

STUDY OF THE ANTARCTIC ATMOSPHERE AND ITS LINKS SOUTH AMERICA

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The activity 442: Study of the Mesosphere, Stratosphere and Troposphere Antarctica and its links South America.- (MST-ASA) is a study of the antarctic atmosphere using different techniques in the Antarctic region and South America. This cooperation will be directed toward ground-based experimental campaigns, Spectrophotometers, radiometers and technique launched on balloons, to increase understanding of the Antarctic atmosphere and the teleconnection to South America. Within the Brazilian Antarctic Programme and with other South America countries participation : Argentina, Chile, Bolivia, Peru and Uruguai. We present results of the observations of the Stratospheric Ozone Depletion over Brasilian Antarctic Station Ferraz(62.1°S ; 58.4°W) ,King George Island, Punta Arenas, Chile, the impact in the middle latitude ozone changes over Santa Maria , Brasil and correlation of total ozone detected by ground-base and satellites measurements, using the Brewer espectrofotometer, during the Spring of 2007. The UV radiation at Ferraz, Punta Arenas, Chile, La Paz, Bolivia and Santa Maria, Brasil we also measured daily with Brewer spectrophotometers and radiometers. An airglow all-sky imager has been operated at Ferraz (62° S, 58° W), during the winter 2007. Mesospheric gravity wave activities were observed by near infrared OH emissions (OH NIR). In the sub-Antarctic region, gravity wave activity with large annual and inter-annual variability has been reported. During the period with good weather condition it was observed forty five nights with a great variety of gravity wave pattern; which is a good statistic if one considers the local weather condition (frequently cloudy) around the Peninsula. In order to calculate the gravity wave parameters, we used background winds observed by MF radar installed at Rothera Station, Antarctica (67° S, 68° W). The data was obtained under collaboration with the Group of the Physical Sciences Division at the British Antarctic Survey (BAS). Antarctic Meteorology aticvity studies the effects of Antarctica in the Brazilian weather and the climatic variation in the Antarctic Peninsula; it also mantains automatic weather station with weather data and forecasts. The green house gases (eg.: N2O, O3, CFCs and CH4) and the NO2 and SO2 total column by Brewer spectrophotometer was measured. Study of effects of Ultraviolet Radiation on DNA of Marine Organisms in Admiralty Bay, King George Island, has been make during the summer 2007 and 2008.