British Antarctic Survey

Automatic Weather Station Network
2016/17 Field Season Review

Rosey Grant, Steve Colwell, John Law, Mairi Simms
Thanks to everyone at both Halley and Rothera for their support.
BAS AWS network
(start of 2016/17 season)

- BAS manned weather station
- BAS AWS
BAS AWS network (start of 2016/17 season)

- BAS manned weather station
- BAS AWS
BAS AWS

• Propvane, sonic ranging snow accumulation sensor, HMP temperature and humidity sensor, PRT air temperature sensor, pressure sensor.

• Campbell Scientific CR1000 data loggers.

• 10 minute averaged data saved to card.

• 10 minute averaged data are transmitted via SBD Iridium every three hours.

• Complete data set is sent via Iridium once a week.

• Powered by 2 or 4 100Ah 12V batteries (buried), charged by solar panel.
BAS AWS network
(start of 2016/17 season)

- Capability of sending SYNOP to GTS
- Not
BAS AWS network
2016/17 field season

- Larsen north removed, 9 years (failed logger & co-located with iWS).
- Larsen south replaced CR10X with CR1000 and raised.
- Limbert power system replaced but still not working.
- Korff removed after three years (providing data for field campaign).
BAS AWS network
2016/17 field season

- Halley station partially moved from 6 to 6A.
- Halley station closure.
- No mains power at either 6 or 6A over winter.
- Of AWS only Windy Creek sending SYNOPs.
BAS AWS network
2016/17 field season

- Removed Windy Creek (running for 10 years).
- Installed at Halley 6 to enable continuation of SYNOPs to GTS from Halley (6 months, sending SYNOPs).
- Halley 5 (7 years).
- Halley 6A (18 months).
Non-BAS AWS network
2016/17 field season

- BAS manned weather station
- BAS AWS
- Non BAS AWS

Universities involved:
- Univ. Utrecht
- Univ. Wisconsin
Non-BAS AWS network
2016/17 field season

- BAS manned weather station
- BAS AWS
+ Non BAS AWS
Non-BAS AWS network
2016/17 field season

Inaccessible
Non-BAS AWS network
2016/17 field season

- BAS manned weather station
- BAS AWS
- Non BAS AWS

Inaccessible
New unit (alkaline batteries), new mast
Non-BAS AWS network  
2016/17 field season

- BAS manned weather station
- Non-BAS AWS
- Inaccessible
- New unit (alkaline batteries), new mast
Non-BAS AWS network
2016/17 field season

- BAS manned weather station

- Inaccessible

- New unit (alkaline batteries), new mast
Non-BAS AWS network
2016/17 field season

• BAS manned weather station
• BAS AWS
• Non BAS AWS

Inaccessible
New unit (alkaline batteries), new mast
Non-BAS AWS network
2016/17 field season

- BAS manned weather station
- BAS AWS
- Non BAS AWS

Inaccessible
New unit (alkaline batteries), new mast
New unit (alkaline batteries)
Larsen C digression

- Adrian Luckman (Swansea University) closely following progression of crack on east coast.
- Rapid growths in last nine months.
- 13km from calving.
Non-BAS AWS network 2016/17 field season

- BAS manned weather station
- BAS AWS
- Non BAS AWS

Non-BAS AWS network

Inaccessible

New unit (alkaline batteries), new mast

New unit (alkaline batteries)

New AWS
A day on Dismal Island

- 50km south of Rothera.
- 3hrs on British Royal Navy ship HMS Protector, then last 3km by zodiac.
- Last 300m by foot.
A day on Dismal Island

- 50km south of Rothera.
- 3hrs on British Royal Navy ship HMS Protector, then last 3km by zodiac.
- Last 300m by foot.
- Luckily had the help of six Royal Marines!
Dismal Island AWS

- Installed in 2003/04 by UW.
- Serviced by BAS 2008/09.
- Continued transmitting data until 2014.
- Aerovane missing propeller.
- Nothing left of snow accumulation sensor except outer casing.
- Corrosion and salt deposit on logger box cable glands.
- Rusty instrument attachments and guys.
<table>
<thead>
<tr>
<th>AWS</th>
<th>Sensors</th>
<th>Power</th>
<th>Iridium</th>
<th>SBD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fossil Bluff</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Butler Is.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sky Blu</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Limbert</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Baldrick (M83)</td>
<td></td>
<td></td>
<td>ARGOS</td>
<td></td>
</tr>
<tr>
<td>Halley 6a</td>
<td></td>
<td></td>
<td>ARGOS</td>
<td></td>
</tr>
<tr>
<td>Larsen iWS</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cabinet iWS</td>
<td></td>
<td></td>
<td>ARGOS</td>
<td></td>
</tr>
<tr>
<td>Dismal Is.</td>
<td></td>
<td>Intermittent</td>
<td>NA</td>
<td>ARGOS</td>
</tr>
</tbody>
</table>

Current AWS status

- **Limbert**: Power down on 17.04.17
- **Larsen iWS**: Power down on 10.04.17
Intentions for 2017/18

- BAS manned weather station
- BAS AWS
- Non BAS AWS

Replace unit if accessible
Fix temperature sensor?
Raise
Replace
???
Rothera Vaisala radiosonde trial

- Launching 5 balloons a week (RS92).
- Aiming for 1 of these to be a dual launch (one balloon, two sondes).
- Will run for a year (or until we have managed ~50 dual launches).
Rothera Vaisala radiosonde trial

- Launching 5 balloons a week (RS92).
- Aiming for 1 of these to be a dual launch (one balloon, two sondes).
- Will run for a year (or until we have managed ~50 dual launches).
Thank you