British Antarctic Survey

Automatic Weather Station Network
2020/21 Season Review

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The Summer 2020/21 Team

Thanks to the whole team and the many other volunteer diggers for their efforts this past season!

Rothera

Jack Farr  John Law  Mairi Simms

Halley

‘Barney’ Barningham  Dom Jacques  Seb Gleich
BAS AWS Network

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

- Powered by two or four x 100Ah 12V batteries (buried), charged by solar panel.

- 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 sent via Iridium once a week.
BAS AWS Network
Work Carried out 2020/21

- Accessed from Rothera:
  - Fossil Bluff
  - Butler Island
  - Sky Blu
  - Limbert

- Accessed from Halley
  - 6a Met Caboose
  - CAS Lab
  - TT03
  - Baldrick

- Limbert and Baldrick were not visited this season

Guy wires tightened
Battery box raised
New mast section added, all instruments raised
All raised
Not visited
Not visited
Fossil Bluff

On arrival

- Generally good in condition but guy wires loose
- SR50 working sporadically – gold leaf dull and pitted

Work carried out

- Guy wires (metal) tightened and locking wire reapplied
- SR50 transducer replaced
- Service time – ~1 hr
Butler Island

On arrival

- Snow melt dripping from solar panel formed layer of ice on the HMP and mount.
- 41cm accumulation since last visit (12 months)

Work carried out

- New mast section added
- All instruments and battery box raised.
- Service time – 5 hrs 20 mins
Sky Blu

On arrival

- This visit was opportunistic and carried out by other BAS staff en route to other tasks.
- 30cm accumulation since last visit (12 months)

Work carried out

- Battery box raised only
- Crack near amphenol connector discovered

Service time – 45 mins
BAS AWS Network
Work Carried out 2020/21

Over at Halley....

6a, CAS Lab, TT03 sites all raised
Halley 6a Met Caboose

On arrival

- No connectivity between logger and In Car PC
- No Iridium transmission

Work carried out

- 485 converter at fault and replaced
- Instruments raised
CASlab AWS

On arrival

- Power failure

Work carried out

- Batteries replaced
- Instruments raised
- SR50 straightened
- 10cm snow accumulation since last visit (1 year)

TT03 AWS

- Raised instruments
- Downloaded data but was corrupt
Non-BAS AWS Network
Work Carried out 2020/21

University of Utrecht – IMAU

- iWS 14 (Larsen)
- iWS 18 (Cabinet Inlet)

WSL

- Koni Steffen AWS
University of Utrecht
IMAU iWS 18

On arrival

- Marker flags had fallen over and were buried
- Mast was a bit wobbly but straight
- Fragile thermocouple broken
- 5cm snow accumulation since last visit (11 months)

Work carried out

- iWS and thermocouple replaced
- Service time – ~1hr 15 mins
University of Utrecht
IMAU iWS 14

On arrival

- Marker flags had fallen over and were buried
- Fragile thermocouple broken
- 5cm snow accumulation since last visit (13 months)

Work carried out

- iWS and thermocouple replaced
- Service time – ~1 hrs 30 mins
Koni Steffen AWS - Decommission

On arrival

- No data transmission
- Most of mast section well buried and leaning
- 25cm snow accumulation since last visit (12 months)

Work carried out

- Data download attempted but failed, no CR1000 status light
- AWS decommissioned
- ~7m of telescopic mast remains buried
- Decommission time – 2hr 15 mins
## Current AWS Status

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Intermittent

Corrupt data at TT03

ARGOS
Intentions for 2021/22 season

BAS AWS

- Butler Island, Sky Blu, Limbert – Install new masts
- Fossil Bluff – Replace SR50
- Halley Sites – Investigate data issue at TT03
- Baldrick – Raise

University of Utrecht – IMAU

- iWS14 and iWS18 – Swap iWS unit, replace thermocouple and thermistor string
Thank you