Combination of CP & CSA

D2.10- INTERACT Station Managers' Forum 7 - Minutes

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Lead partner for deliverable: NERI
Author: Elmer Topp-Jørgensen

Dissemination Level		
PU	Public	X
PP	Restricted to other programme participants (including the Commission Services)	
RE	Restricted to a group specified by the Consortium (including the Commission Services)	
CO	Confidential, only for members of the Consortium (including the Commission Services)	

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Publishable Executive Summary

The INTERACT Station Managers' Forum (SMF) meeting 7 was held 6 February 2014 at Oulanka Research Station, Finland. The meeting was held back to back with the 3rd Annual meeting (3-7 February 2014) and focused on Work Package 2 (WP2) tasks and deliverables. The last part of the SMF meeting was designated to discuss the future of the INTERACT Station Managers Forum in a possible INTERACT II.

43 participants from 14 countries represented 34 research stations and all eight work packages at the SMF7 meeting in Oulanka. The main topics discussed at the meeting were a) the Report on best practices of station management and administration, including discussions of a draft layout b) the upcoming report on Research and monitoring at INTERACT stations: Input to project and parameter survey c) local involvement and outcomes of the pre-workshop on engaging local communities in Abisko and finally d) INTERACT II: the future of the INTERACT Station Managers Forum.

Interspersed between sessions were station presentations and short communications from the secretariat and participants on various subjects. The requirement for 7 SMF meetings in this project period has now been fulfilled.

Minutes of INTERACT

Station Managers' Forum 7

INTERACT – International Network for Terrestrial Research and Monitoring in the Arctic

6 February 2014, Oulanka Research Station, Finland

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Executive Summary

The INTERACT Station Managers' Forum (SMF) meeting 7 was held 6 February 2014 at Oulanka Research Station, Finland. The meeting was held back to back with the 3rd Annual meeting (3-7 February 2014) and focused on Work Package 2 (WP2) tasks and deliverables. The last part of the SMF meeting was designated to discuss the future of the INTERACT Station Managers Forum in a possible INTERACT II.

The meeting included following sessions:

- Report on best practices of station management and administration: Discussion of a draft layout.
- Report on research and monitoring at INTERACT stations: Input to project and parameter survey.
- Local involvement: Presentation of the outcome of the pre-workshop on engaging local communities.
- INTERACT II: the future of the INTERACT Station Managers Forum.

Interspersed between sessions were station presentations and short communications from the secretariat and participants on various subjects.

Station managers representing six stations presented their stations during the meeting including information and photos of facilities, research programmes and surrounding environment. These included Villum Research Station (Station Nord)(Greenland), Mukhrino Field Station (Russia), Nymto Park Station (Russia), Oulanka Research Station (Finland) and a potential new observer station; Beliy Island Ecological Expedition (Russia).

43 participants from 14 countries represented 34 research stations and all eight work packages at the SMF7 meeting in Oulanka. 24 of the original partner stations took part alongside 10 representatives from nine INTERACT Observer Stations. Work package 1, 2, 3, 4, 5, 6, 7 and 8 were also represented at the meeting.

All session presentations and Breather presentations can be seen on:
http://www.eu-interact.org/station-managers-forum/meetings/smf-meeting-6/

We have fulfilled the requirement for 7 SMF meetings in this project period. At the final annual meeting we will meet and celebrate our achievements of 2011-2014.

Key things to remember

Start capturing THE full metadata set agreed at the SMF meeting for all present and future projects undertaken at your station. If possible, include also capturing of spatial GIS information (for multiple plots and transects) and option for upload of photos.

Respond quickly to requests from WP2 regarding:

- Contributions to the metadata and parameter survey, and report on research and monitoring at INTERACT stations.
- Proof reading request for the best practice of station management report.
- Suggestions for SMF tasks in INTERACT II.
- Contribution to an update of the INTERACT Station Catalogue.

Always remember to:
Send news from your stations and information about upcoming events of relevance to INTERACT to the INTERACT secretariat att. Hanna Frykman, Hanna.Frykman@nateko.lu.se or WP8/Andy Sier, arjs@ceh.ac.uk.

Send news from your station, announcements of vacant positions, and information about conferences, events, developments and rare observations, etc. to the INTERACT website att. Hanna Frykman, Hanna.Frykman@nateko.lu.se.

Distribute INTERACT brochures at your station, meetings, conferences, etc. Brochures can be ordered from the INTERACT secretariat att. Hanna Frykman, Hanna.Frykman@nateko.lu.se.

Keep a list of international meetings at which you represent INTERACT (used to report INTERACT activities to the EU).

Promote upcoming TA calls on your website and through other outreach mechanisms if relevant.

Use PROGECTA to find deliverables and other documents relating to the INTERACT work packages.

1. Introduction

By Morten Rasch and Elmer Topp-Jørgensen

Opening

Morten Rasch, Chairman of the INTERACT Station Managers' Forum, opened the Station Managers' Forum meeting 7 (SMF7), welcomed the participants and encouraged all to continue the positive and constructive dialogue experienced at previous meetings.

Elmer Topp-Jørgensen, Coordinator of the INTERACT Station Managers' Forum, presented the status of work package tasks, informed of major achievements since the last meeting and described the tasks ahead.

Agenda and participants

The SMF meetings are part of Work Package 2 (WP2)(Station Managers' Forum) and the SMF7 meeting focused on WP2 tasks and deliverables, and provided time for discussing structure and contents of the Station Managers Forum in a potential INTERACT II. The meeting was held back to back with the INTERACT 3rd Annual Meeting, with presentations of partner and observer stations interspersed as breathers between sessions. Sessions covered following tasks (see full agenda in Appendix 1):

- Best practices of station management
- Research and monitoring at INTERACT stations
- Local involvement workshop results
- The future of the INTERACT Station Managers' Forum

43 participants from 14 countries represented 34 research stations and all eight work packages at the SMF7 meeting in Oulanka. 24 of the original partner stations took part alongside 10 representatives from nine INTERACT Observer Stations.

Figure 1. Participants and the INTERACT Station Managers' Forum 7 meeting in Oulanka, Finland. See Appendix 2 for participant list.

2. Best practise report

By Elmer Topp-Jørgensen

Report status and layout

The report was sent for review after SMF6 and submitted to the EU in 2013.

It was agreed at SMF5 that it should also be published as a book that can be distributed among stations and other stakeholders interested in station management in arctic or northern alpine areas.

The report contents were presented and a draft layout was discussed (see Figures 2-4).

Figure 2. Cover will be made in a format that resembles the Station Catalogue.

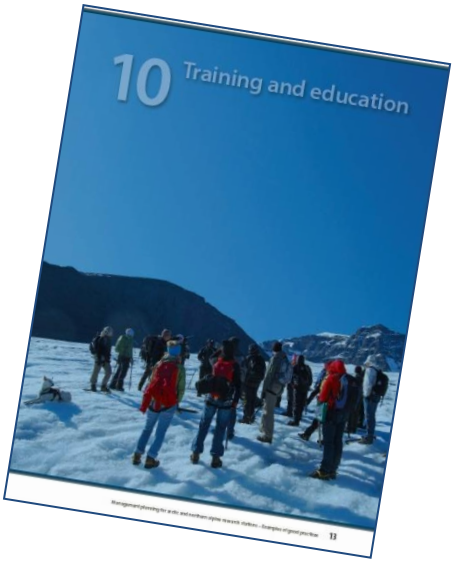

Figure 3. Draft chapter intro-page layout.

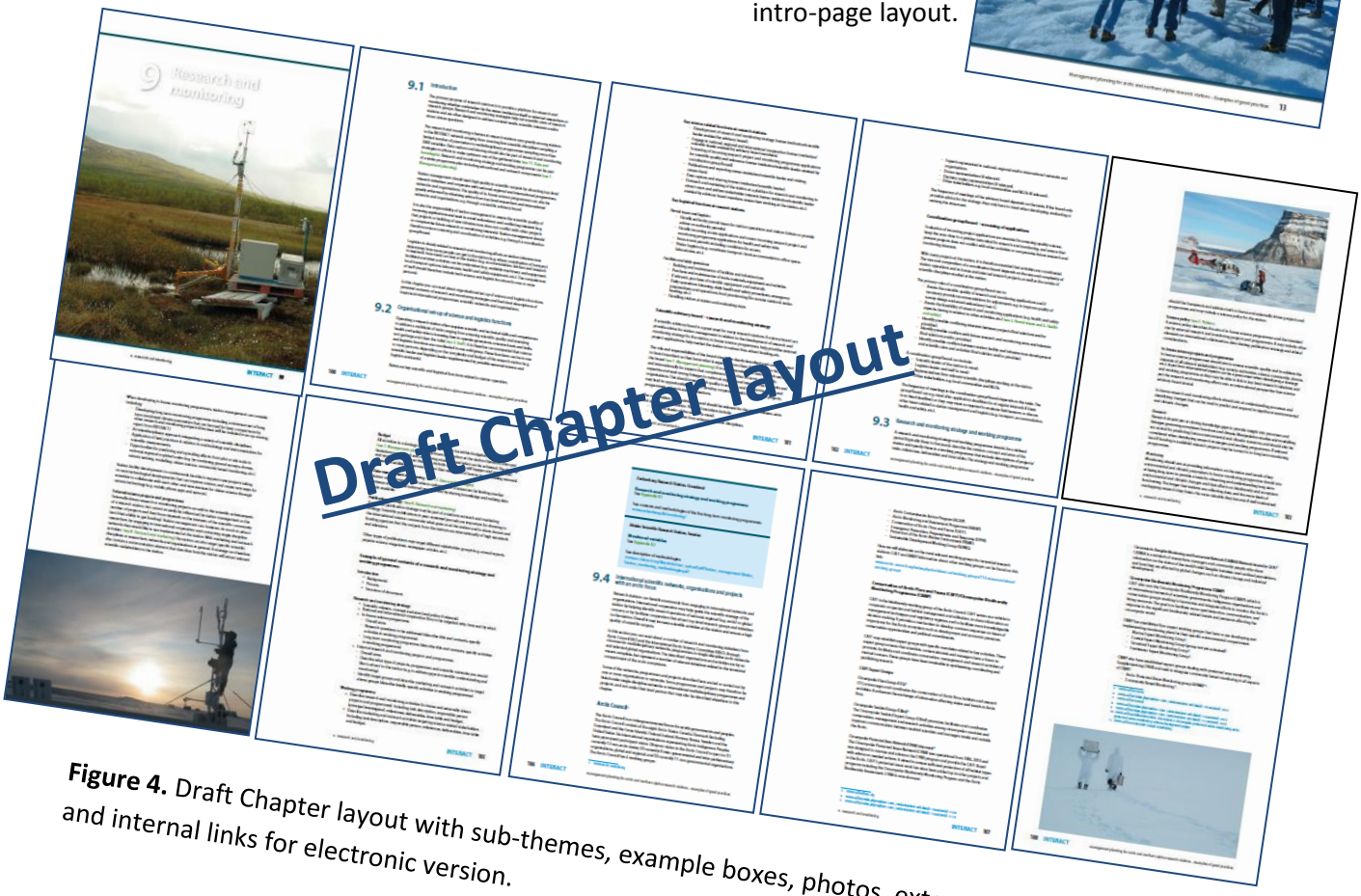

Figure 4. Draft Chapter layout with sub-themes, example boxes, photos, external links and internal links for electronic version.

Layout recommendations from participants

- "Key issue to consider by station managers" should stand out more from the other report elements. It was felt that station examples were more obvious. Red coloration was suggested.
- "Key issue to consider by station managers" and chapters could be seen at the edge of the report to make it easy to find relevant chapters or recommendations quickly.

Elmer mad a request for more photos that could be used to exemplify elements in the report (and some were already send during the meeting) and it was agreed that people would go through their photos and send these to Elmer. If needed, Elmer would send a list of desired photos that can illustrate the report.
Naming of photos was mentioned as an important issue that not only allows acknowledgement of photographers, but with the right info, photos may be useful as scientific reference points.
Naming of photos Include following in the naming of the file:

- Location
- What is shown on the photo
- Date
- Name of photographer

The report has been sent for final proof reading, recommendations for layout will be discussed with layouters, and the report should be send for printing this spring.

3. Report on research and monitoring

By Elmer Topp-Jørgensen

Task description

- Survey of projects undertaken at INTERACT stations (from DoW).
- Survey of parameters monitored at INTERACT stations (from DoW).
- Best practices for monitoring selected variables (from DoW).

In addition to this, it was agreed to produce: A recommended minimum set of climate monitoring variables.

Survey of projects undertaken at INTERACT Stations

A comparison between the INTERACT templates (for historic and future projects), the Abisko GIS developed by WP7 and selected international repositories was distributed before discussions (see Appendix 3).

At SMF6 it was agreed that we should use a limited set of metadata for capturing information about historic projects (since 2000) and that station managers now should seek to implement a more complete set of metadata for capturing project metadata in the same format for future projects. Both templates were developed during SMF6 (see Appendix 3).

At the SMF6 meeting concerns were raised over the expected workload associated with identifying and reporting metadata for projects undertaken since 2000 (Task T2.2). It was also pointed out that some stations already report metadata to international data repositories, so they were reluctant to implement new procedures for sharing of metadata.

Based on these concerns, following recommendations were made regarding the tasks:

- Metadata for historic projects (since 2000):
  The deliverable must include all projects undertaken at stations since the year 2000. At SMF 1, it was furthermore agreed that the survey on monitoring projects should go as far back as possible.

  It is therefore recommended that stations consider this collection of historic information to get a more complete coverage of what projects have been undertaken at the station.

  Acknowledging that it is a huge task to dig out historic information over the past 15 years (and beyond), it was agreed at SMF7 that stations should seek to identify and share as much information as possible within the time they would have available for such a task.

  It was agreed that WP2 will ensure that the metadata are captured according to international standards.

- Metadata for future projects:
  It was recommended that stations already now aims to collect the full list of metadata identified at SMF6 when they capture information on new projects operating at their station.

Metadata repository

It was suggested that the metadata should be made available through a searchable data repository providing sufficient information (comparable to the agreed metadata template for future projects). It was suggested that this could build on the Abisko GIS system developed under Work Package 7, that capture metadata almost identical with what was agreed for a metadata template for capturing future projects. It was also mentioned that we should ensure linkages to national and international data repositories, and hence spreading the information to several platforms.

Building a new data repository for projects undertaken at INTERACT stations will require adequate resources for development and maintenance, and resources to prepare station input. This task is beyond the scope of INTERACT I, it was agreed that the task of identifying or developing a future data repository for projects undertaken at INTERACT stations should be included in INTERACT II.

Survey of parameters

At the SMF6 meeting in Abisko, Sweden, it was agreed that parameters should be grouped for the survey of what variables are monitored at INTERACT stations. This task has been assigned to a number of experts and once their recommendations are received the template will be sent for comments in the network before the survey is initiated.

Best practices for monitoring selected variables

At the SMF5 meeting in Nuuk, Greenland, it was agreed that INTERACT should work with existing scientific networks and organisations when describing best practices for monitoring selected variables. It was agreed that the report should include linkages to relevant best practices on the websites/documents of these networks/organisations to ensure that changes in best practice methodologies are not quickly outdated in

the report. Initial contact has been taken to some of these networks and a workshop is planned for spring 2014.

Recommended minimum set of climate monitoring variables

List drafted at SMF6 and will be developed further in 2014 for inclusion in the report on research and monitoring.

4. Local involvement

By Andrew Sier and Lis Mortensen

Engaging local communities: From an arctic research station perspective

Andy presented the purpose and results of the "engaging local communities workshop" held in Nikkaluokta, Sweden, as a pre-workshop to the SMF6 meeting in Abisko, Sweden.

The purpose of the workshop was to:

- Examine what we mean by local engagement
- Provide examples of local engagement activities
- Discuss benefits & challenges of local engagement
- Provide inspiration
- Hear from local Saami

Benefits of involving local communities:

- Wider spatial data coverage
- Detailed monitoring associated with indigenous knowledge
- Greater understanding and participation in resource management
- Local input to scientific questions
- Local support for the station & science

Survey of Citizen Science (CS)/Community Based Monitoring (CBM) activities undertaken at INTERACT stations

The survey was initiated after SMF6, and seven respondents replied representing 11 stations. This probably reflects that many stations are located far from settlements, lack of CS/CBM initiatives and possibly lack of time to respond to survey coinciding with end of field season reporting.

Based on the input, Andy described four main types of local engagement identified at INTERACT stations:

1) Outreach
2) Education
3) Citizen Science (incl. paid field assistants)
4) Community Based Monitoring

Examples of these are now available on the INTERACT website http://www.eu-interact.org/outreach2/citizen-science-in-action/local-engagement-interact-examples/

Andy explained that the reported activities have been included in a Community Based Monitoring atlas (http://www.arcticcbm.org/index.html) developed by ICC[1] for SAON[2] and to a survey of CBM in northern Europe undertaken by Nordeco[3] upon request by the EU.

In relation to SAON, ICC and CBM, INTERACT could:

- Help identify CBM activities in Europe and Russia.
- Suggest new ideas for CBM activities.
- Advocate for the importance of CBM and TLK[4].

Upcoming activities of WP8 related to local engagement:

- Expand online resources.
- Show what we do via inspirational examples.
- Contribute to Arctic CBM Atlas.
- Encourage sharing of ideas, resources, etc.

5. Future of SMF (INTERACT II)

By Elmer Topp-Jørgensen

An inspirational talk about the tasks and achievements of the Station Managers' Forum in INTERACT I was given to set the scene for discussions on the future of the forum.

Group 1

Rapporteur: Sian Williams, Kluane Lake Research Station, Canada.

Station Catalogue

New focus

- Be sure new stations have entered information for original station catalogue.
- Establish baseline for process of moving forward with Back to the Future objectives.
- Work with SCAR and develop relations.
- Catalogue audience should be wider, or two catalogs, one glossy print for public, on line more technical and more detailed with lots of video.

New parameters to be added:

- Survey of ecological monitoring parameters, link to potential new Data Forum in INTERACT II.
- Web based station catalog on arctic portal also include link the parameters monitored.
- Not just check box but need more info on scope of monitoring in particular.
- Overview of scientific equipment in greater detail.
- Educational programmes.
- Capture how stations are linked to wider communities, e.g. industry or decision makers.
- Facilities for entertainment, festivals of musicians, cultural programs/exchange.

[1] Inuit Circumpolar Conference
[2] Sustained Arctic Observing Network
[3] Nordic Agency for Development and Ecology
[4] Traditional Local Knowledge

- Culture of food at stations and how this is linked to ecology.
- Is a protected area in vicinity of station?
- Each station has interesting environment, geological, cultural, etc. Describe possible field excursions to interesting features.

Capture station state of the environment snapshot

- Video catalogue from helmet cameras.
- Video of station walk through during different seasons with google street view.
- Video of how monitoring is done at each station.
- Video of transport to station.
- Web cams - need to be up and running.
- Use as a library for baseline state of environment.
- Video reports show great change in environmental conditions.
- Develop framework for video reporting and link to Back to the Future.
- How do our stations feed into other international programs with wiring diagram in video?
- Apps for stations, earth caching, station catalogue information available on phone.
- Ecosystem services.
- Monitoring parameters only in virtual version.
- Cultural and special features at stations in print and web versions.

Best practices for instrumentation

- Best practices do not mean same protocol.
- Share information on equipment and instrument installations that work in the arctic.
- Identify issues: e.g. sustainable energy, garbage handling, snow machines, and have sessions addressing these topics.
- Evaluate a station at greater level of detail and learn from what is working well.

Links to Industry

- Go to industry with offer to test equipment at stations.
- At Station Managers Forum meetings, invite developers of equipment to give presentations.
- Identify equipment that needs improvement and communicate with the manufacturer.
- Examples of industry members to invite to the table: equipment manufacturers, software developers, internet equipment providers, virtual instrumentation, clothing manufacturers (heating systems).

Other topics

- Identify where station data can feed into single discipline projects.
- Advanced stations help develop science program for young stations.
- Transnational monitoring idea, joint papers, mentoring of young researchers.
- Identify an arctic citizen science program that all stations would like to be part of.

Group 2

Rapporteur: Andrew Sier, Centre for Environment and Hydrology, UK.

Community Based monitoring (CBM)

Include in SMF but cover all aspects of local engagement (CBM, Citizen Science (CS), education, etc.).

Purpose

- To share ideas, best practice and lessons learned concerning local engagement, so that we can support each other and especially help stations with little or no experience.
- Develop a CS project to show how citizen involvement can be beneficial to science and society.

Why is it important?

Local engagement is important for INTERACT, e.g.:

- Justifies what we are doing in national / international perspectives.
- Could help attract funding e.g. from national governments and EU.
- Gap between natural and social scientists does not look good.
- Citizens - important additional providers of data and observations.
- Education is important.
- Helps get people, e.g. young people involved and interested in the environment.
- Traditional & local knowledge is often valuable.

Ideas for actions / 1

- Continue to share experiences of local engagement:
  - Challenges, risks, mistakes made, things that worked well, etc.
  - Examples, contacts, experts and new potential arctic CBM network.
- Develop cooperation with social scientists.
- Multi-station science-driven CS or CBM project:
  - Maybe link to INTERACT, JRA, e.g. Climate feedbacks.
  - Find a common issue, e.g. tourism pressure, climate change, game animal or vegetation surveys, etc.
  - CBM activities often driven by local concerns and issues, so hard to set up a pan-INTERACT project.
- Staff exchanges to learn how to do local engagement, set up a local project, etc.
- Survey on educational projects that stations are involved in.
- Series of thematic workshops, alongside SMF meetings. e.g.:
  - Education.
  - Working with social scientists.
  - Setting up a CBM project.
  - Building links with local communities, etc.
  - Could invite other stakeholders, as appropriate, e.g. school teachers.
- Develop a simple citizen science phone app, e.g.:
  - Photos of animal tracks, invasive ssp., symptoms of disease.
  - Linked to parameters measured in proposed 'Red phone' rapid response WP.
  - Linked to the proposed 'scaling observations' WP.

Possible outputs

- Thematic reports from focus workshops.
- Report on educational activities (what we do, best practice).
- Phone app.

- Calls for short-term exchanges related to local engagement.

Participation

- All stations located in or near local communities.
- Anyone else who is interested.

INTERACT dialogue forum/marketplace

- Don't need it – seldom used now. If need arises later, it should be easy to develop.
- Use a Station Managers e-mail list (e.g. stationmanagers@eu-interact.org).
- Should also have an All-INTERACT e-mail list.

Group 3

Rapporteur: Sergei Kirpotin, Aktru research Station, Russia.

Courses for station managers

- Links to Back to the Future - additional day for training in Photographic records – training in photography and storage.
- Personnel training and leadership training is very important. Include how to deal with conflicts, sexual harassment and sensitivity to cultural differences.
- Licensing and permitting (cf. suggestion by Yulia Zaika proposed at SMF6).
- Fund raising /development from private donors. Organisation of Biological Field Station (OBFS) in the USA provides training. Brian Barnes (Toolik) suggests a co-meeting with OBFS.
- IT training with an emphasis on station management and software for such things as reservations, project metadata capture (application software/storage).
- Handling, storage and shipping of hazardous material training.
- Safety training – glacier training – firearm training – boat training, etc., including training station manager in assessing skills of visitors/students.
- Understanding of certain types of equipment such as drones.
- GIS courses.
- Media training dealing with film crews, journalists, etc.
- Terms of Reference agreements. It was pointed out that over-equipping and extensive training requirements can lead to universities offloading research to station managers to avoid cost of travelling to the Arctic themselves. What to do if ToR and resources don't meet?

<u>Staff exchange</u>

Transnational access for station managers. If INTERACT promoted such an idea institutions might be prompted to finance such a system. The host station might cover the daily costs of a visit by a station manager and the home institution of the visiting managers might cover transport costs. Regional coordinated visits by technical staff.

<u>Other ideas</u>

INTERACT dialogue Forum and Equipment Marketplace. Equipment blog extolling the virtues of clothing and equipment, and problems with clothing and equipment.
Travel information. How to reach your station. Airline costs and best timetables. Make travelers aware of GPS road routes that are not easily navigable.

Group 4

Rapporteur: Donie Bret-Harte

Data Forum

- Sharing metadata should fall under data forum.
- Making Abisko GIS (developed by Tomas Thierfelder and SLU) system available to other stations.

Question as to whether to include data or just meta-data

Gunhild "Ninis" Rosqvist (Tarfala) mentioned that metadata is most useful, because individual people can follow up to get data. The system (Abisko GIS, WP7) also provide knowledge of what topics have been covered, to help identify research gaps. As such it is a structured system to keep track of research and provide an overview. Capturing project descriptions before teams go into field, and letting people enter the data themselves, is a big advantage.

Now that the system (Abisko GIS) is in place, Tarfala wants to implement it as well. The system will be adapted, which requires some effort. Abisko has tested extensively and now it is adapted to support what Tarfala wants.

The system will also increase common knowledge of what has been done, and what should be repeated (Back to the Future, BtF). Having project information is important if you want to bring back or attract new scientists. You need to know what has been done where and how they did it.

If historic metadata records should be submitted it will require substantial resources.

Getting real data into the system with no additional funding is unrealistic (due to large resource requirements).

Why collect metadata in INTERACT?

Purpose: to provide searchable data on what projects have been conducted, identify research gaps.
We want to disseminate metadata, make them searchable and transparent across collected records.

Key question is how to achieve this? What kind of infrastructure is needed?

Tomas Thierfelder: back to the future shouldn't happen only once. You can look back at any time in the future and we need a system that can do that. A system to harvest new data, and add old data (in the same system).

Javier Gonzales: We should define BTF in terms of what is needed in future, not just what we have in the past. An analysis of gaps and knowledge of historic records can help do that.

Thomas has a lot of routines for capturing old material from working with the Abisko GIS and other projects. For a metadata capture infrastructure we need to find out how to capture information on projects that have occurred, transnational access projects and other new projects. This will enable us to identify research gaps, help to harmonize data collection in the future. We need to create a platform for data exchange and metadata exchange among stations in the future.

A 'Data Forum' under INTERACT could help harmonizing future data collection.

Metadata profiling – first station adds base of metadata, for each additional station, a smaller set of different metadata will be added – converge to a standard metadatabase. There is a big difference between

project data and actual data, getting metadata on the actual data is a much bigger job; Tomas is adding to the infrastructure (Abisko GIS) right now.

A publication database linked into the metadatabase records will be a big effort and also funds need to be allocated for this. Acknowledged need for this, but need to discuss options.

At individual stations, it is important to develop and maintain a mechanism for capturing and storing project metadata so that information will not be lost; depends on awareness of administration; keep institutional knowledge so that it won't be lost when key researchers retire.

Data needed from stations

There are two sides of collecting metadata: 1) historic records 2) automatic harvest of new metadata so that you don't have to inventory all of the historic data again. First priority is setting up automatic harvesting (with a full set of metadata agrees at SMF meetings), then go through historic records (capturing a minimum set of metadata as agreed at SMF meetings if resources are available for this).

It is very important to *start accumulate project metadata now* to make it possible to look back in time in the future; Station managers should therefore capture the full set of metadata for all new projects from now on, so that a future common metadata repository can be easily implemented. INTERACT could also provide some key recommendations on what to start collecting now for future BTF; photographs, ecosystem service mapping.

Costs and a way ahead

The cost to set up a system for harvesting metadata is low; inventory is more expensive.
Ninis would like Tomas to put a price tag on it, so that other stations can know what they are getting into – 2-5000 Euros for just harvesting.

- Need to implement and improve the system in INTERACT II, add the searchable component across stations = innovation.
- Can use the system to identify gaps, science strategy especially for transnational access, future applicants, decide what transnational access to fund
- Include a tag to identify for what has been funded with TNA

The current system designed in accordance with international standards, and portals, etc.

Tasks ahead

Task A:

All stations should harvest agreed metadata.

- Important to provide assistance in accordance with protocols and provide the system (Abisko GIS) to stations that want to use it.

- Stations should engage in a discussion of how to implement a metadatabase structure across stations and how to make it searchable (accept core application form with additional features for individual stations).
- Make it easy for new stations to implement.

Tomas explains that the system has a core set of metadata, and that individual stations can add whatever fields they need included in their application system. It is very easy for a station to begin using the system's core metadata (requires a few hours of support), but adaptation to the individual station requires some resources.

Task B:
Link to Back to the Future (BTF) in INTERACT II

- Identify what BTF requires in terms of data, what to add to existing metadata profile (connected to project descriptions).

Task C:
Identify a physical system for maintenance beyond INTERACT II (web hotel with the correct requirements, pay annual bills, security, backups, updates), including visualization of data.

Task D:
Seek for funding to implement system across stations that want to adopt it. If possible seek funding for historical inventories at stations.

It may not be possible to seek EU funding for this as innovation is a prerequisite for EU funding.

Outputs: an awesome database of DOI-enabled monitoring and research projects, with publications linked in, photos, multiple locations, etc. It will be publicly available and searchable by both the general public and scientists.

Back to the Future (BTF)
There was some confusion about BTF; is it a Work package (WP) of its own or does it fit into another WP (which)? It was also suggested to rename the BTF project.

Tasks:

- Gather information on historic projects/photos for inclusion in database.
- Contribute with collection of new data.
- Local knowledge could be included and combined with photos and science.

New ideas
Ecosystem service assessment at each site.

Implementation of a common metrics set that can be compared across sites that are easy and inexpensive (e.g. photographs, snow cover, greening assessments – a task within updating best practices for

monitoring – add to minimum climate monitoring (INTERACT I) the minimum monitoring recommendation for vegetation, snow cover, etc.)

Update current projects in INTERACT I.

Forum for thinking about how to respond to unusual events; incorporating suggestions from individual scientists (see Red Phone in 3rd Annual meeting presentation).

Remote access – best practices (short pamphlets) ahead of time; e.g. authorship issues, who decides about remote access (TA board).

SMF sponsor interdisciplinary science conferences for their users, projects that span across the network; promote inquiry, assess effects of the INTERACT infrastructure

6. Closing of SMF7

The seventh (and last of the required) INTERACT Station Managers' Forum meetings was closed after a day of lively discussions and bright ideas for the future of the forum. Participants were thanked for their active participation and reminded that there are still some tasks ahead where input is required. Task leaders informed that it was important to continue the constructive and good dialogue, and replying promptly to requests for input.

Appendix 1 - Agenda

Feb 6 Thursday – Day 4 of INTERACT 3rd Annual Meeting

INTERACT Station Managers' Forum 7

Agenda

08:00 – 09:00 Breakfast

Station Managers Forum meeting

09:00-15:00 Station Managers Forum

09:00 - 09:15	Session 1 - Opening of Station Managers' Forum 6 - Status of work and agenda	Morten Rasch Elmer Topp-Jørgensen
09:15 - 9:30	Session 2 - Best practice report	Elmer Topp-Jørgensen
9:30 - 10:00	Session 3 - Report on research and monitoring at INTERACT stations	Elmer Topp-Jørgensen
10.00 – 10.30	Session 4 - Local involvement – report from Outreach work from Nikkaluokta	Lis Mortensen, Andy Sier
	10:30 – 11:00 Coffee break	
11:00 - 11:15	Session 5 - The future of INTERACT Station Managers' Forum	Elmer Topp-Jørgensen
11:15 - 13:00	Group discussions of potential future SMF activities	All
	13:00 – 14:00 Lunch	
14:00 - 14:30	Plenum presentation and discussion	Morten Rasch
14:30 - 14:50	Breather presentation - Beliy Island Ecological Expedition	Vlademir Pushkarev
14:50 - 15:00	**Closing of Station Managers' Forum 6**	Elmer Topp-Jørgensen

Appendix 2 – Participant list

INTERACT Station Managers' Forum meeting 7
Oulanka Research Station, FInland
6 February 2014

Number	Name	Organisation	Country	Email
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Appendix 3 – Metadata comparison

Appendix 3. Comparison between INTERACT metadata templates for historic (short) and future (long), and ABISKO GIS developed by WP7 and selected international repositories (Polar Data Catalogue, Pangaea and Arctic Monitoring and Assessment Programme (AMAP)) used as inspiration for discussing capture and sharing of project metadata at INTERACT stations.

INTERACT short	INTERACT long	Abisko GIS	Pangaea	Polar Data Catalogue	AMAP
Title	Title	Title	Title	Title	Project name
Timing	Timing	Timing		Time period (start and	Time period (start and
PI name	PI name	PI name	Author name		Primary contact person
PI contact	PI contact	PI Contact information		Links to data or PI e-mail address	
Location (name and GIS	Location (name and GIS	Location (GIS)		Study site (name) Research area (geograp	Region studied Other area description
Discipline	Discipline	Discipline			Project categories
Database author	Database author		Data submission (Date and person)		
Station name	Station name				Station or area where c
	Description	Description	Description (Abstract)	Purpose Abstract Plain language abstract	Obejctives/summary
	Keywords	Keywords	Keywords	Keywords	Prescribed Keywords User-defined Keywords
	Funding (EU projects, o	EU projects, Other projects Funding		Research programmes	Bi- or multilateral proje Other related projects
	Project members	Project members		Participants and roles	Other project contacts
	Publications	Publications	Publications (articles and/or DOI)		Key publications and da
	Project homepage	Project homepage			
	Environmental impact	Environmental impact			
	Pictures	Photos			
	Research methodology	Research methods			Description of procedu
		Activities			
			License		Are data available from
				Citation	
				Status of data	Project status
				Maintenance and upda	QA/QC Information
				Security (data access)	
					Parameter groups mea
					Country
					Other institutes involve
					Registration date
					Data collected from
					Data processed from
					Data archiving and repo
					Specimen banking info

Coverage of large metadata set (future projects)

INTERACT previous	INTERACT	Abisko GIS	Pangaea	PDC	AMAP
	13	11	6	8	11
	4	4	0	0	1
Coverage %		0,85	0,46	0,62	0,85

Coverage of small metadata set (previous projects)

8	8	6	3	4	6
Coverage %		0,75	0,375	0,5	0,75

Additional categories (not covered by INTERACT metadata)

		1	1	4	11