 0-1000 W/m²	Resolution Accuracy: +/- 0.01% (0-1000 W/m²)
Cloud Cover	Copper-Corr.	Model: CCR-100	Range: 0-100%	Resolution Accuracy: +/- 0.5% (0-100%)

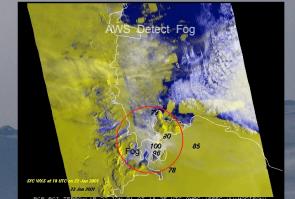
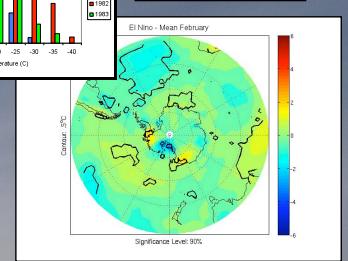


Alexander AWS

Tall Tower!



AWS Detect El Niño



## Future:

- \* Communication Changes:
  - ✓ Argos
  - ✓ Freewave Modem
- \* Collocation and Collaboration:
  - ✓ POLENET
  - ✓ AGO
- \* Climatology:
  - ✓ Full Surface
  - ✓ Regional Studies
- \* Tall Tower Boundary Layer Study

