

The storm before the calm

February 6 2014



Concordia summer camp. Credit: ESA/IPEV/PNRA–A. Golemis

In just a week the crew of Concordia research station will be left to survive on one of the remotest places on Earth for nine months. Together, the crew of 13 must operate the base, live and run scientific experiments on their own in the heart of Antarctica on a high plateau under extreme environmental conditions.

In the run-up to their isolation, things are hectic on the base as it operates in overdrive. For the past summer months over 60 scientists and technicians have been working on research that can only be performed in the extremely cold, desolate desert of Antarctica.

Wrapping up their work, aircraft are ferrying equipment and people back to the coast where the weather is more agreeable.

Once the Sun sets below the horizon for four months in May things will really start to get cold. With temperatures reaching -80°C , fuel freezes

and aircraft cannot land. Even bulldozers and other vehicles are stored unused in an underground shelter until the next summer.

The core crew, the tenth team to spend winter at Concordia, will have to rely on their supplies for survival and their own legs to get around. Leaving the base to check on equipment or take snow samples is a hard enough undertaking in itself as multiple layers of clothing are required to keep warm and walking is strenuous owing to the lack of oxygen.

The crew practised emergency situations last week to prepare for the winter. Carrying an injured colleague back to base requires teamwork and preparation to complete safely: imagine carrying someone around Mont Blanc – Europe's tallest mountain – but in weather far, far colder.



Alone in Concordia. Credit: ESA/IPEV/PNRA - A. Salam

This week aircraft are landing and taking off on a daily basis. The summer camp with its specially heated tents is dismantled, and when the summer scientists have left, all unnecessary equipment will be turned off and stowed.

Left to their own, the Concordia 'DC10 crew' have a few months to prepare for the onset of winter, cleaning the base and settling in to their habitat.

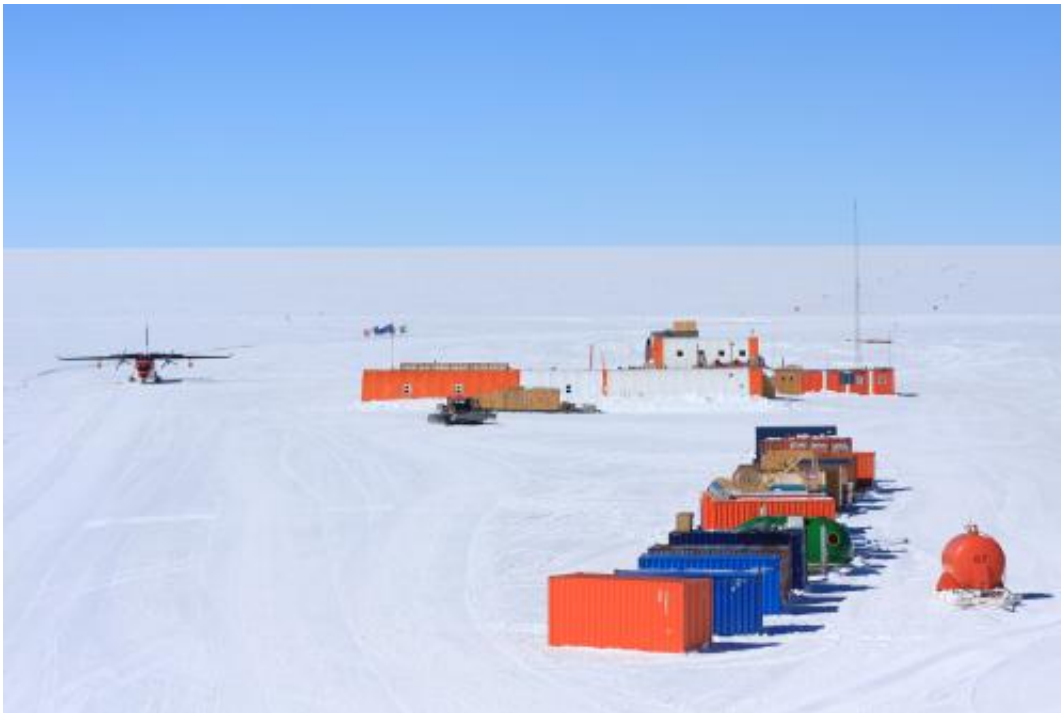


Shelters near Concordia research station in Antarctica. Credit: ESA/IPEV/PNRA-A. Salam

ESA-sponsored medical doctor Adrianos Golemis will be watching the crew and himself closely as their bodies and minds cope with the extreme isolation and environment. As a stand-in for a human outpost on another planet, ESA is researching crew behaviour and physiology in

stressful environments.

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Concordia runway. Credit: ESA/IPEV/PNRA - A. Salam

Unlike simulated isolation studies in other space analogues, the Concordia [crew](#) know that no one can help them for nine months – there is no quick exit back to civilisation.

Provided by European Space Agency

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