



Terrestrial Working Group Meeting

5 April 2014

09:00-18:00

(Lunch 12.30-14.30, Coffee Breaks 11.00-11.15 and 16.10-16.30)

Helsinki, Finland
The Dynamicum, Finnish Meteorological Institute

Agenda

Participants:

WG MEMBERS PRESENT:

INGIBJÖRG SVALA JÓNSDÓTTIR -
ICELAND, CHAIR
WARWICK F. VINCENT - CANADA, VICE CHAIR
TORBEN CHRISTENSEN - DENMARK, VICE CHAIR
JOSEF ELSTER - CZECH REPUBLIC
MADS FORCHHAMMER - DENMARK
OTSO SUOMINEN - FINLAND
THIERRY BOULINIER - FRANCE
EVA-MARIA PFEIFFER - GERMANY
KARSTEN PIEPJOHN - GERMANY
JON S. OLAFSSON - ICELAND
RATAN KAR - INDIA
ATSUKO SUGIMOTO - JAPAN
TAKAYUKI NAKATSUBO - JAPAN
YOO KYUNG LEE - KOREA
STEVE COULSON - NORWAY
PIOTR GLOWACKI - POLAND
PHIL WOOKEY - UK
DONALD A. (SKIP) WALKER - USA
VLADIMIR ROMANOVSKY - USA

WG MEMBER NOT PRESENT:

WEI LUO - CHINA
ANTERO JÄRVINEN - FINLAND
MANISH TIWARI - INDIA
INGER GREVE ALSOS - NORWAY
WIESLAW ZIAJA - POLAND
BENJAMIN VINEGLA PÉREZ - SPAIN
DANIEL SANCHEZ-MATA - SPAIN
VICTORIA PEASE - SWEDEN
JELTE ROZEMA - THE NETHERLANDS

SECRETARIAT

YOO KYUNG LEE (EXECUTIVE OFFICER)
HEIKE MIDLEJA (IASC SECRETARIAT)
JEFFREY ROSS (APECS PARTICIPANT)
NOEMIE BOULANGER-LAPOINTE (APECS
PARTICIPANT)

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1 OPENING AND REPORTING (09.00-09.30)

1.1 WELCOME AND INTRODUCTIONS

INGIBJÖRG SVALA JÓNSDÓTTIR

1.2 REPORT FROM THE CHAIR

INGIBJÖRG SVALA JÓNSDÓTTIR

1.3 APPROVAL OF THE MINUTES OF THE LAST MEETING

YOO KYUNG LEE

- The minutes of the 2013 meeting is given in ANNEX 1.3

1.4 ADOPTION OF THE AGENDA

INGIBJÖRG SVALA JÓNSDÓTTIR

2 MAIN ISSUES (09.30-16.00)

2.1 REPORTS ON TWG ACTIVITIES

2.1.1 SHAPING FORCES OF BIODIVERSITY IN THE ARCTIC

INGIBJÖRG SVALA JÓNSDÓTTIR

The aim of the workshop was to outline the shaping forces of biodiversity in the Arctic across temporal and spatial scales in search for commonalities across biological hierarchies and organism groups. 16 scientists from a wide range of disciplines attended the workshop which was held in 21-22 January 2013, Reykjavik. The workshop explored the feasibility of building a coherent research framework that would address the shaping forces of arctic biodiversity across temporal and spatial scales in search for commonalities across biological hierarchies and organism groups.

- The Workshop report is given in ANNEX 2.1.1

2.1.2 ARCTIC VEGETATION ARCHIVE (AVA) WORKSHOPS

SKIP WALKER

The Arctic Vegetation Archive (AVA, previously called the International Arctic Vegetation Database) is a coordinated effort to identify and preserve as much of the historical vegetation plot data as possible for use in a panarctic vegetation classification and as a resource for climate-change and biodiversity research. These data are currently buried in a wide variety of publications, data reports, and personal data that are in danger of being lost because most were never electronically cataloged. IASC and CAFF helped with two AVA workshops during the past year. The first workshop was in Krakow, Poland at the last ASSW, 14-16 April 2013, where participants from all the circumpolar countries presented summaries of the datasets that they were aware of and the variety of database approaches that are being used in different parts of the Arctic. The second workshop, in Boulder, CO, 14-16 October 2013, brought vegetation scientists from North America and Europe to focus on an Alaska Arctic Vegetation Archive. The results of the workshops were published as CAFF Proceedings Series Reports Nr. 10 and 11 (Walker et al. 2013. Walker 2014).

- The Workshop reports are given in ANNEX 2.1.2.1. and 2.1.2.2. respectively, and the proceedings of both workshops are available at http://www.caff.is/publications/view_category/29-all-proceedings-documents.

2.1.3 GLOBAL CHANGE, ARCTIC HYDROLOGY AND EARTH SYSTEM PROCESSES WORKSHOP

PHIL WOOKEY

This scoping exercise will bring together a small group (6-8) of experts in a two-stage workshop to review the current state of knowledge on arctic hydrological change, to identify research gaps, and to horizon-scan based on best available predictions of change in the arctic terrestrial realm. The exercise is strongly aligned to the mission of the IASC Terrestrial WG but has cross-cutting relevance to each of the other WGs

The workshop, was originally planned for January 2013, but had to be postponed. It has now taken place (on 24-25 February 2014, in Edinburgh), with 11 participants attending in person, and with the involvement of several others via correspondence.

2.1.4 THAW 2014: WORKSHOP ON FRESHWATER ECOSYSTEMS IN PERMAFROST LANDSCAPES

WARWICK F. VINCENT

This TWG and CWG sponsored activity is bringing together Arctic, Subarctic and Antarctic researchers to examine the role of aquatic ecosystems in permafrost degradation and its associated carbon dynamics. The workshop will examine the limnology of these lake and river systems, including their physical properties, aquatic biodiversity, microbiology, biogeochemistry and regional differences. The aim is to yield an improved understanding of the global importance of thaw aquatic ecosystems as biogeochemical reactors and gas conduits to the atmosphere, and their responses to the rapidly changing northern climate. Specialists from different disciplines will share their knowledge about these dynamic systems in the permafrost landscape, and identify priorities for future research. Some 80 abstracts have been submitted for the workshop, also supported by CLiC and the International Permafrost Association, and to be held at the Centre for Northern Studies (CEN) in Quebec City, Canada, 12-15 March 2014.

2.2 REVIEW OF IASC ACTIVITIES RELATED TO THE TWG

2.2.1 ITEX

INGIBJÖRG SVALA JÓNSDÓTTIR

The International Tundra Experiment (ITEX) is a scientific network of experiments focusing on the impact of climate change on selected plant species in tundra and alpine vegetation. Research teams at more than 61 circumpolar sites in tundra ecosystems have carried out similar, multi-year plant manipulation experiments for up to 20 years that allow them to compare annual variation in plant performance with respect to response to climate conditions. More than 70 researchers from 15 different countries attended the conference in Switzerland on 17-20 September 2013.

- The Workshop report is given in ANNEX 2.2.1.

2.2.2 ONSHORE GEOSCIENTIFIC RESEARCH AND LOGISTICS – THE CASE PROGRAM OF BGR

KARSTEN PIEPJOHN

The CASE-program (Circum-Arctic Structural Events) of the Federal Institute for Geosciences and Natural Resources (BGR) in Hannover is the German instrument for geoscientific research of the onshore geology in the Arctic region. The major task of BGR is to solve, how the supercontinent Laurasia broke apart and how the Arctic Ocean opened and the margins evolved.

- Summary of the CASE – program is given in ANNEX 2.2.2.

2.2.3 SECRETARIAL SUPPORT **VOLKER RACHOLD**

- The White Paper is given in ANNEX 2.2.3.

2.3 OTHER TERRESTRIAL ACTIVITIES EXTERNAL TO IASC **INGIBJÖRG SVALA JÓNSDÓTTIR**

The agenda item will include brief updates on external activities that could be of interest to the TWG.

2.4 3RD INTERNATIONAL CONFERENCE ON ARCTIC RESEARCH PLANNING (ICARP III)

INGIBJÖRG SVALA JÓNSDÓTTIR

Under this agenda item, the Chair will introduce the selected proposals from the ExCom meeting. The IASC WGs are expected to play an important role in the ICARP III.

2.4.1 RAPID ARCTIC TRANSITIONS DUE TO INFRASTRUCTURE AND CLIMATE CHANGES (RATIC) WORKSHOP **SKIP WALKER**

Rapid Arctic transitions due to Infrastructure and Climate Changes (RATIC) is an activity sponsored by the TWG, CWG and S&HWG to address the combination of Arctic infrastructure-related and climate-related changes, their consequences to permafrost and social-ecological system, and approaches for a sustainable future through adaptive educational, engineering, managing and scientific approaches. The first RATIC meeting was originally proposed for the 2015 ICARP III meeting in Japan, but the IASC Secretariat recommended moving it up to late 2014 in order to provide a more concrete input for the ICARP III meeting.

- The ICARP III proposal is given in ANNEX 2.4.1



2.4.2 SNOW

TERRY V. CALLAGHAN

A workshop, entitled “Arctic snow cover changes and their consequences,” is planned in May 2014 for days in Copenhagen, will directly address the IASC mission to encourage and facilitate cooperation in aspects of Arctic research that has been neglected. By working with organizations such as INTERACT that has infrastructures in every Arctic and northern country, and organizations such as CLiC and GEO that have global connections, the snow activity will facilitate IASC’s mission to facilitate cooperation in all countries engaged in Arctic research and in all areas of the Arctic region.

- The ICARP III proposal is given in ANNEX 2.4.2

2.4.1 THE IASC FRESHWATER SYNTHESIS

VOLKER RACHOLD

2.5 PROPOSED ACTIVITIES

2.5.1 NEW ACTIVITIES/TASKS BROUGHT FORWARD BY THE MEMBERS

Under this agenda item, new suggestions and proposals on WG activities will be brought forward by members of the Working Groups. This will include short presentations followed by a discussion.

2.5.1.1 THE HERBIVORY NETWORK WORKSHOP

INGIBJÖRG SVALA JÓNSDÓTTIR

The one-day workshop will take place in 9 April, Helsinki, bringing together researchers from arctic and alpine regions to lay the foundation for an interaction-focused network to investigate the role of herbivores in changing northern and alpine ecosystems across large spatial scales. This network will foster collaborations within and across disciplines and facilitate multi-site comparison, and will ultimately assist in understanding the complexity and variability of responses of tundra ecosystems to herbivory and climate change beyond single studies and across different spatial scales.

- WG request of the workshop is given in ANNEX 2.5.1.1.



3 NEXT MEETING (16.00-16.10)

YOO KYUNG LEE

3.1 ASSW 2015

The 2015 meeting will be held at the ASSW 2015 in Toyoma, Japan on 23-30 April 2015, in conjunction with IASC's 25th Anniversary, the ICARP III and the 4th International Symposium on Arctic Research.

- The first circular is given in ANNEX 3.1.

3.2 ASSW 2016

The next meeting of the WG will be held in conjunction with the ASSW 2016 in Fairbanks, Alaska, USA.