ANNEX I

EXPRESSION OF INTENT

FOR ACTIVITIES IN IPY 2007-2008.

Deadline for Submission - January 14, 2005
Email to jcel@bas.ac.uk or Fax to +44-1223-221270

1.0 PROPOSAL INFORMATION

1.1 Title of proposed activity

Dynamics, Fluxes, Stability and Succession in Cold Environments

1.2 Acronym or short form title of proposed activity

DYNAFLUX

1.3 Concise outline of proposed activity

Within Europe there is a wide array of high-latitude landscapes in cold environments, covering a significant proportion of the total land area. These sub-arctic and arctic landscapes represent a variety of stages of deglaciation history. In some areas ice retreat is still ongoing; in others this process was terminated several thousand years ago. Thus, we have landscapes at different levels of postglacial stabilization providing a unique possibility to study and compare the interactions of abiotic and biotic processes under human impacts and global change at the land surface. **DYNAFLUX – Dynamics, Fluxes, Stability and Succession in Cold Environments** aims at bridging between abiotic, biotic and social sciences in order to investigate the complex dynamics of stabilisation, succession and landscape formation during and after deglaciation/ice retreat and under human impacts and global change. This new Training Programme challenges key issues in the International Polar Year and builds on mainly three large ongoing programmes: SEDIFLUX – Sedimentary Source-to-Sink Fluxes in Cold Environments (ESF Network), APEX – the Arctic Palaeoclimate and its Extremes (proposed ESF Project), and RENMAN (EU Project). The special focus of DYNAFLUX is on five carefully selected target areas, which are representative for five different cold climate landscapes and different stages of stabilisation and landscape development during and after ice retreat. The Larsbreen catchment on Svalbard is a high arctic environment and is characterized by a retreating glacier, continuous permafrost with intensive active layer processes, and a very low level of stability. The northern Hofsjøkull forefield (Iceland) is characterized by rapid glacier retreat and permafrost degradation in a subarctic-oceanic environment. Erdalen in Norway is only to a smaller extent covered by the quickly retreating Erdalsbreen glacier. Latnjavagge (Sweden) is, compared to that, only covered by permanent ice and snow patches, sporadic permafrost, and this catchment has clearly passed the phase of high instability during or directly after deglaciation

several thousand years ago. Kidisjoki (Finland) is clearly the most stable test catchment with no permanent ice and snow patches, no larger permafrost bodies, and a several thousand years lasting period of postglacial stabilisation and landscape formation. The DYNAFLUX programme, including 15 partner groups with leading scientists from 13 European countries, representing a wide range of geoscientific, ecological, genetical and social sciences fields, is linking highly qualified research teams across Europe. In this way DYNAFLUX provides a cross-disciplinary integration that has hitherto rarely been brought about. With these joint efforts, DYNAFLUX forms an excellent platform for a Research Training Network where younger scientists come together for cross-disciplinary field and laboratory work campaigns in an environment of skilled research teams. DYNAFLUX fosters young researchers with a cross-disciplinary approach and broad knowledge in natural systems, advanced techniques, and significant interactions between natural systems and human beings. DYNAFLUX also addresses questions of utmost importance with regard to Global Change (e.g. the increasing frequency of hazards, floods, the destabilization of slope systems due to permafrost degradation, the loss of biodiversity in all of its aspects, etc.). It is our intention that DYNAFLUX will form a key programme for European Arctic and Sub-Arctic research during IPY 2007/2008.

1.4 Which IPY 2007-2008 theme(s) will be addressed by the project (see Note 1)

Theme 1 – The current state of the polar environment	Y
Theme 2 - Change in the polar regions	Y
Theme 3 - Polar-global linkages and interaction	Y
Theme 4 – Investigating new frontiers	Y
Theme 5 -The polar regions as vantage points	Y
Theme 6 - Human societies in polar regions	Y

1.5 What is the major target of the proposed activity (specify one – see Note 1)

Natural or social science research	N
Education/Outreach and Communication	Y
Data Management	N
Legacy	N
Other Targets	N

1.6 What significant advance(s) in relation to the IPY themes and targets can be anticipated from this project?

A major focus of DYNAFLUX is on understanding of past and present-day interactions between biotic and abiotic processes during and after ice retreat and under human impacts and Global Change (Themes 1-3 and 6). The programme also addresses the adaptation of indigenous and local populations to Global Change and its direct consequences (Theme 6). The integration of geo-, bio- and social sciences in a large multi-national Training Programme is a novel approach, and also target areas being so far unexplored will be investigated (Target 2, Theme 4). The better understanding of the complex interactions between biotic and abiotic processes during and after ice retreat and under human impacts and Global Change will provide significant knowledge and innovative training of the new generation of young polar researchers. These outcomes are essential for efficient risk assessment (hazards) and the competent development of new land management strategies in the polar regions (Themes 5 and 6).

1.7 What international collaboration is involved in this project? (see Note 2)

DYNAFLUX is a cross-disciplinary and multi-national Research Training Network, which includes intensive international collaboration in training, field work, laboratory work, model development, publishing and dissemination. The programme includes scientists from Norway, Sweden, Finland, Iceland, Denmark, UK (England and Scotland), Germany, Poland, Czech Republik, The Netherlands, Austria, and France.

2.0 FIELD ACTIVITY DETAILS

2.1 Outline the geographical location(s) for the proposed field work (see Note 3)

The selected target areas/field study sites (see 1.3) are located in Svalbard (Larsbreen), Iceland (northern Hofsjøkull forefield), Norway (Erdalen), Sweden (Latnjavagge) and Finland (Kidisjoki).

2 2 Define the approximate timeframe(s) for proposed field activities?

Arctic Fieldwork time frame(s)	Antarctic Fieldwork time frame(s)
04/07 – 09/07	Mm/yy – mm/yy
04/08 – 09/08	Mm/yy – mm/yy
04/09 – 09/09	Mm/yy – mm/yy

2.3 What significant logistic support/facilities will be required for this project? Can these resources be usefully shared with other projects? (see Note 4)

The logistic support for DYNAFLUX is mainly provided by the involved institutions, based on national funding, and includes field stations, laboratories, vessel etc. No major additional field logistic support from other sources is required. Anyway, additional financial support for extended field activities, especially extended field campaigns of Ph.D. students and Post-Docs carried out in the DYNAFLUX target areas, would be very helpful. The DYNAFLUX workshops in Trondheim (NGU, Norway), Abisko (ANS, Sweden), Kiel (Uni Kiel, Germany) and Obergurgl (Austria) will be held at well established institutions/research stations. Economic support for these workshops, especially for supporting participating young scientists, is necessary.

2.4 Will the project leave a legacy of infrastructure? (see Note 1)

DYNAFLUX is a Training Network headed by a DYNAFLUX Core Group (see 3.2). The DYNAFLUX Training Network is planned to continue beyond IPY as a EU FP6 Marie-Curie Research Training Network (RTN) committed to the cross-disciplinary and multi-national training of young scientists (Ph.D. students and Post-Docs). DYNAFLUX builds today on mainly three large programmes: SEDIFLUX, APEX, and RENMAN (see 1.3). The infrastructure legacy includes intellectual advances, cross-disciplinary and multi-national institutional collaboration, and innovative cross-disciplinary and multi-national training of the new generation of polar scientists.

2.5 How is it envisaged that the required logistics will be secured? (one or more options can be identified)

Consortium of national polar operators	Y or N
Own national polar operator	Y or N
Another national polar operator	Y or N
National agency	Y or N
Military support	Y or N
Commercial operator	Y or N
Own support	Y or N
Other sources of support	Y or N
Further details: The DYNAFLUX Training Network rests on already existing infrastructure and logistics at the involved institutions. Ongoing activities are based on national funding of the involved partner groups (well established field research stations, modern laboratories, research vessel, helicopter transport, etc.) (see also 2.3).	

2.6 Has the project been "endorsed" at national or international level (see Note 5)

Y	This Expression of Intent has been submitted as copy to the National IPY Committees of Norway, Germany, France, Finland and Sweden (by members of the DYNAFLUX Core Group).

3.0 PROJECT MANAGEMENT AND STRUCTURE

3.1 Is the project a component (established over the IPY 2007-2008 timeframe) of an existing plan, programme or initiative or is it a new autonomous proposal?

New Project	
DYNAFLUX is an existing Network. Ongoing activities of involved partners are based on existing infrastructure and logistics and on national funding. The existing DYNAFLUX Network will be submitted as EU FP6 Marie-Curie Research Training Network (RTN) Proposal to EU (submission in September 2005). The DYNAFLUX Marie-Curie RTN is planned to run over four years (2006-2010) and thus beyond IPY.	

3.2 How will the project be organised and managed? (see Note 6)

The existing DYNAFLUX Core Group consists of seven scientists from geo- and bio-sciences:
Achim A. Beylich, Coordinator of DYNAFLUX (Norway) (geo-science)
Manfred Bölter (Germany) (bio-science)
Christian Brochmann (Norway) (bio-science)
Samuel Etienne (France) (geo-science)
Jukka Käyhkö (Finland) (geo-science)
Eiliv Larsen (Norway) (geo-science)
Ulf Molau (Sweden) (bio-science)
The DYNAFLUX Core Group appoints the Management Board of the planned Marie-Curie RTN DYNAFLUX, which consists of the Heads of the 15 partner groups involved in the project. The coordinating institution (Geological Survey of Norway, Trondheim) is planning to appoint a secretary within the proposed Marie-Curie RTN..

3.3 What are the initial plans of the project for addressing the education, outreach and communication issues outlined in the Framework document? (see Note 7)

DYNAFLUX is focused on cross-disciplinary and multi-national training of Ph.D. students and Post-Docs. A higher number of Master students, Ph.D. students and Post-Docs will work within this programme. A frequently up-dated and easily accessible DYNAFLUX webpage will be installed at the Geological Survey of Norway in Trondheim. Dissemination of activities and outputs is also guaranteed through large international networks closely linked with DYNAFLUX (SEDIFLUX, APEX, RENMAN). Four workshops, publications in leading journals, the production of a DVD, and an international press release are planned for the proposed Marie-Curie RTN DYNAFLUX (Submission of EU proposal in September 2005).

3.4 What are the initial plans of the project to address data management issues (as outlined in the Framework document)? (see Note 8)

A DYNAFLUX database will be established. Current plans for data management include also the use of the SEDIFLUX database being currently developed at the Geological Survey of Norway in Trondheim.

3.5 How is it proposed to fund the project? (see Note 9)

The existing DYNAFLUX Network is based on existing infrastructure and logistics and on national funding of involved partners.
A proposal for an EU FP6 Marie-Curie Research Training Network (RTN) DYNAFLUX will be submitted by the coordinator to EU in September 2005.

3.6 Is there additional information you wish to provide?

DYNAFLUX is an innovative approach for a cross-disciplinary and multi-national Research Training Network. It is focused on cross-disciplinary and multi-national training/education of Ph.D. students and Post-Docs and communication between these young scientists forming the new generation of polar scientists.

4.0 PROPOSER DETAILS

4.1 Lead Contact for the Expression of Intent

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4.2 List up to six other project members and their affiliation.

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Accompanying Notes for submission of IPY 2007-2008 Expressions of Intent

Note 1 – IPY projects can take a number of forms.
a) 1.4 - They may address one or more of the IPY 2007-2008 themes and if so will be expected to have component activities addressing education, outreach, data management and possibly legacy.
b) 1.5 - The main focus can be on science or on one or more aspects of education, outreach and communicating the Polar Year, an activity that addresses data management or that explicitly leaves a legacy (such as building a new polar facility or establishing new systems).
Note 2 - An important characteristic of IPY 2007-2008 projects will be their international structure in order to facilitate research impractical for a single nation to undertake. Whilst project components are likely to be primarily funded at a national level, the projects are expected to be established and coordinated internationally. The Joint Committee will be looking for evidence of international collaborations developing in the Expressions of Intent and established by the June 2005 full proposal deadline.
Note 3 – The geographic locations need not be precise but logistic operators will want to broadly know where activities will occur, e.g. West Antarctic Ice Sheet, Weddell Sea, Svalbard, Greenland, etc. If you have more detail please supply.An IPY project can also be one that involves no field activities.
Note 4 - This refers to major facilities and infrastructure and some examples (not comprehensive) are given below.

Ice-breaker	Multi-instrumented platforms	Snow terrain vehicles
Ice strengthened research ship	Helicopters	Existing field stations
Ship-based drilling capability	Fixed wing geophysical aircraft	New field station
Ship recovery of buoys etc	Fixed wing transport aircraft	Observatories
Submarines	Rockets	Fuel depots
Autonomous Underwater Vehicle	Satellites	Ice drilling capability
Remotely Operated Vehicle	Radars	Rock-drilling capability

Please note if your project will share facilities with other IPY activities, or if there is capacity to support other projects as part of your activity (e.g. a marine biodiversity cruise could feasibly offer to deploy or recover buoys, moorings, etc., for an ocean/climate project)
Note 5 - All IPY projects will ultimately be subject to assessment by National (and/or International) funding agencies. However it will be important to establish coordination of IPY 2007-2008 at the national and international level. Both National IPY Committees and International bodies supporting IPY 2007-2008 will have an important role in this. Contact with these bodies may occur before January 14 2005 but should certainly take place before the June 2005 deadline for full proposals.
Note 6 – The Joint Committee for IPY 2007-2008 will be overseeing Polar Year activities but will not be managing the individual projects. It is anticipated that IPY projects will be self-managed, free-standing activities or be part of a planned or existing programme that has an established management structure. The JC will need to be satisfied that all proposals have realistic plans for structuring and managing activities. For the larger proposals the JC anticipates that a Project Steering Committee will be established.
Note 7 – It will be a requirement of IPY proposals that there is a clear plan for Education, Outreach and Communication (EOC) activities in the full proposal for the June 2005 deadline. If initial ideas for EOC have been established these can be outlined in the Expression of Intent.
Note 8 – It will be a requirement of IPY proposals that there is a clear plan for the management of project data, including its early availability to the community, presented in the full proposal for the June 2005 deadline. Initial ideas for data management should be outlined in the Expression of Intent, including which data organisations are likely to be involved, e.g. ICSU World Data Centres, Joint Committee for Antarctic Data Management, WCRP, etc.
Note 9 – It is anticipated that funding for IPY 2007-2008 will be primarily obtained through national funding agencies but in some cases will involve international funding agencies (e.g. European Union) and in some cases will come from private sources. Certain projects will be part of programmes already funded and if so these can be identified here.