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Brazilian scientists reopen southmost Latin-American lab

Module Criosfera 1 reopens after being closed for two years. The scientific expedition to Antarctica is retaken with the participation of four UFRGS' researchers

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The module **Criosfera 1**, first Brazilian scientific laboratory installed inland Antarctica, reopens on December 12th after being closed for two years. It is localized on the coordinates 84°S, 79,5°W, 2.500 kilometers south from *Comandante Ferraz*, a Brazilian station. *Criosfera 1* is an advanced scientific module of the Brazilian Antarctic Program (PROANTAR) aimed at the investigation of the changes in the atmosphere, the weather, and the ice of the Earth. The module is self-sustainable – solar light and wind are enough to power all the research equipment and the weather station.

Since the module has been installed in December 2011, every year a scientific expedition goes to *Criosfera 1* to make the necessary repairs and adjustments to the continuation of the research. However, in 2018 the group did not receive funds to accomplish the expedition, which caused the temporary closure of *Criosfera 1* for two years. Now, thanks to a partnership with the Brazilian Marine Corps, via the Brazilian Ministry of Defense, four UFRGS' researchers returned to Antarctica with the mission to make the module active again. The higher education professors Jefferson Simões and Francisco Aquino, and the technicians Luiz Fernando Reis and Isaías Thoen are participating in this mission.

Criosfera 1 enables to investigate interactions between Antarctic and Brazilian air masses, developing further knowledge about cold fronts that affect agricultural production. The module's sensors also collect data of chemical components present in the atmosphere, which allows the measurement of atmospheric carbon dioxide's concentration and the investigation of global signs of pollutants resulting from industrial and mining activities.

The module is a joint action between the Federal University of Rio Grande do Sul (UFRGS), the State University of Rio de Janeiro (UERJ), and the National Institute for Space Research (INPE). It is part of the Brazilian Antarctic Program (PROANTAR)/ Inter-ministerial Commission of Sea Resources (CIRM). The funds for the module come from the Brazilian Ministry of Defense, Ministry of Science, Technology, Innovations, and Communications (MCTIC), and also from the National Council of Scientific and Technological Development (CNPq).



The laboratory enables researchers to investigate the changes in the atmosphere, the weather, and the ice of the Earth.

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