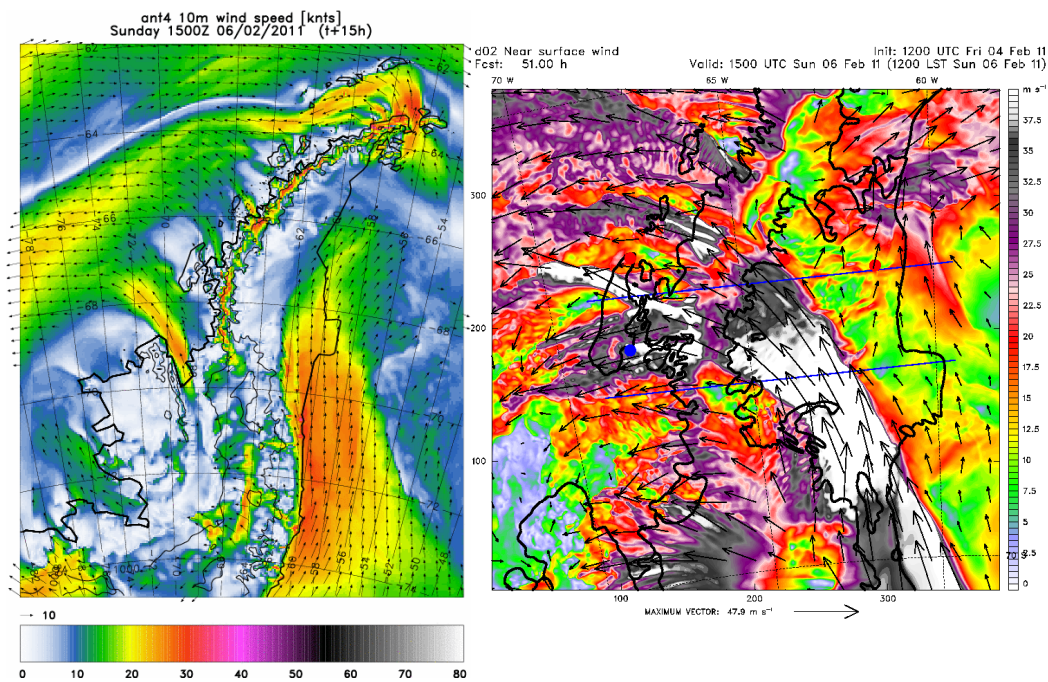


High Resolution Forecasts for an Antarctic Field Campaign

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During January and early February a field campaign was conducted to investigate the orographic flow across the Antarctic Peninsula (Orographic flows and the climate of the Antarctic Peninsula -OFCAP). This campaign involved deploying a string of AWS across the Peninsula, a manned camp on the Larsen Ice Shelf and a series of flights with an instrumented Twin Otter. In support of the campaign a series of high resolution forecasts were run using Polar WRF at 1.5km resolution and a limited area version of the UK Met Office unified model run at 4km resolution.

Here we will look at results for just the 6th February, a day on which there was an east to west flow across the Peninsula resulting in strong low jets on the west side of the Peninsula in the immediate area around Rothera Station. The strong easterly winds resulting from these jets disrupt the use of the Rothera airstrip and so forecasting these events would mean safer and more efficient air operations.



UKMO 4km

WRF 1.5km

The figures show two runs of high resolution models showing clearly that the higher resolution model resolves the high winds observed at Rothera stations, while lower resolution model does not. This suggests that very high resolution models may be able forecast these strong easterly winds.