The 2013-2014 Antarctic Automatic Weather Station Network: The Argos Network Segment

Matthew Lazzara¹, Lee Welhouse¹, David Mikolajczyk¹, Linda Keller¹,², Jonathan Thom¹, George Weidner², Melissa Nigro³ & John Cassano³

¹Antarctic Meteorological Research Center, Space Science and Engineering Center, University of Wisconsin-Madison
²Dept. of Atmospheric and Oceanic Sciences, University of Wisconsin-Madison
³Cooperative Institute for Research in Environmental Sciences and Dept. of Atmospheric and Oceanic Science, University of Colorado-Boulder
Outline

• AMRC/AWS Personnel
• 2013-14 Field Season Overview
  – Accomplishments
  – Setbacks
• Argos Network Update
• Argos Transmission Information
• Data Relay
• Future Plans
2013-14 Field Team

Dave Mikolajczyk

Lee Welhouse

Dr. John Cassano

Dr. Melissa Nigro
Field Season 2013-2014
12 Argos Sites Visited

- 8 by UW/CU
  - Schwerdtfeger AWS: routine maintenance
  - Pegasus North AWS: switch to FreeWave comms
  - Ferrell AWS: dual Argos/FreeWave comms
  - Linda AWS: back online, switch to FreeWave comms
  - Lettau AWS: back online; last transmitted July 2011
  - Tom AWS: removal, pending reinstallation
  - Sabrina AWS: routine maintenance
  - Margaret AWS: routine maintenance

- 1 by Palmer Research Associate (Glenn Grant)
  - Bonaparte Point AWS: routine maintenance

- 3 collaborative visits by other national programs
  - Italy: Manuela AWS: routine maintenance
  - France: D-10 AWS: routine maintenance
  - Australia: Cape Denison AWS: routine maintenance
Field Season Setbacks

• Government shutdown
  – WAIS field camp closed: unable to install 2 new AWS, service 4 existing AWS, remove 1 AWS

• Weather
  – Common issue
  – Traveling to AWS; to Pegasus Airfield
Argos Operating Agency

- Collection and Location by Satellite (CLS)
- Based in Toulouse, France
  - Subsidiary of CNES (French Space Agency), and IFREMER (French Research Institute for Exploration of the sea)
  - Work with: NOAA (w/NASA), ESA, MDA, Eumetsat, JAXA and INPE
- The Data Collection System (DCS) on these satellites:
  - NOAA
    - -15, -16, -17, -18, -19
  - Metop
    - -A
    - -B
  - SARAL
- Transmissions:
  - 401.650 MHz ± 30 kHz
Data Transmission via Argos

- **Antenna**
  - Laird Technologies FG3800
  - ~380-406 MHz
  - ~401 MHz for weather

- **Transmitter**
  - Campbell Scientific ST-21
  - Rated at -30C but works at colder temperatures

Data Relay

- Real-time: McMurdo to SSEC via McIDAS ADDE server
- Archive: Available monthly on ftp
**Argos Data Relay**

**Data Collection Service (DCS)**

**AWS Project 30+ year user!**

- **Argos Satellite**
  - NOAA series (Metop series)

- **AWS Observations**

- **UW/SSEC**
  - Reception via
    - HRPT
    - GAC Relay
    - (FRAC Relay)

- **SSEC Desktop Ingestor (SDI)**
- **AWS Decode Software**

- **McMurdo & Palmer Stations**

- **Distribution**
  - Realtime at:
  - http://amrc.ssec.wisc.edu
Real time
Web: http://amrc.ssec.wisc.edu

Archive
ftp://amrc.ssec.wisc.edu
ftp://aws.ssec.wisc.edu
Future of Argos AWS

• New installs
  – West Antarctica, 2014-15 field season

• Reinstalls
  – Emma, Port Martin, Nico, Henry
  – Replacements at D85 and D47
  – Side-by-side at Dome C

• Repairs
  – Thurston Island, Sabrina, etc.
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Thank you! Questions?