WX7, RAWS A, B, C, D and the RAWS project at Patriot Hills

Introduction
The ALE AWS network consists of 5 stations:

- 4 RAWS (Remote Automatic Weather Station) A, B, C and D.
- 1 WX7

Changes during the season 2007-2008
Implantation of a brand new AWS at the threshold of the blue ice runway of Patriot Hills: WX7.

While in precious years all the RAWS were used for the project this season the RAWS C and D were used to monitor the wind and weather conditions at Union Glacier.

Only the RAWS A and B were used for the RAWS project.

The installation of the WX7

- The need for accurate weather (especially wind speed and direction) readings at the threshold has three main reasons:
    - safety for the IL-76 flights between Punta Arenas and Patriot Hills. The strict and very sharp wind speed limitations for the IL-76 to approach and land safely at the Patriot Hills Blue Ice Runway. (Threshold wind may not exceed 18 knots in gusts)
    - to have wind speed and direction readings to compare with the upstream readings from RAWS A and B
    - the awareness of ALE that 'WMO official weather observations' (ICAO-number of WX7 at PH is 89081) contributes to the improvement of, in general, the global modelling, and more specificly the Antarctic modelling. This pays back in more accurate forecasts which means a higher safety level.

- Overview of the components of the WX7
- Overview of installation of the WX7

The goal of the RAWS project
The goal of the RAWS project is to establish a correlation between the upstream wind (changes) and the wind (changes) at Patriot Hills. Therefore the remaining two RAWS A and B were put on an 'upstream location' into the prevailing katabatic wind direction.
So at Patriot Hills we can get advance warning of a katabatic assault approaching from the polar plateau.

A new approach for the RAWS project
As previous seasons the four different RAWS were put on the same (upstream) latitude but with different bearings, this season we decided to put the two available RAWS on the same bearing but on a different distance from Patriot Hills.
Last season we gathered 10-minute readings from WX7, RAWS A and RAWS B beginning at 2 December 2007 around 0320UTC until 19 January 2008 around 1520UTC
With the analysis of these data we hope to find an algorythm to correlate the katabatic wind speed changes at RAWS A to a certain change at B (after a certain time) and finally to a certain change at WX7 at Patriot Hills. So at Patriot Hills we could get advance warning of a katabatic assault approaching from the polar plateau.
The analysis of these data is still in progress but i hope to present a first result during this workshop.