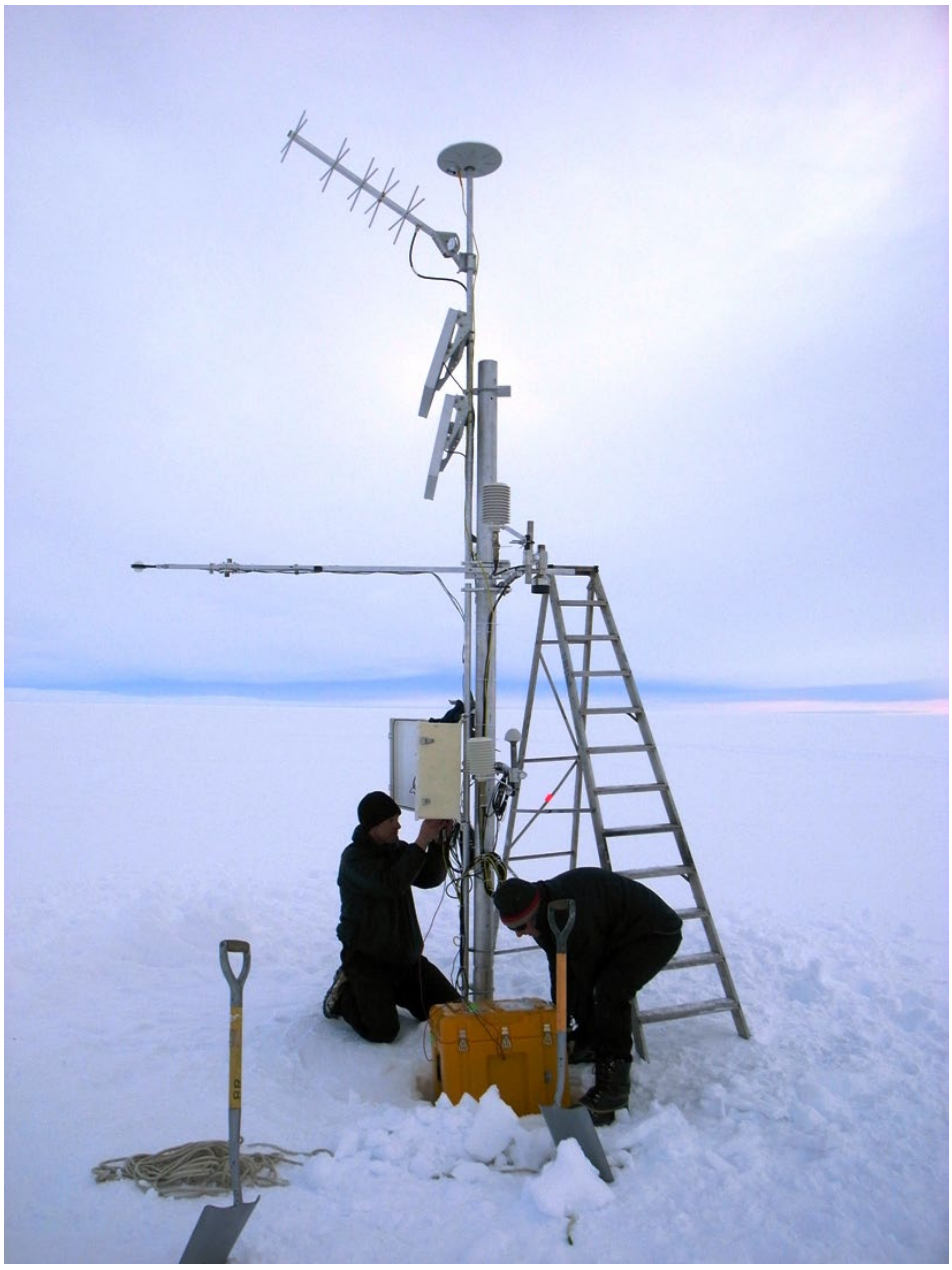
Larsen C - AWS Deployments for Konrad Steffen

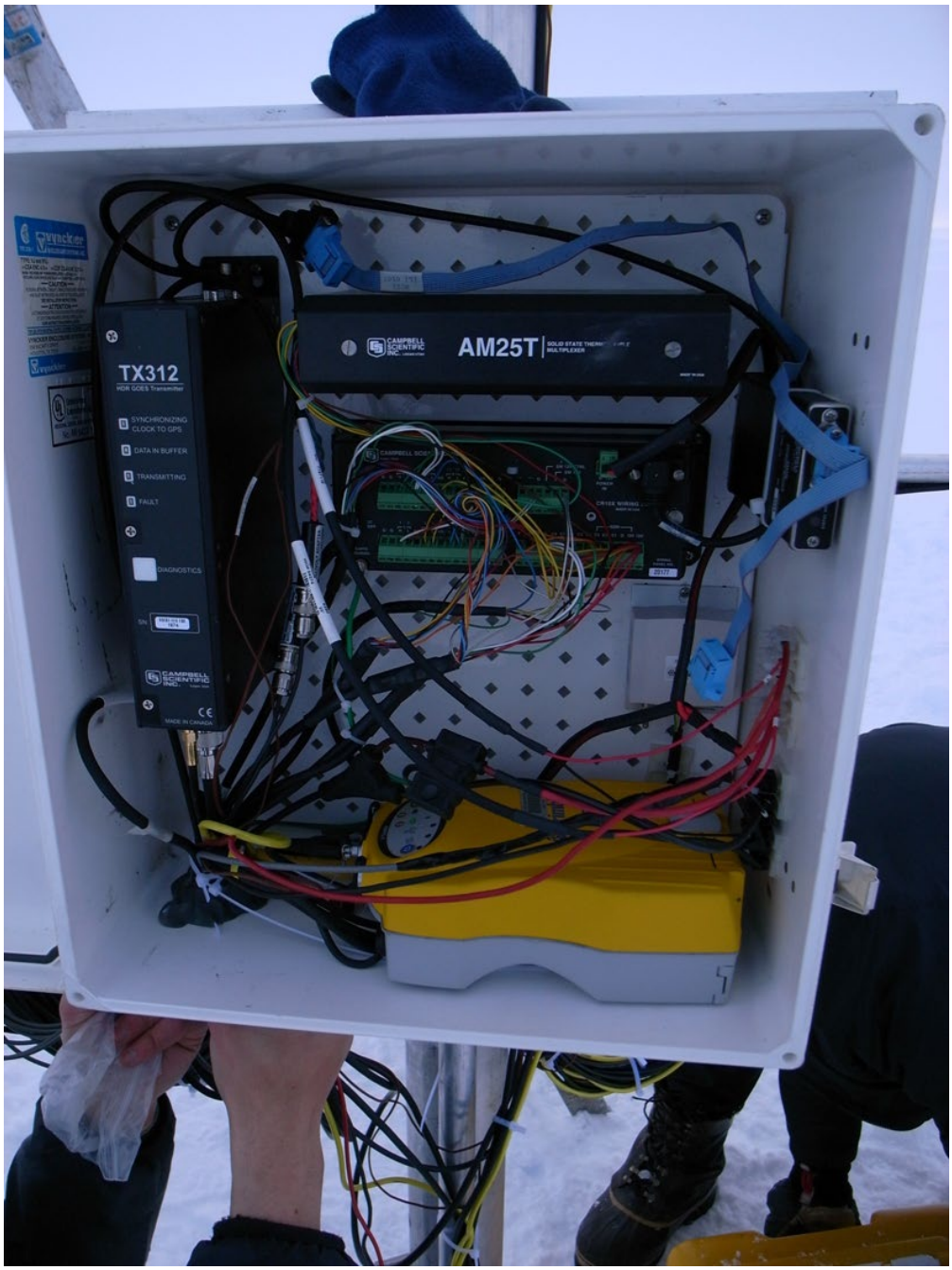
AWS Site 3 – 17th December 2008

Personnel – Matt Balmer, Rob Webster, Ian McNab (Pilot : Dave Hardie)
Time on the Ground – Approx 6 hrs

Problems / Issues : The time elapsed between the initial training with Konrad, Dan, and Ala at Rothera was enough to make the setup quite slow as we remembered how everything went together, and there was much re-jigging of various bits of the mast in order to get things to sit correctly relative to each other. Having drilled the hole for the bottom pole a little too deep, we struggled a bit to get enough remaining height of mast, especially to get the logger box far enough off the snow surface, and to arrange the solar panels high enough so that the bottom one was not obstructing the upper wind monitor. The photo shows the setup close to completion, which is hopefully satisfactory.



AWS 3 Close to Completion



Inside the AWS 3 Logger Box

AWS Site 2 – 22nd December 2008

Personnel - Matt Balmer, Rob Webster (Pilot : Dave Hardie)
Time on the Ground - Approx 6 hrs

Problems / Issues

A few issues occurred at this site:

1. The placing of the casing for the GPS low down on the mast.

   The photo shows that the solar panel bearing black Pelican case housing the Trimble GPS was mounted low down on the mast, despite awareness that accumulation may partially busy the solar panel at this height. Given that the prevailing wind on the Larsen C is Southerly, we mounted the various parts of the mast in the following orientations:

Main Solar Panels	True North
Logger Box	Door Facing True North
GOES Antenna	331° Magnetic
Radiation Arm	True North
Sensor Arms	Close to True E-W
Wind Monitor Black Boxes	True South

   Having set up the main parts of the mast we realised that the GPS box could not be mounted above the logger box as had been planned, and still have the solar panel on it facing True North as necessary, due to the fact that the clamping system employed by the box can only achieve certain orientations relative to the logger box mounting pole, and in the setup we had built with the prevailing winds in mind, True North was not an available orientation.

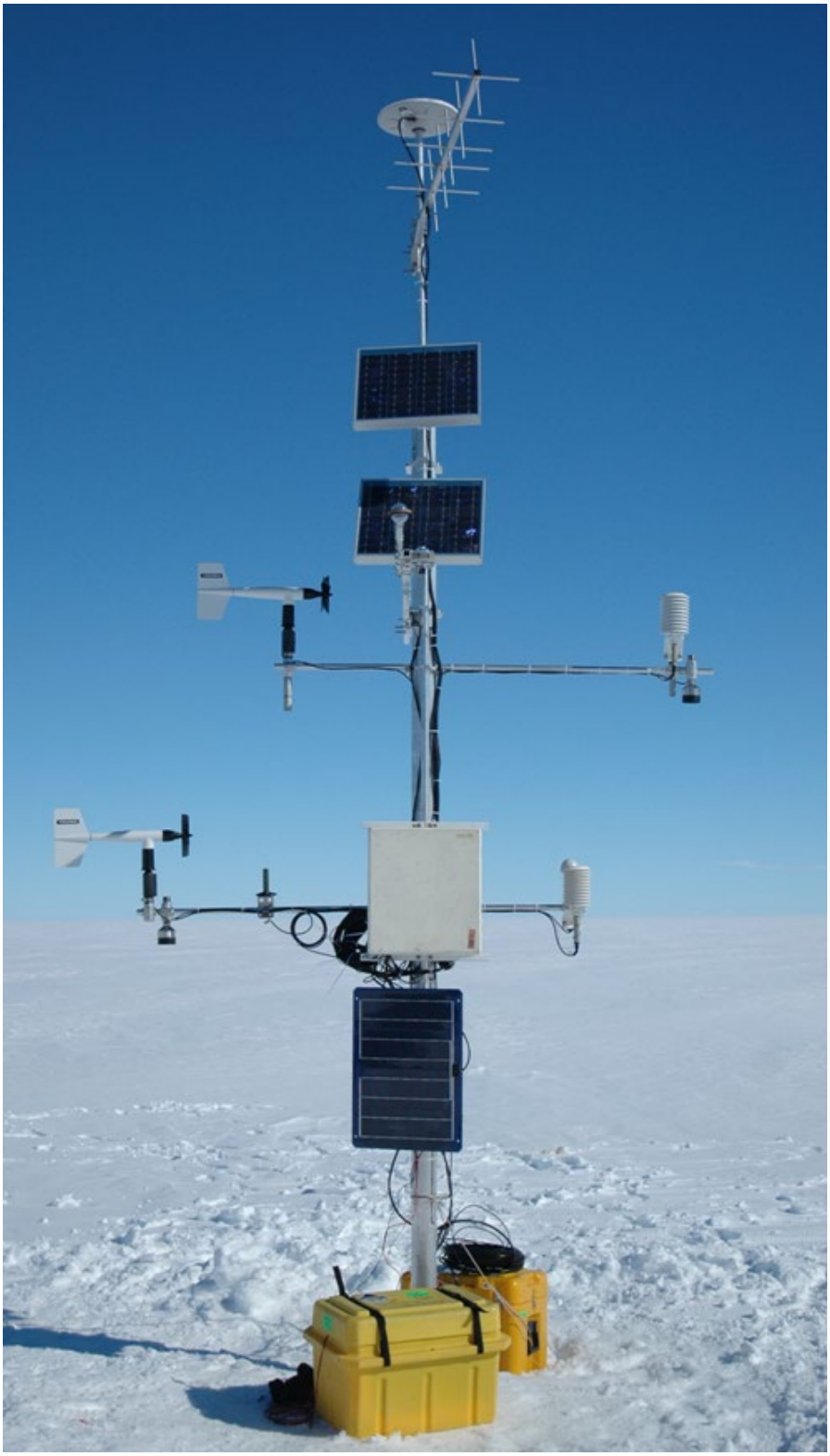
   To cut a long story short, we mounted the GPS box below the Logger Box, lower than we would have liked. It is now orientated True North, but is liable to be partially buried during the winter.

2. The Non-Transmission of the GOES System.

   Upon power-up, everything looked fine with the system. I can confirm that we attached the GOES antenna before powering up the box, that the antenna was lined up properly, and that there was power to the TX312 after power-up.

   The problems came after we attached the keypad to view the data. The keypad was erroneously connected directly into the CR10X with the removal of the connector from the CS I/O port on the logger. This was then corrected, and the numbers viewed in the usual way by connecting the keypad to the extra port on the extra storage module. However, after this, despite the write light flashing on the storage module, the "Data in Buffer" light on the TX312 failed to light. None of the other lights on the TX312 lit either, and pressing the "Diagnostic" button of the front of the transmitter yielded a red "fault" light. We lacked the knowledge of the system to fault find further, but instead cycled the power a couple of times to see if the system would sort itself out again. It seems that this failed, and we had to leave the site without making a phone call to get more advice. Unfortunately it seems that the system will not transmit, and unless there are any suggestions which could give us a good case for

getting back out to the site, it may be that the data will have to be collected during the 09/10 field season.



AWS 2 Close to Completion

The Iridium transmission system for the Trimble GPS in the Black Box was tested and was seen to be working, with the message “Sent” seen to confirm successful transmission before the LCD screen was disconnected to save power. We await news from Dan on whether or not he has managed to inspect the transmissions.

AWS Site 1 – 22nd/23rd December 2008

Personnel – Matt Balmer, Rob Webster (Pilot : Dave Hardie)
Time on the Ground – Approx 4 hrs

Problems / Issues

This deployment went well as we were really starting to get to grips with the construction of the main framework. The work was considerably quicker than either of the previous sites, despite tiredness creeping in after a long day.

AWS 1 - The Structure As We Left It