ANTARCTIC METEOROLOGY

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Alberto Setzer^{1*}; Franco Nadal Junqueira Villela² and Antonio Gabriel Pontes e Dechiche³

¹ Instituto Nacional de Pesquisas Espaciais (INPE/CPTEC), Rede Clima/INCT para Mudanças Climáticas

² Instituto Nacional de Meteorologia (INMET)

³ Universidade de São Paulo – (IAG/Meteorologia)

*e-mail: alberto.setzer@cptec.inpe.br

The participation of the weather team consisted of the following tasks:

- Collection / analysis of meteorological data and sending this data to Brazil, making them available to the public via its website: www.cptec.inpe.br/antartica
- Staff continued the data collection and made available on the website of the British Antarctic Survey (BAS) and the site of the National Institute of Meteorology data: <http://www.antarctica.ac.uk/met/metlog/latest-met/89252.latest-met.html>
- <http://www.inmet.gov.br/sonabra/maps/automaticas.php>
- Maintenance and calibration of meteorological instruments to ensure data quality;
- Observations of weather every three hours which is the record of cloud cover, the types of clouds, visibility and present time;
- Research activities in the areas of climate modeling and numerical weather prediction for EACF and stations of the Antarctic Peninsula.

Main results observed:

Average annual temperatures of air in Brazilian Antarctic Station have fallen around -0.6 °C per decade is considered the last 14 years. The downward trend, recorded by the National Institute for Space Research (INPE), can be found, for example, in the years 2007 and 2009, when the bitter winter froze the two freshwater lakes that supply the station. In the years 1995, 2007 and 2009, the extent of ice covering the Admiralty

Bay during winter even hit the maximum level. Since 1986, when they began collecting data on the Brazilian Antarctic Station, with the exception of 1987, the lowest temperatures in winter (June-July-August) occurred in the last 14 years.

In 1995, for example, the average winter was -10.3 °C in 2007 and 2009, was -8.5°C.

“Throughout 2009, temperatures were below average, except for January and March. The absolute minimum temperature, -25.6 °C, occurred on August 5, and for 18 years minimum in a month of August did not fall below -25 °C”, says researcher Alberto Setzer, INPE. It should be noted that the climate in this region shows great interannual variability, with alternating warm and cold years. Because of these significant changes, which on average are about 3 °C in mean between each year, it is difficult to forecast temperatures for the same next year.

“If we consider the annual average of the last 65 years in the region, there was average warming of +0.23 °C per decade. But for the past 29 years that a practical standpoint configure the 30-year climatology of a conventional pattern, the average data show stability, so no indication of climate warming” concludes Alberto Setzer (Figure 1).

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Figure 1. Average annual temperatures of air in the Admiralty Bay, King George Island(1944-2009, except 1946: 65 years date).

References

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