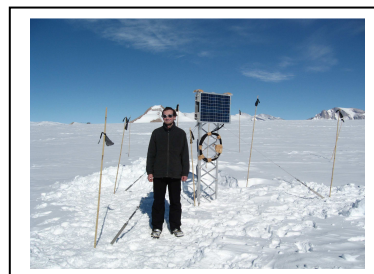


BELATMOS

Monitoring of Ozone and Related Trace Gases, UV Radiation and Aerosol Particles in Support of Atmospheric Chemistry and Climate Research

Duration of the project:	Research budget:
	Campaign budget:

MANGOLD Alexander, RMI
VAN ROOZENDAAL Michel, BISA
MAENHAUT Willy, UG



<http://belatmos.blogspot.com>

<http://ozone.meteo.be/meteo/view/en/1550481-ANTARCTIC.html>

The objective of BELATMOS is to contribute to the long-term monitoring of the chemical and particle composition of the Antarctic atmosphere and to the quantification of the UV radiation reaching the surface, using a suite of complementary ground-based instruments.

Although being a remote region, Antarctica is influenced by pollution and natural aerosol from lower latitudes (e.g. biomass burning, volcanic eruptions), the Antarctic coastal region or by the research stations themselves. Atmospheric composition measurements are important to evaluate changes in background concentrations and to improve our understanding of long-range transport of aerosol and trace gases and the relative impact of natural and anthropogenic sources.

Atmospheric aerosol particles, ozone and trace gases are linked to climate change through various complex feedback mechanisms. Analysing and understanding these interrelations form the basis for decisions to be made with respect to environmental policies. There are only very few measurements of this type in Antarctica, especially inland. Such kind of data is highly needed for validation of satellite data and simulations of global aerosol and trace gas models, climate models, or weather forecast models.

In addition, more and accurate measurements of the ozone column over the Antarctic continent are important. The so-called ozone-hole occurs since over 20 years each year over Antarctica during springtime. Although the production of

halogen species responsible for the ozone destruction has been stopped, the first clear evidences for a recovery of the ozone layer are still awaited.

A series of 9 instruments is foreseen to measure the optical properties of the aerosol particles, to measure their mass and number concentration and their size distribution, to measure the UV radiation, and to measure the total column amount and vertical profile of atmospheric trace gases like, e.g., ozone. All instruments will be prepared as far as possible for a whole-year continuous long-term monitoring in the remote place Princess Elisabeth Station Antarctica (PES).

