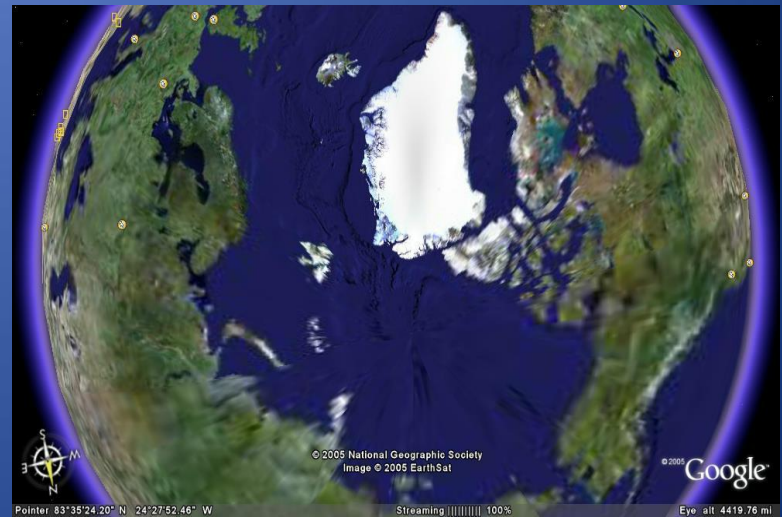
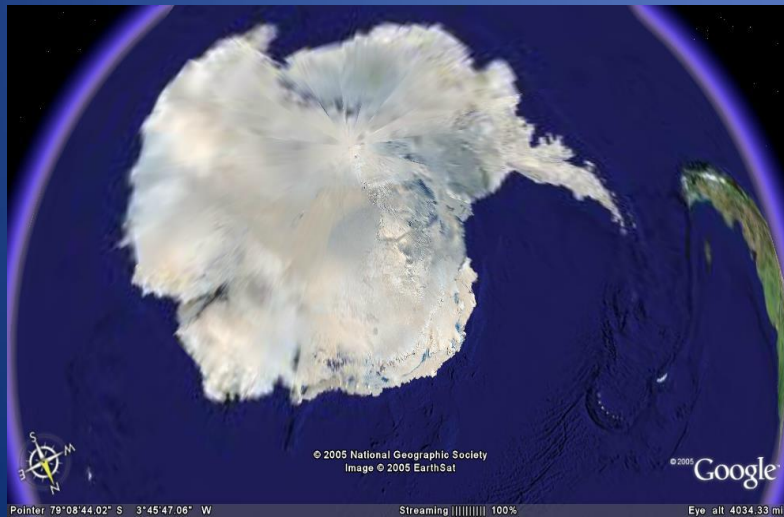






# European Polar Board Strategic Science Policy Activities

Prof Alberto-Ricci Chairman ESF European Polar Board



# The European Polar Board

-  France
-  Austria
-  Belgium
-  Bulgaria
-  Czech Republic
-  Denmark
-  Estonia
-  Finland
-  Germany
-  Greenland
-  Italy
-  Netherlands
-  Norway
-  Poland
-  Russian Federation
-  Romania
-  Spain
-  Sweden
-  United Kingdom
-  Portugal

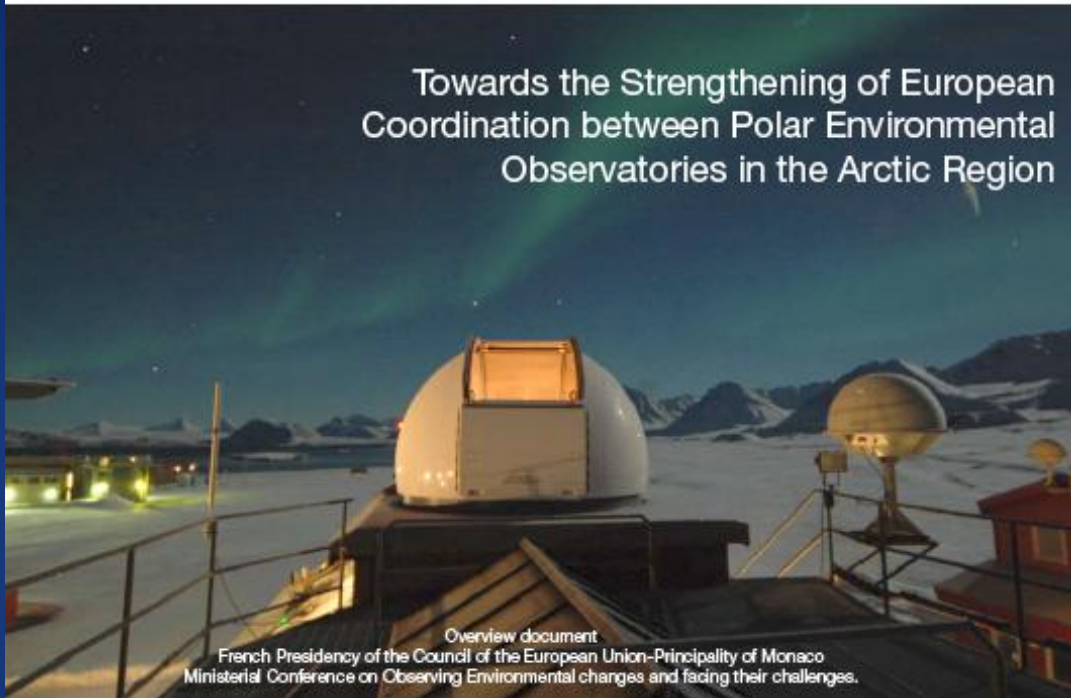


-  Switzerland
-  Luxembourg

The European Polar Board is the European Science Foundation's expert committee on science policy in the polar regions. It acts as a **voice** of the European polar research and **facilitator** of cooperation between European national funding agencies, national polar institutes and research organisations from 22 countries



## Towards the Strengthening of European Coordination between Polar Environmental Observatories in the Arctic Region



Overview document  
 French Presidency of the Council of the European Union-Principality of Monaco  
 Ministerial Conference on Observing Environmental changes and facing their challenges.

# EPB initiatives for science policy and Polar Environmental Observations

- **Europolar ERANET**
- **Infrastructure Mou**
- **Polar Life Call**
- **EU-Polaris**
- **Green paper**
- **Ericon AB**



The Cryosphere today

Identification of observation gaps of the Arctic Ocean and surrounding continents are very important for obtaining accurate picture of Climate Change and its Impacts on European nations and Arctic countries. By establishing a framework for coordination at the European level between the Polar Environmental Observatories in the Arctic region it will drive political engagement by international par-

ners and result in significant action by the international community in relation to understanding and monitoring the Arctic environment. Long term records are crucial in helping to forecast climate changes and vulnerabilities along with upgrading and expanding systems that monitor snow and ice stability, oceanic parameters, river inputs, biodiversity and ecosystem processes



Dr Gérard Jugie  
 Chairman  
 European Polar Consortium



Dr Paul Egerton  
 Executive Director  
 European Polar Consortium  
 and European Polar Board



Prof Carlo Alberto Ricci  
 Chairman  
 European Polar Board

# EPB Mission Areas

Influencing European Institutions (Eg; EC Arctic Policy)



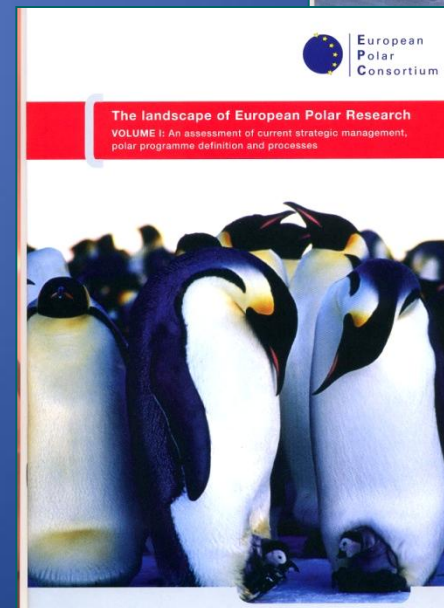
Enabling the  
Coordination and  
Access to  
European  
Polar Research  
Infrastructures  
(EG; EU  
POLARIS concept)

Facilitating the  
development  
of European Polar  
Research  
Programmes  
Eg; EuroPICS, Arctic  
ECRA

## European polar capacity and infrastructures Arctic and Antarctic

The Consortium started in early 2005. Its first action was to carry out a deep survey on the European polar assets and programmes.

The infrastructure survey produced the most comprehensive assessment of the European polar capacity as a whole ever done by the European Commission, demonstrating the impressive polar capacity of Europe as a whole.



## MoU "European Polar Framework"

Bruxelles on 24 June 2009 26 partners

1. General Strategy and Funding Coordination
2. Programmes and Joint Research Calls
3. Infrastructure Coordination and Access
4. Convergence of National Polar Activities of European Scale and Scope





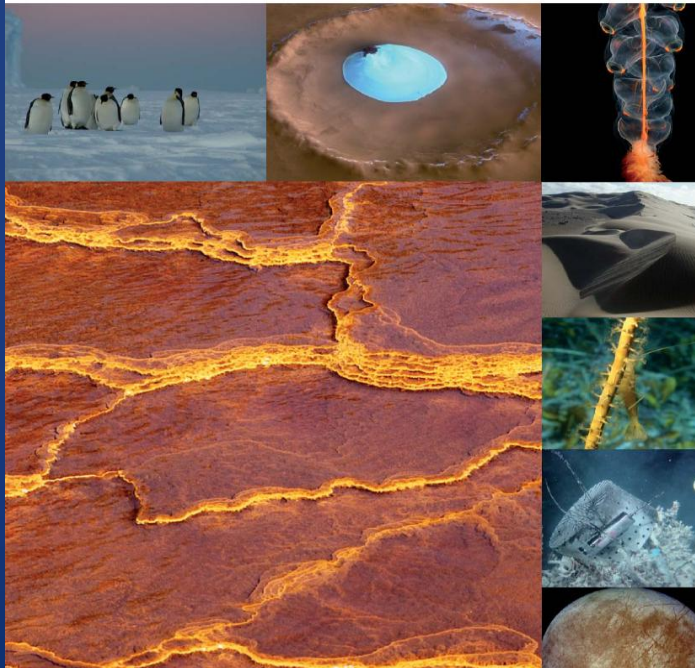
# Life in Polar Extreme Environments

## POLARLIFE

The EPB is making Preparations for a strategic research funding call focussing on Life in Polar Extreme environments which will be open for researchers from across Europe. It will enable research into the dynamics processes and conditions for life and modifications



**Investigating Life in Extreme Environments**  
A European Perspective



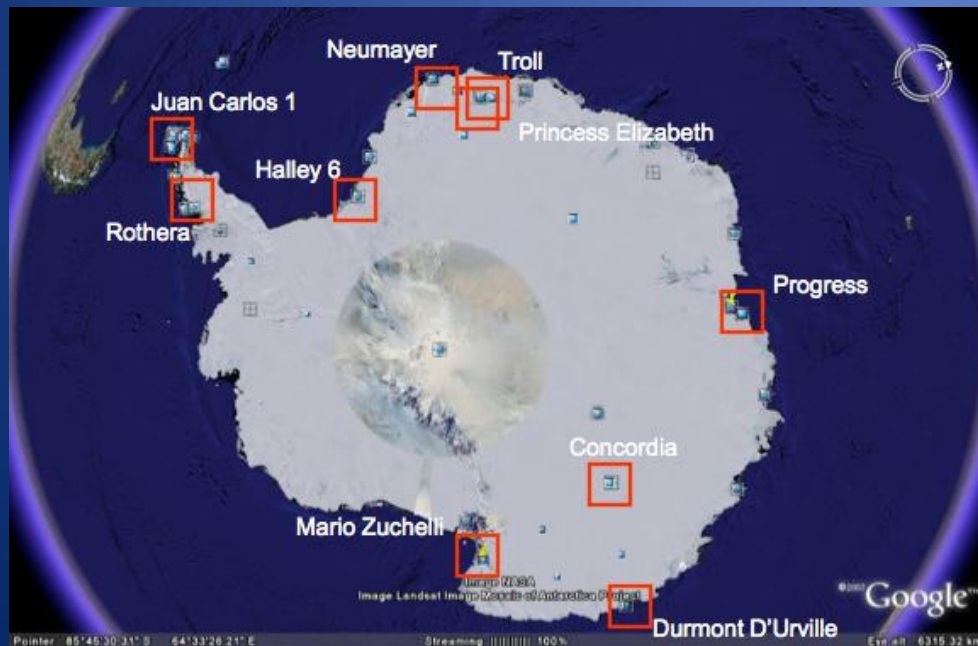
Environmental parameters	Known lower limit for life	Known higher limit for life	Comments
Temperature	-18°C [1.3]	113°C [1.4]	Mean human body temperature 37°C
Pressure	10 <sup>-14</sup> Pa [1.5]	130 MPa [1.6]	Atmospheric pressure: 101 KPa
pH	Negative [1.7]	13.2 [1.8]	Neutral pH: 7
Salt concentration	None	5 M [1.6]	Human blood saltiness: 3.5 %
Water activity	0.7 [1.9]	1.0 [1.9]	
Light	Darkness	Variable	High light levels can cause photoinhibition and free radical formation
Highly energetic radiation	None	1.5 MRad [1.10]	1.5 MRad is 3,000 times the lethal level for humans

© CNRS PhotoSquid/PEV



King Penguin Colony

**(EU-POLARIS)**  
**EU**ropean **P**latform **O**f **L**eading **A**ntarctic **R**esearch  
**I**nfra**S**tructures



Coordinating Polar  
Stations



# Green Paper on the future priorities of Research in the Polar Regions:



## European Research in the Polar Regions:

Relevance, strategic context and setting future directions in the European Research Area

### Executive Summary

1. The Relevance of European Research in the Polar Regions.....5
2. Addressing Global Scientific Questions.....8
3. Supporting the Science through World Class Research Infrastructures and logistics.....12
4. Coordinating, structuring and investing in European Research Activities in the Polar Regions.....15
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7. The Polar Regions a critical component in the European Research Area..20



A Strategic Position Paper by the ESF European Polar Board

# European Polar Research Icebreaker Consortium

## AURORA BOREALIS



A European Pan Arctic observing platform from seabed to atmosphere

A Policy tool for international cooperation in the Arctic Region

# How EPB provides added value to European polar programmes and infrastructures coordination?

- **Supporting a joint programmes strategy (example: PolarCLIMATE/PolarLIFE).**
- **Facilitating the access and linkage to new and existing polar research Infrastructures with broad geographic and environmental coverage (enabling trans-national access).**
- **Supporting the integration of terrestrial and Ocean observing assets in the Arctic region through development of a multilateral MOU**
- **Developing a flexible framework for cooperation amongst institutions operating research stations and observatories**
- **Policy advice to European Governments and early warning of polar threats**
- **Managing call for proposals and review processes**



Tilak Environmental Observatory

