Objective

Permafrost is defined as ground that remains continuously at or below 0 °C for at least two consecutive years; some 24% of the land surface in the northern Hemisphere is classified as permafrost. In the Northern high latitudes, strong warming has been observed over the recent decades, and climate models project strong future warming. A projected decline in the extent of permafrost will have a major impact on the Earth system, affecting global climate through the mobilization of carbon and nitrogen stored in permafrost.

PAGE21 aims to understand and quantify the vulnerability of permafrost environments to a changing global climate, and to investigate the feedback mechanisms associated with increasing greenhouse gas emissions from permafrost zones. This research makes use of a unique set of Arctic permafrost investigations...
performed at stations that span the full range of Arctic bioclimatic zones. The project brings together the best European permafrost researchers and eminent scientists from Canada, Russia, the USA, and Japan.

In a truly original approach we combine field measurements of permafrost processes, pools, and fluxes, with remote sensing data and global climate models at local, regional and, for the first time, pan-Arctic scales. The output from this research will help to advance our understanding of permafrost processes at multiple scales, resulting in improvements in global numerical permafrost modeling and the ensuing future climate projections, as well as in the assessment of stabilisation scenarios.

These outputs will feed into global assessments and international monitoring programs, in which most of the consortium members are already actively participating in leading roles. This project will, in particular, provide projections on a pan-Arctic scale of greenhouse gas releases from the projected thawing of permafrost terrain during the 21st century, with direct implications for global policy discussions on emission reduction targets.

Field of science

/ engineering and technology/environmental engineering/energy and fuels/fossil energy/gas
/ natural sciences/chemical sciences/inorganic chemistry/inorganic compounds
/ engineering and technology/environmental engineering/remote sensing

Programme(s)

Topic(s)

Call for proposal

FP7-ENV-2011

Funding Scheme

CP-IP - Large-scale integrating project

Coordinator

ALFRED-WEGENER-INSTITUT HELMHOLTZ-ZENTRUM FUR POLAR- UND MEERESFORSCHUNG
Participants (18)

UNIVERSITETSSENTERET PA SVALBARD AS
Norway
EU contribution
€ 448 977
Address
Sjoskrenten 1
9171 Longyearbyen
Activity type
Higher or Secondary Education Establishments
Website
Contact the organisation
Administrative Contact
Helen Fossmo Fla (Ms.)

STOCKHOLMS UNIVERSITET
Sweden
EU contribution
€ 532 805
Address
Universitetsvagen 10
10691 Stockholm
Activity type
Higher or Secondary Education Establishments
Website
Contact the organisation
Administrative Contact
Carina Henriksson (Ms.)

STICHTING VU
Netherlands
EU contribution
€ 289 478
Address
De Boelelaan 1105
1081 HV Amsterdam
Activity type
Higher or Secondary
Website
Contact the organisation
Administrative Contact
Nancy Lange (Ms.)
TECHNISCHE UNIVERSITAET WIEN
Austria
EU contribution
€ 339 820
Address
Karlsplatz 13
1040 Wien
Activity type
Higher or Secondary
Education Establishments
Website
Contact the organisation
Administrative Contact
Yvonne Kops (Dr.)

UNIVERSITE JOSEPH FOURIER GRENOBLE 1
France
EU contribution
€ 379 552
Address
Avenue Centrale, Domaine Universitaire 621
38041 Grenoble
Activity type
Higher or Secondary
Education Establishments
Website
Contact the organisation
Administrative Contact
Sophie Beaubron (Ms.)

THE UNIVERSITY OF EXETER
United Kingdom
EU contribution
€ 265 000
Address
The Queen's Drive Northcote House
EX4 4QJ Exeter
Activity type
Higher or Secondary
Education Establishments
Website
Contact the organisation
Administrative Contact
MAX-PLANCK-GESELLSCHAFT ZUR FORDERUNG DER WISSENSCHAFTEN EV

Germany
EU contribution
€ 486 827,75
Address
Hofgartenstrasse 8
80539 Munich
Website
Contact the organisation
Administrative Contact
Petra Bauer (Ms.)

LUNDS UNIVERSITET

Sweden
EU contribution
€ 353 160
Address
Paradisgatan 5C
22100 Lund
Website
Contact the organisation
Administrative Contact
Torun Forslid (Ms.)

KOBENHAVNS UNIVERSITET

Denmark
EU contribution
€ 659 283
Address
Norregade 10
1165 Kobenhavn
Website
Contact the organisation
Administrative Contact
Ivan Kristoffersen (Mr.)

UNIVERSITAET HAMBURG

Germany
<table>
<thead>
<tr>
<th>Organisation</th>
<th>EU contribution</th>
<th>Address</th>
<th>Activity type</th>
<th>Website</th>
<th>Administrative Contact</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMMISSARIAT A L ENERGIE ATOMIQUE ET AUX ENERGIES ALTERNATIVES</td>
<td>€ 301 410</td>
<td>Rue Leblanc 25, 75015 Paris 15</td>
<td>Research Organisations</td>
<td></td>
<td>Muriel Boyer (Ms.)</td>
</tr>
<tr>
<td>MET OFFICE</td>
<td>€ 249 751</td>
<td>Fitzroy Road, EX1 3PB Exeter</td>
<td>Public bodies (excluding Research Organisations and Secondary or Higher Education Establishments)</td>
<td></td>
<td>Paula Newton (Ms.)</td>
</tr>
<tr>
<td>ILMATIETEEN LAITOS</td>
<td>€ 109 753</td>
<td>Erik Palmenin Aukio 1</td>
<td>Research Organisations</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
ITA-SUOMEN YLIOPISTO
Finland
€ 101,767
Address
Yliopistonranta 1 E
70211 Kuopio
Activity type
Higher or Secondary Education Establishments
Website
Administrative Contact
Leena Tuomainen (Ms.)

INSITUTE FOR BIOLOGICAL PROBLEMS OF CRYOLITHOZONE SIBERIAN BRANCH RUSSIAN ACADEMY OF SCIENCES
Russia
€ 89,820
Address
Lenin Avenue 41
677980 Yakutsk
Activity type
Research Organisations
Website
Administrative Contact
Nadezhda Vashenko (Mr.)

NORDURSLODAGATTIN EHF
Iceland
€ 576,800
Address
Kristnibraut 87
113 Reykjavik
Activity type
Private for-profit entities (excluding Higher or Secondary Education Establishments)
Website
Administrative Contact