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1 *L'Astrolabe* Icebreaker built in 2016 in the context of a partnership with the *Terres australes et antarctiques françaises* (TAAF) authority and the French Navy. Between October and March it runs a return service with 4 to 5 sailings between Hobart (Tasmania) and Dumont d'Urville station.

2 The traverse is a convoy consisting of a snow-groomer and tractors that tow containers and fuel tanks loaded on special sleds. Prepared at Robert Guillard, this has arrived at Concordia after about 10 days' trek. Three trips are needed every summer to replenish supplies at Concordia.

3 Corbel Station.

## SCIENTIFIC RESEARCH AT THE POLES AND IN THE SUBPOLAR ZONES

**T**HE POLES' INFLUENCE OF on climate and the oceanic currents, their geographic isolation and the presence of the magnetic poles make these environments essential as areas for research. Holding the only ice caps on Earth, they play a major role in sea-level fluctuations. They have the habitats for a unique fauna and flora, implying some strong influences on the biodiversity and adaptability of species in a situation of global change. Moreover, in the Arctic the indigenous communities, who have a long history extensively studied by researchers, are being deeply affected by climate changes.

After a call for project proposals is issued for scientists attached to public research organizations before each scientific campaign, the French Polar Institute seeks the opinions and recommendations of an independent international committee of specialists: the Council for Polar Science and Technology Programmes. Its task is to assess the scientific interest of applications. Projects envisaged for several-years- periods can be submitted. Proposals can also be evaluated as to the feasibility according to the means available to the Institute for their implementation in the field.



### Research areas covered

- ❄️ Glaciology
- 🌐 Chemical dynamics of the atmosphere, ozone chemistry
- 🌐 Physics of the Globe, geodynamics and geology
- 🔭 Astronomy
- 🕒 Distribution of the fauna and flora and evolution of the biodiversity
- 📈 Species' survival and adaptation strategies for extreme conditions
- 🔍 Responses of living organisms to climate change and human activities
- 🧬 Human biology and adaptation to overwintering conditions
- 👤 Human and social sciences with regard to populations living in the Arctic



## KEY STATISTICS

40

permanent staff

30

professions operating in the field

6

research stations with ensured scientific and logistical management and more than 40 refuges supplied and maintained

2

research-station boats

1

supply ship

Annual numbers in the field

360

scientists

170

technicians and logistics specialists for 40 000 mission-days

90

research projects supported

450

tonnes of goods and equipment transported per year



FRENCH  
POLAR  
INSTITUTE  
PAUL-EMILE VICTOR

rodhamine Photos - couverture : Armand Pajot, Thibaut Vergoz, Paolo Verzene / Intérieur : Jérôme Chappellaz, Simon Egalles, Patrice Godon, Fabienne Joliet, Laëtia Kermaleguen, Anne-Catherine Klein, Lucie Maignan, Armand Pajot, A. Manouvrier, Anne Mathilde Thierry, Thibaut Vergoz, Paolo Verzene





## THE INSTITUT POLAIRE FRANÇAIS

Paul-Émile Victor is a public organization responsible for bringing to fruition French research operations in the polar regions of the Globe. The Institute is pursuing the mission Paul-Émile Victor initiated in 1947 with the French Polar Expeditions.

Access and living conditions in these zones of the world are difficult. The French Polar Institute deploys substantial resources and specially adapted, technologically advanced systems to research sites. The Institute also employs people with the special knowledge and skills required for top quality scientific research in extremely harsh polar conditions.



Concordia



Dumont d'Urville

### GOVERNING ORGANIZATIONS

The Public Interest Group "Institut polaire français Paul-Émile Victor" consists of:



### OPERATION SITES



- Casey
- McMurdo
- Mario Zuchelli

### IN THE SOUTH

## Antarctica

In Antarctica, the Institute orchestrates implementation missions for scientific projects and the operational management of two stations and an annex installation during the Southern summer, October to March, but also during winter thanks to the overwintering teams recruited each year.

#### Dumont d'Urville

A historic station for France, established on the Adélie Land coast in 1955. The base covers a site of 5000 m<sup>2</sup>; it can host up to 120 people in summer. In winter around 20 overwinterers keep it running and maintained.



#### Concordia

This is a Franco-Italian station located right in the centre of the Antarctic Continent. It is run in partnership with the *Programma Nazionale di ricerca in Antartide*. Since 2005 it has been accommodating 12 to 15 overwinterers and up to 70 personnel during the Southern summer.

#### Robert Guillard

This installation is a Franco-Italian annex to Concordia, located on the continent 5 km from Dumont d'Urville. It can house 15 personnel responsible for the preparation and running of overland supply convoys for Concordia, as well as for scientific expeditions on the plateau.

### SOUTHERN INDIAN OCEAN

## The Subantarctic Islands

In the Subantarctic Islands some 5 to 15 overwinterers recruited by the Institute, numbers depending on the districts. Their role is to implement the scientific projects. The summer campaign is geared to maintaining and ensuring supplies of refuges the Polar Institute makes available for scientists needing to fulfil assignments to remote sites.

The three districts are governed by the *Terres australes et antarctiques françaises* (TAAF) (French Southern and Antarctic Lands Authority), the technical and scientific teams living in the stations Alfred Faure, Port-aux-Français and Martin de Viviers.

Crozet Islands: Pointe Basse refuge.

Kerguelen cabbage, one of the symbolic species of the Subantarctic Islands.



### IN THE NORTH

## The Arctic

#### AWIPEV Station

AWIPEV is operated in partnership with the German organization Alfred Wegener Institute for polar and marine research. The Franco-German facilities are spread between two sites:

- The first consists of buildings of the Rabot and Koldewey stations with accommodation for 18 people within Ny-Ålesund village.
- The second is the French Corbel base, situated 5 km from the village, which can host up to 8 persons

The science village Ny-Ålesund is the site of research stations of 10 nations. Ny-Ålesund is the world's most northerly agglomeration of settlements.



Other Arctic zones with the French Polar Institute support

The French Polar Institute's major responsibility and the main objectives of 3 winterers on a 1-year mission at Ny-Ålesund are to accomplish the project's scientific tasks and the management of the Corbel station. Self-sufficient in clean energy and isolated from all kinds of local human generated pollution, this station is ideal for measurements demanding perfectly clean atmospheric conditions and zero light pollution.



### MISSIONS OF THE FRENCH POLAR INSTITUTE HEADQUARTERS AT BREST



- Selection of scientific projects through assessment by the French Polar Institute's Scientific Committee, finance for their field-operations and for expedition organization
- Ensuring sustained maintenance of research stations
- Transport and transfer of freight and personnel between metropolitan France and the various destinations
- Supply of equipment well adapted for life in polar environments
- Training, safety and security of all concerned
- Recruitment of the personnel needed for upkeep and maintenance of research stations and for ensuring the continuity of scientific studies over the Southern winter
- Organization and planning of technical programmes and scientific projects
- Development of new technological solutions for logistics and polar infrastructure
- Dissemination of scientific knowledge concerning the polar environments
- The Institut polaire français participates in international consultations on scientific, logistical and environmental considerations and often represents France in that capacity.



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