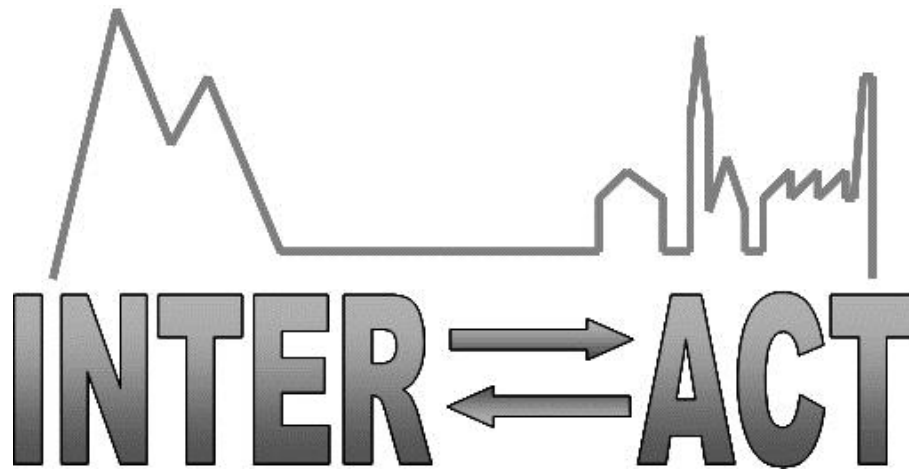# Combination of CP & CSA

D2.5 – Minutes – Station Managers' Forum 4

Project No.262693– INTERACT

FP7-INFRASTRUCTURES-2010-1

Start date of project: 2011/01/01

Due date of deliverable: 2013/03/31 (M19)

Duration: 48 months

Actual Submission date: 2013/01/03

Lead partner for deliverable: NERI (partner 2)

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)	

Table of Contents

Publishable Executive Summary

The INTERACT Station Managers' Forum meeting 4 was held successfully before time on 25-28 September 2012 at Luční Bouda in the Krkonoše Mountains National Park, the Czech Republic.

Focus was on the Work Package 2 (WP2) deliverable "Report on best practises of station management and administration" (deadline March 2013), but also included news and suggestions for the future from the INTERACT Secretariat (WP1), and sessions on Local involvement (WP2 and 8), Transnational Access update and lessons learned (WP4) and Communication standards (WP7).

INTERACT stations and stations granted observer status participated in the meeting, and selected stations presented themselves with focus on a chosen theme relevant for the report on best practises of station management.

The INTERACT Secretariat lead discussions on the future of INTERACT and was granted mandate to initiate the work towards a phase two of the project, keeping focus on a station network and a geographical coverage of arctic and northern alpine areas.

Minutes of INTERACT

Station Managers' Forum 4

INTERACT – International Network for Terrestrial Research and Monitoring in the Arctic
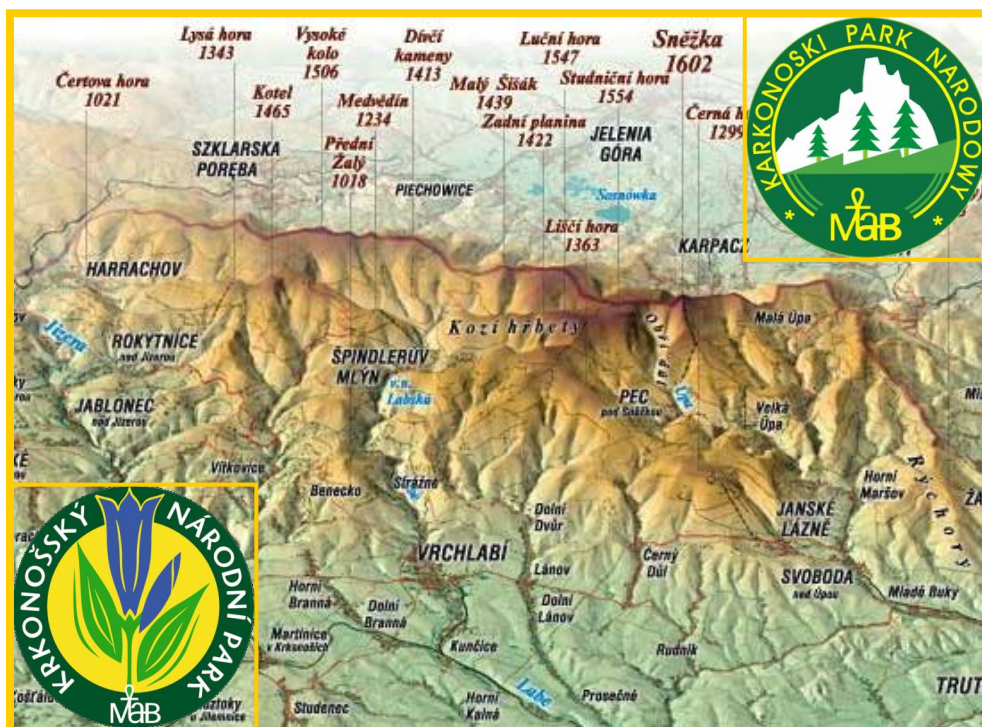
25-28 September 2012, Krkonoše Mountains National Park, Czech Republic

Contents:

Executive summary

The INTERACT Station Managers' Forum meeting 4 was held 25-28 September 2012 at Luční Bouda in the Krkonoše Mountains National Park, Czech Republic.

Focus was on the Work Package 2 (WP2) deliverable "Report on best practises of station management and administration" (deadline March 2013), but also included news and suggestions for the future from the INTERACT Secretariat (WP1), and sessions on Local involvement (WP2 and 8), Transnational Access update and lessons learned (WP4) and Communication standards (WP7).

INTERACT stations and stations granted observer status participated in the meeting, and selected stations presented themselves with focus on a chosen theme relevant for the report on best practises of station management.

The sessions related to the report on best practises was a combination of plenum presentations/discussions and break out groups aiming at identifying key issues to be addressed by station managers for eleven themes identified during previous Station Managers' Forum meetings. The outcome of the discussions will be used when writing the report deliverable.

The INTERACT Secretariat lead discussions on the future of INTERACT and was granted mandate to initiate the work towards a phase two of the project, keeping focus on a station network and a geographical coverage of arctic and northern alpine areas.

The "release party" of the INTERACT Station Catalogue was well attended and plans for a web-based edition presented at the meeting. WP7 received input related to a GIS/database tool to track activities at research stations and WP4 presented ideas for a plan for redistribution of unused Transnational Access funding – an excess Access pool.

Next meeting, Station Managers' Forum 5 will be held in connection with the INTERACT annual meeting 4-8 March 2013 at Greenland Institute of Natural Resources in Nuuk, Greenland.

Key things to remember

Station Mangers' Forum 5 to be held on 4-8 March 2013 at Greenland Institute of Natural Resources in Nuuk, Greenland.

Respond quickly to requests from WP2 regarding contributions to the report on best practise of station management and administration.

Actions for all station managers:
- **WP4:** Station managers to inform WP4 (Hannele Savela, hannele.savela@oulu.fi) and person responsible for their own institution's financial administration of excess TA funds that you would like to contribute to the excess Access pool (see session 6).

  Deadline 31 October 2012.

- **WP4:** Promote the next TA call for summer 2013 and winter 2013/2014, which is open 1-31 October 2012.

- **WP4:** Promote CEN (Centre for Northern Studies) call, which is open for INTERACT partners from 1-31st October 2012.

- **WP4:** Write "My week as a station manager" essay and send to Hannele Savela (hannele.savela@oulu.fi) preferably before 12 October 2012, but contributions more than welcome during the entire winter season.

- **WP2:** Send list (including brief description and suggested mitigation measures) of near misses in relation to health and safety at your station before 15 November 2012.

Always remember to:
Send news from your stations and upcoming events of relevance to INTERACT to the INTERACT secretariat.

Use the INTERACT Dialogue Forum.

Use the INTERACT Equipment Marketplace.

Send news from your station, 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.

Session 1 – Introduction to Station Managers' Forum 4

by Elmer Topp-Jørgensen, Department of Bioscience, Aarhus University, Denmark and Jaroslav Andrle, Krkonoše Mountains National Park, Czech Republic.

1.1. Introduction, WP2 deliverables and Agenda

The meeting was held in a trans boundary UNESCO Man and Biosphere Reserve (Figure 1) and was opened by the director of Krkonoše Mountains National Park in the Czech Republic Jan Hrebácha and the director of Karkonosze Mountains National Park in Poland, Andrzej Raj.

The Station Managers' Forum 4 focussed on the Work Package 2 (WP2) deliverable "Report on best practises of station management and administration" (deadline March 2013), but also included news from the INTERACT Secretariat (WP1), and sessions on Local involvement (WP2 and 8), Transnational Access update and lessons learned (WP4), Communication standards (WP7). The Agenda can be seen in Appendix 1.
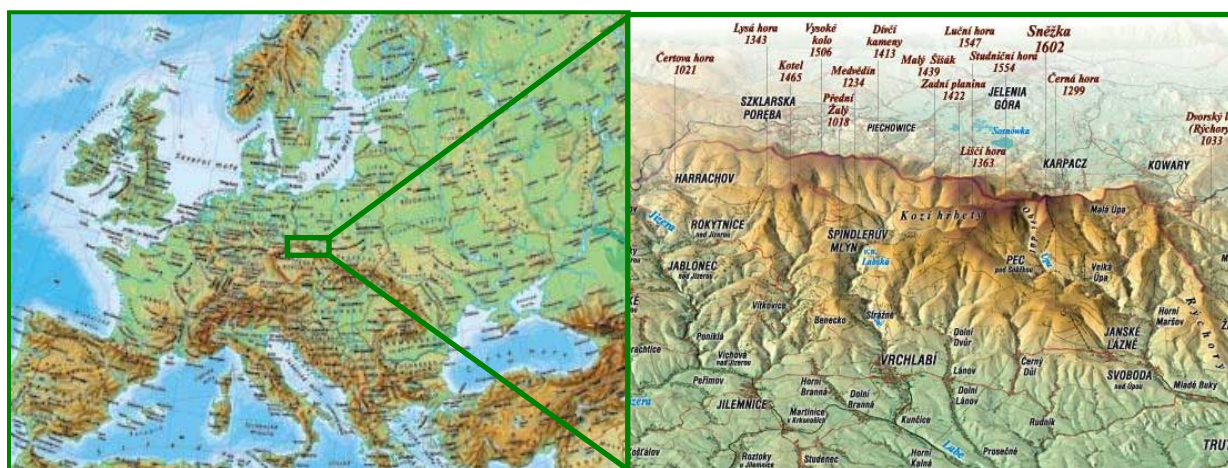
Figure 1. Map showing location of Karkonosze/ Krkonoše Mountains National Parks (map from Roksana Knapik).

Nine INTERACT stations presented themselves and/or a selected theme from the report on Best practises for station management and administration. These worked as inspirational talks to initiate discussions of the eleven themes included in the best practise report that was the focus of this meeting.

Presentations will be available on the INTERACT website and are not included in the minutes of the SMF 4 meeting. See http://www.eu-interact.org/station-managers-forum/meetings/station-managers-forum-4/.

A presentation of WP2 Station Managers' Forum deliverables was given. WP2 should act as a platform for exchange of information between station managers, Work Packages and local communities. Reports and SMF minutes deliverables of WP2 including deadlines was presented (see Figure 2).
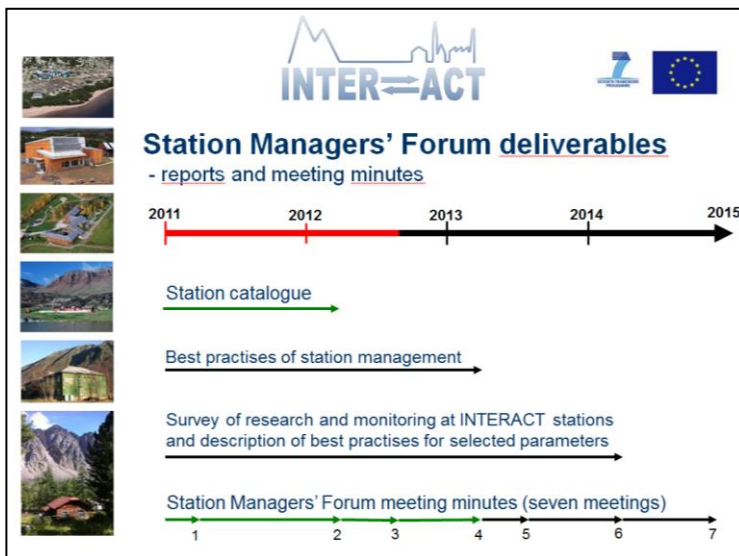
Figure 2. Written deliverables of WP2.

It has been decided at previous SMF meetings that the means available for providing this platform are:

- The Station Managers' Forum meetings.

- Report deliverables.

- The INTERACT website.

- The SMF Dialogue Forum.

- The SMF Equipment Marketplace.

1.2. Introduction of participants

All participants presented themselves and their infrastructure/organisation. Twenty-eight of the 33 consortium partner stations participated in the meeting. The number of participants was 35 including Observer station representatives and non-station representatives from the consortium (see Figure 3). List of participants can be seen in Appendix 2.

Figure 3. SMF4 participants preparing for the celebration of the INTERACT Station Catalogue at Luční Bouda, Krkonoše Mountains National Park, Czech Republic.

1.3. Krkonoše Mountains National Park/ Karkonoski Park Narodowy transboundary UNESCO Man and Biosphere Reserve.

Presentation: Krkonoše Mountains National Park/ Karkonoski Park Narodowy Transboundary UNESCO Man and Biosphere Reserve.

By Roksana Knapik (Pl) and Jaroslav Andrle (Cz)

See the presentation on: http://www.eu-interact.org/station-managers-forum/meetings/station-managers-forum-4/

1.4. News from the secretariat

INTERACT – an EU success story. INTERACT was selected as an EU success story and as such presented alongside other successful programmes on EU's research website. This is a great achievement by the network and bears evidence of the importance and quality of our joint efforts. The INTERACT success story can be read on below link.

http://ec.europa.eu/research/infrastructures/index_en.cfm?pg=success7

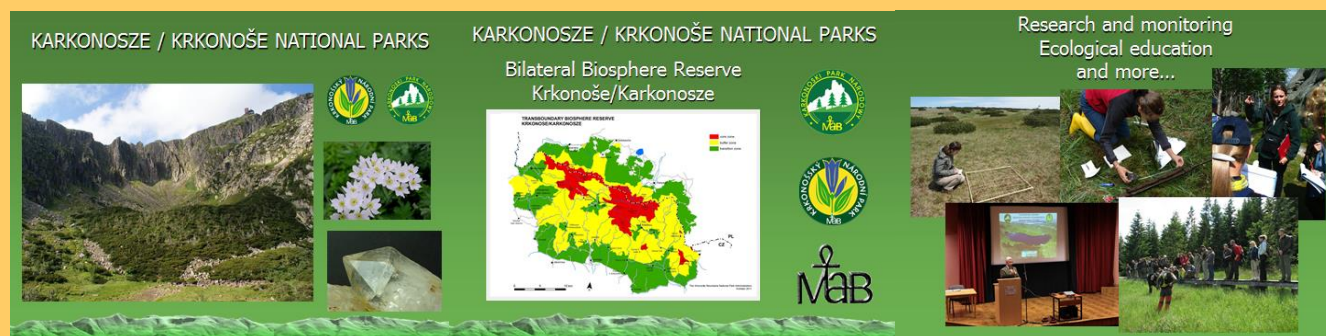First Periodic Report – submitted (115 pages). The report will be used for the mid-term review by EU. So far we have reached 17 deliverables, 12 milestones and produced a Transnational Access database and a number of promotional materials.

External measures of success:
- Request for support from ISAC (International Study of Arctic Change).
- Request for consultation by French Consortium.
- Mid-term review of ExpeER (Experimentation in Ecosystem Research).
- Presentations at numerous conferences and meetings, e.g.:
  - The Arctic future conference.
  - Circumpolar Biodiversity Monitoring Programme (CBMP) - Terrestrial biodiversity monitoring plan meeting.
  - Forum of Arctic Research Operators (FARO) under Arctic Science Summit Week.
  - International Polar Year (IPY).
  - International Conference on Research Infrastructure (ICRI).
- Indication of proposed application from CHARS (Canadian High Arctic Research Station).

- Contributing to forming a cold regions community within GEO (Group on Earth Observations)/GEOSS (Global Earth Observation System of Systems).
- Formation of Arctic Biodiversity Coalition (ABC) and its inauguration by SAON (Sustained Arctic Observing Network).

To dos:
- Meeting of EU Earth Observing Project to discuss potential common Arctic initiatives (WP3).
- Unused potential.
  - "Emergency response" – coordinated data collection to study extreme events.
  - Promote the INTERACT network as a platform for research networks, programmes and projects.
- Change of staff.
  - Terry Callaghan will not be the coordinator for a potential phase two of INTERACT. Terry is however committed to continue supporting INTERACT, and the network should consider what role he could play. The network should initiate the work of finding a new coordinator.

1.5. INTERACT Station Catalogue, web-edition

By Kirsten Elger, Alfred Wegener Institute for Polar and Marine Research, Potsdam, Germany.

At the SMF3 meeting in Svanhovd, it was decided to explore the possibilities of having a web-based version of the INTERACT Station Catalogue hosted by the Arctic Portal, www.arcticportal.org (Iceland). Kirsten presented a solution with an interactive map (GIS layers) on the INTERACT website. This map is an embedded Arctic Portal map.

When clicking on the map, you are forwarded to an Arctic Portal website with INTERACT layout (see Figure 3). The interactive map hosted by Arctic Portal will have a layers option, search function and link to station descriptions on the INTERACT web-site.
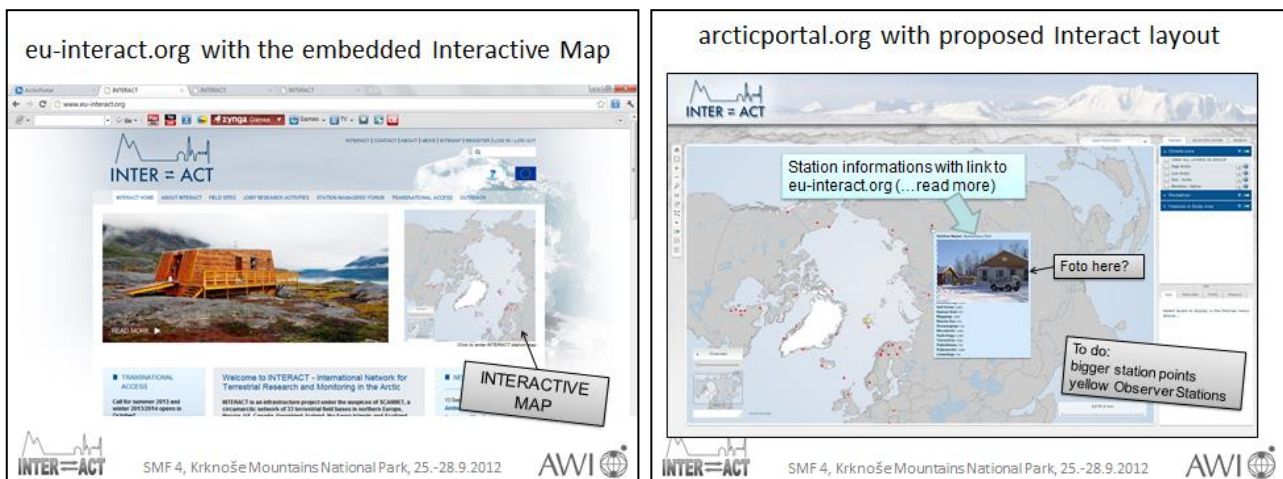
Figure 3. The interactive map embedded in the INTERACT website (left) and Arctic Portal map with INTERACT layout (right).

Station managers were asked to suggest additional search parametres (than the ones presented by Kirsten).

- Environmental envelopes (cf. diagram in Station Catalogue). Kirsten will investigate, but concern was raised over the simplicity of the temperature/precipitation categorisations, that mean that some stations due to other parametre (e.g. altitude, latitude, local climate) are in the "wrong" category in the diagram.
- Scientific networks active at the station. Morten Rasch will send a list of most relevant networks to Kirsten.
- Possibly more detailed map from the Arctic Spatial Database Information (SDI) project within the next 2-5 years. When ready these detailed maps could be used when viewers select a specific station. It was decided to await further developments before a decision is taken.
- Ask Google for high resolution satelite imagery layer for the Arctic. Kirsten will investigate.
- Vegetation zones. Maps probably not ready in the near future, but categories could be used to define vegetation zones at the stations. Syndonia Bret-Harte will contact Skip Walker and ask for status and permission to use these.

1.6. Opening of INTERACT Station Managers Forum 4

By Station Managers' Forum Chair Morten Rasch, Department of Bioscience, Aarhus University, Denmark.

"Dear all. First a warm welcome to all of you. It feels good to be here and again experience the friendship that has developed over the first year and a half of the project. This feeling of friendship combined with willingness of working together, not only in the network, but also reaching out to other projects, programmes and networks, is what makes INTERACT so special. I would like to thank the Krkonoše Mountains National Park in the Czech Republic and Karkonosze Mountains National Park in Poland for inviting us to this really beautiful area with astonishing landscapes and where you can feel parts of Europe's history.

Since our last meeting in Svanhovd, Norway, we have added new observer stations to the network. Today we are 45 stations in the network, a significant growth from the 33 consortium partner stations starting up in 2011. Still talks are being held with potential new stations and we continue to grow.

The first report deliverable of the Station Managers' Forum has been achieved, thanks to hard work from you and in particular Kirsten Elger and Thomas Opel from the Alfred Wegener Institute. A lot of nice words have already been said about the INTERACT Station Catalogue, so I won't say much about it. However, it has sparked quite a bit of interest in our network and right up the printing, new stations wanted to join. This report shows what we can do as a network and I think it will be an important marketing tool for INTERACT.

It is important that we keep momentum for the tasks ahead, but also look into the future and start envisioning where we should go from here. We should continue to be proactive in reaching out to scientific networks and making our platform available to existing and new initiatives. We should continue to build friendships and welcome new stations on board. Continue the build on the successes and develop our network, but also maintain the special INTERACT feeling of being a group of friends. With this, I will just say that I have been looking forward to this meeting and hope that we get some productive days ahead with constructive dialogue, results and fun."

Session 2 - Best practise theme: 1) Plans and check lists

Breather presentation
By Torbjørn Ergon, Finse Alpine Research Centre, Norway.

Station presentation, including issues related to best practise theme: plans and check lists.
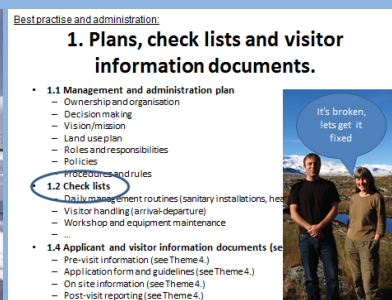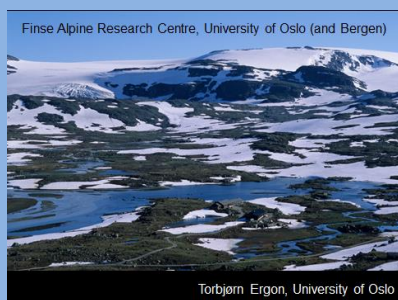
See the presentation on: http://www.eu-interact.org/station-managers-forum/meetings/station-managers-forum-4/ and explore the Finse Alpine Research Centre website on www.finse.uio.no/.

Plenum discussion

Following the presentation of Finse Alpine Research Centre, there was a discussion on the importance of plans and check lists. It was mentioned that plans and check lists are essential for ensuring continuity at remote research stations, which are often challenged with a limited number of staff and high staff turnover. It is therefore important to document organisation, decision making procedures, roles and responsibilities, policies, rules and regulations. Check lists can also be a valuable tool, ensuring regular monitoring/maintenance of station facilities, relevant information to new visitors, etc.

In a diverse network of research stations there are numerous ways of documenting this. It can be entirely web-based, it can be a single large manual or as in most cases be a number of smaller documents on specific themes. As station management is an evolving process, it is however, essential to allow regular update of specific themes as required by new knowledge/experiences.

While it is important to document above information, it can also be a huge benefit to have overlap between terminating and new staff, as this gives new employees the possibility of experiencing the station first hand with an experienced manager who can answer many of the questions a new employee inevitably will have.

Based on the discussions it seems that not all things are written down at many stations and that the network could benefit from sharing of experiences on how to organise, store and update such documents.

It was agreed that WP2 and the contributors to this theme should work on drafting the theme for the report and include examples from large vs. small stations and remote vs. easy access stations.

Session 3 – Best practise themes: 2) Policies and 7) Environment and efficiencies

Breather presentation
By Otso Suominen, KEVO Subarctic Research Institute, Finland

Station presentation, including issues related to best practise themes on:
a) Policies, and
b) Environment and efficiencies.

See the presentation on: http://www.eu-interact.org/station-managers-forum/meetings/station-managers-forum-4/

Break out groups

Group 1 - Theme: Environment and efficiencies

Rapporteur: Syndonia Bret-Harte (Toolik Field Station, Alaska, USA)

Main topics identified for minimizing environmental impacts:
1) Minimizing impacts of station operation – e.g. fuel use, footprint.
2) Minimizing impacts of researchers.
3) National and local laws and regulations and the constraints herein on research activities at a given station (e.g. Russian samples can't leave the country).

Topic 1: Minimizing impacts of station operation
Recommend environmental impact assessment (EIA) to identify real and potential threats. Rank them in accordance with importance and develop strategy for mitigation, taking in identified constraints (e.g. available resources and funding, legislation).

Examples:
- Energy audit at Toolik required an assessment of impacts and a strategy to meet certain standards before the audit.
- EIA at Sverdrup resulting in an impact/performance monitoring scheme for the station.

External forces may also be a driving force for environmental accreditation as a prerequisite for becoming eligible for certain grants. Future EU funding may require accreditation and certain standards to be met – may be coming on-line soon (Cairngorm).

Following important areas were identified for activities at the stations:
- Energy use.
- Waste handling; human waste - nutrient additions.
- Emissions; incineration – air pollution.
- Garbage in the environment.
- Recycling of waste materials (mitigation).

Monitoring of impacts (e.g. tracking of use/emissions/water use/number of visitors, etc.) is an important first step to identify priorities for mitigation.

It is desirable with examples of mitigations from various stations – in the report.

Topic 2: Minimizing impacts of researchers

Following important areas were identified:
- Restrictions on mode of travel (e.g. off-road vehicles, where you can travel - particular routes).
- No littering in the field and removal of equipment/stakes, etc. when research is completed (enforcement may be needed).
- Land-use plans to avoid conflict and ensure the presence of reference areas.
- Awareness of previous research (GIS database).

Topic 3: National and local legal constraints on research activities

Following important areas were identified:
- Be aware of local, regional and national regulations/policies (e.g. samples cannot leave Russia; need for a permit from Bureau of Land Management for research (needed at Toolik, USA), tree core sampling prohibited and digging up plants by roots is prohibited for some species (Cairngorm, UK)).
- The station administration can make researchers aware of additional permits required for their particular research and direct applicant to the relevant institution (website), but the station can ask the researcher to obtain the required permits themselves.
- Be aware of the use of certain substances, e.g. restrictions on radioactive tracers, stable isotope tracers, nutrient additions, use of hazardous chemicals, etc.
- Be aware of existing land-use policies for research and develop a land use-plan in accordance with these and the vision/mission of the station (e.g. requirement for reference area, sampling area and manipulated area).
- Equipment in the field – permits may be required by authorities/station, and it is important with agreed responsibility for operations if equipment is left in the field at the end of a project.

Group 2 - Theme: Environment and efficiencies

Rapporteur: Christine Barnard (CEN Stations, Canada)

Environmental impacts of research at the station:
- Environmental pollution from infrastructure maintenance (fuels, detergents, etc.).
- Impact from research activities (trampling, use of hazardous chemicals, trash/ equipment left on site, removal of biotic matter, forest fires, cutting down trees, digging holes, samples left behind, proper storage, etc.).
- Disturbance from external activities (accidents, waste water and fuel dispersal / transportation, etc.).

Measures to reduce environmental impacts:
- Policies to impose GIS positioning of research activities (to trace hole digging, to pick up all equipment left on site, to know what was done where and when, etc.).
- Obligatory reporting on any spills, accidents, etc. and proposed measures to remediate the situation.
- Identify important impacts and identify mitigation measures to reduce impacts by controlling consumption (energy, water, chemicals, food, etc.) and waste (garbage, waste water, etc.).
- Share mitigation measures with other stations.

Could be accomplished by:
- Imposing an environmental impact assessment with a written permit to use the station – asking researchers in advance of what will they will be doing, potential impact and how they will remediate the impacts.
- Imposing fees to clean up.

Suggest that:
- INTERACT be involved in this type of permit issuing. This could be integrated and homogenized in INTERACT TA application.
- Researchers must acknowledge the risks and propose remediation plans.

Group 3 - Theme: 2) Policies

Rapporteur: Nick Cox (NERC Arctic Station (UK), Svalbard)

The group noted that there is a marked difference between remote and easy access stations in relation to policy needs. Stations in remote areas need to have 24 hour care of visitors (accommodation, food, work, etc.) and for health and safety purposes it is necessary to know where people are when they leave the station. The need for policies and their contents therefore differ greatly between stations depending on remoteness, landscape and type of activities undertaken there.

Policies should be written down and relevant staff made aware of their contents. Policy information should be made available for visitors and can be presented on web, guidelines for applications and other visitor information documents.

Many policies related to health and safety. When evaluating the suitability of applicants it is important to record personal details (both related to the applicants health and contact details in case

of emergency) and it can be relevant to obtain information on medical issues, experience in relation to specific activities (e.g. work on glaciers, shooting skills, etc.).

Health and safety policies can also include insurance requirements for visitors or disclaimer describing the responsibilities of the station in relation to incidents and accidents during stay at the station. Policy for age and family may also be relevant for some stations.

Policies can also relate to the use of certain types of equipment/materials or transport/storage/disposal of chemicals.

Other policies include:
- Alcohol and drug use policies.
- Sexual harassment policy.
- Environmental protection policy.
- Press and communication policy.
- Staff policy.
- Weapon policy.
- Own, lend or lease policy (equipment).

It is important to obtain information to be able to assess applicants in relation to their activities and if necessary suggest relevant training prior to arrival (e.g. first aid and safety, riffle, glacier).

It is also important that stations have procedures for what to do if visitors violate the policies and clear roles in decision making and information of the relevant persons. While some policy breaches only require a warning others may result in immediate repatriation. Depending on the type of policy breach, it may be necessary to inform/talk to other visitors about the incident and actions taken.

Session 4 – Best practise themes: 3) Staff, 4) Visitors and 5) Permit issues

Riku Pavola briefly presented the experiences of Oulanka Research Station in relation to visitors and permitting issues, highlighting the challenges (and frustration of managers) of time consuming administration procedures of the authorities and sometimes late applications from researchers. He also stressed the importance of obtaining the necessary information from applicants to identify the additional permits required by the project (e.g. for export of specimens, collecting plants, setting up equipment).

The group was hereafter split into three break-out groups, one on each theme.

Group 1 – Theme 3) Staff

Rapporteur: Brian Barnes (Toolik Field Station, Alaska, USA)

Hiring and retaining competent staff is key to running a successful and sustainable field station and therefore should be a priority to station managers. Recruiting unprepared personnel or having poor working conditions and lack of opportunity to develop professionally, can doom a station to always

losing good people, having constant turnover and a perpetual training environment that will not create a productive research and teaching platform.

For new recruits and temporary hires, be sure there are no false expectations of the physical, work, and social environment that they will be entering. Interviews of candidates should include reality checks ("do you prefer scrubbing toilets in the clock-wise or counter-clock wise direction?") and honest descriptions of the work place can help make sure your finalists are appropriate for the job. Arranging site visits, if possible, before final selection should be considered, especially for long-term employees.

Station managers should strive to hire station staff and interns that are from the local community, if possible, especially if these include indigenous persons with local knowledge of the environment and natural history. This connects the mission of the station to the local economy and community and can increase its acceptance. This can also be accomplished by regular outreach to the public and involvement of station staff and scientists with schools and community groups.

Stations that are large or have complex reporting requirements such as expenditures, power and fuel use, public visitation, etc. should hire specialists, if possible, such as accountants, environmental engineers, or public information officers, as a scientific and research background may not the best preparation for these duties.

Should the Science Director or Manager have a Ph.D. and be engaged in active research? There are several advantages including ensuring, in theory, that the director has an appreciation for the mission of the field station and its requirements (as opposed, potentially, to an expert in logistics or management with no special relationship to science). Doctorate level directors will be peers to senior researchers at the station and carry respect and authority with university and government associates of the field station, and can apply as principal investigator for grants. On the other hand, if the director has faculty responsibilities in addition to management, their time and attention to the station will be competing with that required for research, publication, and teaching duties. Promotion of faculty is usually through a process of evaluation that includes peer faculty. Enthusiasm and energy, expertise, leadership and a devotion to the station should be foremost qualities for a director, however, and these abilities and competence do not require advanced degrees. A good science director will also be regularly faced with decision making regarding plumbing, electricity, fuel efficiencies, etc., which requires that managers have a broad experience in practical matters.

Who should supervise and evaluate a field station's director? This is often a department head, in the case of university-affiliated stations, or an advisory board that may not have exposure to the day to day responsibilities and performance of the director, in which case evaluations may not be pertinent. It is best to have a supervisor who has regular contact with the station and its users.

Group 2 – Theme 4) Visitors

Rapporteur: Christer Jonasson (Abisko Scientific Research Station, Sweden)

Pre-visit information
The group concluded that there will be quite big differences between the stations in the INTERACT

network in terms of size and location. This has to be taken into consideration when describing best practises.

- Several pieces of general information are important; security- health- safety issues. Information on available equipment and science support.
- Important with personal contacts, in particular with new visitors. These contacts could be via e-mail and phone, but even better with personal meetings.
- "Handbook information" from the stations including information on equipment, services, permits, safety, health, risks, general information. Should also be available on web as this may answer questions that the applicants may have and hence reduce the workload of the managers.

Example of a SWOT (Strength/ Weakness, Opportunities/ Threats) analysis template.

Internal	
Strengths	Weaknesses

External	
Opportunities	Threats

SWOT Analysis Summary

SWOT analysis is a strategic planning tool used to evaluate the **S**trengths, **W**eaknesses (Limitations), **O**pportunities, and **T**hreats involved in a project (often before it is initiated).
It involves specifying the objective of the project and identifying the internal and external factors that are favorable and unfavorable to achieve that objective.

- **S**trengths: characteristics of the project that is seen as an advantage
- **W**eaknesses (or Limitations): are characteristics that unfavorable for the project
- **O**pportunities: *external* chances to improve performance
- **T**hreats: *external* elements that could cause trouble for the project

Handling of visitors at the station
Important to welcome and take care of arriving guests (in particular new-comers).

- It is important to give the visiting scientists information on how they are expected to behave and how they can receive advice and information from the management.

- Boards showing information about what guests and projects are active at the station (preferably with photos of the scientists and station staff) may facilitate interaction between visitors (both socially and scientifically).

- Possibilities for the station manager to give information to visiting scientists; like during joint coffee breaks (as the daily "Fika" - Swedish for meeting for coffee and possibly cake - meetings at Abisko, Sweden).

- Give the visiting scientists a possibility for informing each other about research activities. This can create a good atmosphere and facilitate scientific and social interaction at the station, e.g. short, popular science talks once a week in the evening.

After departure
Several (most) of the research stations did not have a fully developed programme for this. It was agreed, in the group, that this has in general to be better. Two of the crucial issues are to get feedback in terms of information/reprints on papers produced at the station. We also thought that we should have a formalised questionnaire to be sent out to visiting scientists in order to get information on what has been achieved, and also ask them for some kind of SWOT (see box to the left) for their visit.
As most scientists are very happy to visit the stations (in particular through INTERACT Transnational Access (TA) as their expenses will be covered) it is important to encourage them also to mention issues that they not have been satisfied with.

Group 3 – Theme 5) Permit issues

Rapporteur: Syndonia Bret-Harte (Toolik Field Station, Alaska, USA)

Recommendations for best practices
1) Clarify responsibilities for permits – this is very important.

2) Good communication with users about requirements for permits and who to talk to in order to determine whether a permit is needed.

3) Good communication with government agencies that grant permits about the requirements and process.

4) Make permitting an integral part of the process for approval for scientific project. Permits can be made conditional on the obtainment of additional permits from authorities (or as in the INTERACT TA case, TA Advisory Boards approval is conditional of station approval and other relevant permits).

5) Be transparent about process, timelines, costs, so that scientists can plan. Employ more than one means of communication; web pages, personal discussions bring together agency representatives and science users; help funding agencies and land-use agencies to talk to each other.

6) Recommendation: in the future, INTERACT could provide some travel funds for scouting trips before permit application (after approval of project), at least for sites with strict permitting requirements. This is, however, not possible within the current TA system, so other financing mechanisms should be identified.

7) Observation: It is easier for larger stations to deal with these issues than for smaller ones; GIS is very helpful, but a luxury for small stations. Perhaps in the future, INTERACT could provide central GIS services to help smaller stations with site selection, permits.

8) Station managers should act as liaisons between applicants and current researchers to help create community, and between applicants and agencies to help make the process smoother.

Examples:
Zackenberg assist applicants in getting access permit for the National Park and advices applicants on what additional permits needs to be obtained from the authorities in relation to the specific project. It is the responsibility of the applicant to obtain these additional permits themselves. Zackenberg does not want to see these additional/special dispensation permits because they don't want policing responsibility.

Zackenberg also find that sometimes their rules are stricter than the rules of the National Park. As they cannot develop their own laws, the station get around this by saying that they will not provide service unless follow the stricter rules.

The National Science Foundation does not provide field work money through NSF's Office of Polar Programs (OPP) in the first field season to give people time to get their permits; this takes some of the pressure off the scientists to get started quickly.

Session 5 – Work Package Sessions

5.1 WP7 Communication standards for network interactions across stations

By Tomas Thierfelder, Swedish University of Agricultural Sciences, Sweden.

Tomas presented the tool for registering research and monitoring activities in a GIS database developed for Abisko Scientific Research Station as part of INTERACT WP7.

The developed tool has a public, PI, and station manager interface. Past project metadata has been entered in the database, and functionalities for continuously harvesting new project data (from electronic application forms) are implemented. The system also enables booking of accommodation and includes an automated billing system. It may easily be expanded to include additional managerial tools.

An outline of issues to discuss was distributed to participants prior to the session and the discussions focused on key areas of this outline (see Appendix 3):

Benefits (for both science and management) of sharing spatiotemporal project information:
- At global/regional scale: Identify activity redundancies and absences, identify collaborative partners, identify best practises and previous experiences, sharing resources, etc., etc.
- At station scale: The above plus the detection of conflicts across projects, reducing impacts of previous activities on new projects, etc.

What information should be shared?
- Metadata on past and on-going research and monitoring.

Concern was raised over the accuracy of the geo-referenced activities as activities are not always carried out where planned. It may therefore be a challenge to ensure that it is the exact location of activities that is registered in the database. The system enables both PIs and station managers to correct information, so it may be a matter of educating/informing researchers to get the most accurate data. These are standard concerns that may be met with standard methodologies.

The present system includes:
- Publicly available project meta-data specified in accordance with INSPIRE standards.
- Publicly available meta-data on permanently installed monitor equipment.
- Activity summaries available for station-specific administration.

The latter differs between stations and hence requires local adaptation of the system to make it suitable as an on-line administrative tool. The two former elements can be shared among stations/countries if a uniform metadata standard is used throughout.

There were some interest in a broader implementation of the system across INTERACT stations. This requires additional funding, possibly in the continuation of INTERACT, and will be discussed further at the upcoming annual meeting in Nuuk, where Tomas also will present a full version of the tool.

5.2 *WP2 and WP8 Stakeholder involvement: th*e case of Karkonosze/Krkonoše Mountains.

By Lis Mortensen, Faroe Islands Nature Investigations (FINI), Faroe Islands.

Presentations were given by three different stakeholders:
- Business representative *Petr Ceé (Director of a major ski resort)*
- NGO *Kamila Hlinková (Krkonoše – svazek měst a obcí. Organisation representing tourist operator interests)*
- Manager *Jiří Flousek (Krkono*še Mountains National Park/*UNESCO Man and Biosphere Reserve)*

Petr Ceé briefly presented tourist interests in the area (6-8 million visitors per year, major ski area in winter and hiking area in summer). He described the dialogue with authorities as good, but also felt that it was difficult to reach compromises with reference to a specific case of using a bench lift to take tourists up the mountains in the summer. Jiří Flousek (who translated) replied that they had previously reached a compromise and that it was a problem that businesses continuously wanted management to ease regulations. The specific area where the bench lift ends is a vulnerable alpine tundra area (categorised as a Natura 2000 area under the EU Habitat Directive) and any activity there would threaten the habitat. Jiří Flousek (representing management) complained that it was often difficult to maintain conservation aims in political spheres as these are often influenced by business entrepreneurs. However, both Jiří Flousek and Petr Ceé agreed that the communication was important and that in their specific case, they were happy with the constructive (but sometimes tough) dialogue.

Presentations:
Krkonoše – svazek měst a obcí (NGO representing tourist interests) (in czech only)
By Kamila Hlinková

Krkonoše Mountains National Park/UNESCO Man and Biosphere Reserve
By Jiří Flousek

See presentation from NGO (in Czech only) and management on: http://www.eu-interact.org/station-managers-forum/meetings/station-managers-forum-4/

Session 6 – WP4 Transnational Access

Presentation: WP4 Transnational Access – Status and Lessons learned

By Kirsi Latola and Hannele Savela, University of Oulu, Finland

See the presentation on: http://www.eu-interact.org/station-managers-forum/meetings/station-managers-forum-4/

Kirsi and Hannele presented status and lessons learned from Transnational Access (TA) activities (see presentation on www.eu-interact.org). Key messages from the presentation were:

a) **Excess Access fund.** Some stations have used all their TA money, while other have spent less than expected. The ideas of an "Excess Access" fund was presented, where stations voluntarily give up access days that they cannot find users for and these can be used by stations that can find more users than their budget allows for. Station managers are therefore encouraged to have a look at their budget and notify WP4 (and their own accounting person) if they have TA money that they would like to put into the Excess Access pool. Deadline 31 October 2012.

b) **"My week as a station manager".** Request that all station managers write a short essay on "My week as a station manager" for the INTERACT website. There is not a specific format for the blog postings, but preferably around 300-400 words in length, together with 1-2 photos of the station or its activities and a captivating title. Deadline is set to 12 October 2012, but contributions are welcome throughout the winter.

c) **The next TA call for summer 2013 and winter 2013/2014 is open 1-31 October 2012**. Spread the word and send the link to your colleagues and network http://www.eu-interact.org/transnational-access/

d) **CEN call open 1-31st October for INTERACT partners!**

An annual grant of 5000 €, now for 2013, is offered by the Centre for Northern Studies (CEN) for research conducted at CEN Hudson Bay Field station at Whapmagoostui-Kuujjuarapik. The grant is available for researchers from INTERACT partner organizations and gives free access to facilities; grant can be used for travel, accommodation and meals at the station. To apply, send your research plan and CV to hannele.savela@oulu.fi by October 31st

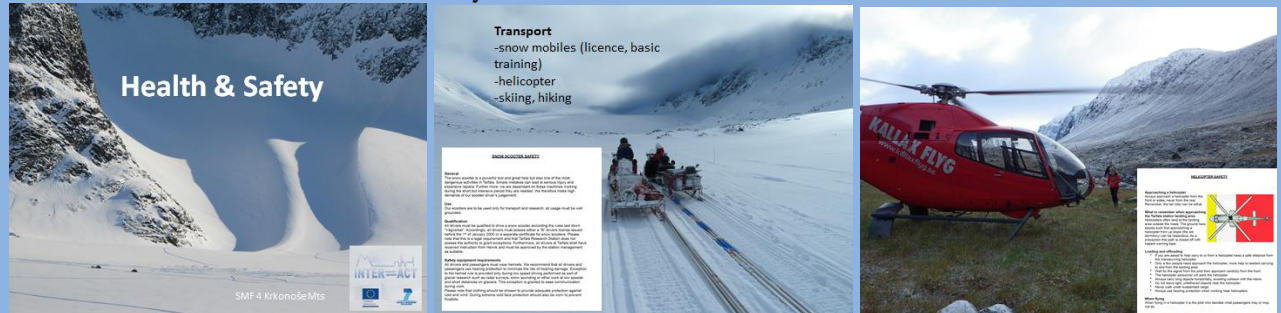More information: christine.barnard@cen.ulaval.ca; hannele.savela@oulu.fi

Session 7 – Best practise theme: 6) Health and safety

Breather presentation
By Ninis Rosqvist, Tarfala Research Station, Sweden.

Presentation on the theme: Health and safety

See the presentation on: http://www.eu-interact.org/station-managers-forum/meetings/station-managers-forum-4/

Ninis gave a presentation on health and safety aspects at Tarfala Research Station. Some of the key messages from the presentation were:

Health and safety is important for both visitors and staff. At Tarfala visitors sign a document saying that they have read health and safety instructions. It is important to inform visitors of the reason for the regulation, as this make them more willing to adhere to these. Procedure and regulation documents need to be updated regularly as the station develops.

Planning can minimise the health and safety risks at both station and in the field, e.g. spreading of fire can be prevented by spacing houses apart so fires cannot jump from one house to the next, groups that work in the field have their own skilled safety officer among them, sign out/in board to track whereabouts, etc.

It is important that staff and visitors do not act as rescuers if persons/groups are in trouble. Leave it to professional rescue workers, unless you are 100 % sure that you are able to help without risking your own life/health.

Also important to remember that most accidents happen near the kitchen and most field accidents happen close to the station.

Have a plan for emergencies including a reporting system for accidents and near misses, and evaluate these to improve procedures when needed. At Tarfala, a risk assessment is done with both staff and visitors, to identify areas where one should be particularly alert.

Participants were divided into three break-out groups that each were asked to discuss different aspects of health and safety.

Group 1 - Theme: Health and safety – policies, risks and mitigation

Rapporteur: Syndonia Bret-Harte (Toolik Field Station, Alaska, USA)

Report sub-theme 6.1 - Policies

1) Health policies:
   Request that people be fit enough to undertake tasks they want to undertake, but several stations do not require proof of fitness (Cairngorm, Abisko and Toolik). Abisko does not ask about people's health at all. Toolik asks people to fill out a medical form which is kept confidential and only opened in case of emergency.

   Cairngorm and Abisko are well populated; people live there anyway. Yet care is far away in Kiruna – need helicopter to get them out.

   Provide cautionary information to all visitors. Cairngorm recommend first aid training but don't offer. Toolik offers safety training through arctic logistics provider (CH2M HILL Polar Services), but it is voluntary, and many people don't take.

2) Insurance policies
   Employees are covered at Cairngorm – visitors are not covered by the station.
   Abisko – independent scientists bring their own insurance.
   Toolik requires medical insurance and evacuation insurance for visitors - staffs are covered by university.

3) Liability
   All stations educate people. Cairngorm, Abisko and Toolik do not require that visitors sign a disclaimer. Cairngorm – have to sign that you've read the safety materials.

   None of the stations (in this group) actually verify that they have read it and understood it (no tests).

   What responsibility does station take in case of accident?
- Abisko has decided that the station does not have capacity or legal ability to rescue people; they only provide information. Does require safety plan, but no rescue campaigns by station staff. Mountain rescue service is available nearby.

   Abisko and Toolik restrict the use of certain pieces of equipment, for example, table saws, so that users can't hurt themselves.

4) Family policies
   Abisko is family friendly – lots of facilities and playgrounds, informal arrangements for day-care. No actual policies for children – rely more on common sense; expect people to be responsible – no issues yet.

   Underage policy at Toolik – 24 hour supervision, restriction from certain areas (workspaces); age restrictions – people with children can use the premises, but opportunity rarely used because of expense.

   Cairngorm has no policies but advice against taking children to field.

Report sub-theme 6.2 – Risks and mitigation

<u>1) Transport:</u>
   a. Driving
   - Cairngorm has many restrictions on driving: no more than 10 hours/day, full day can't be more than 12 hours, and 10 minute break every two hours.
   - Abisko – transport is not an issue because most staff lives at the station.
   - Toolik – driving is the biggest risk of accident. Orientation/information is provided for visitors, training on hazards of the road (gravel road, big trucks), request speed limit be followed, data loggers in trucks to track if need be. We provide insurance on NSF (National Science Foundation) trucks at Toolik and UAF (University of Alaska, Fairbanks) trucks can't be driven except by employees of the station.

   b. Helicopters
   - Abisko – helicopter company provides safety training; do not coordinate helicopters – scientists make arrangements.
   - Toolik – arctic logistics provider coordinate helicopters, provides training, helicopter company also provides training.

   c. Boats
   - Toolik provides boat safety training, requires that lifejackets must be in the boats (Alaska law).

   d. Snow mobiles
   - Abisko and Toolik have these, but we didn't discuss. Toolik provides training and has policies for use.

<u>2) On station:</u>
   a. Kitchen
   - Abisko – use common sense. Classification as commercial hotel means that certain buildings can't be used for visitors any more.
   - Toolik – food service; users not allowed in the kitchen because of food handling rules.

   b. Workshops
      Users are not allowed to use dangerous equipment at Cairgorm, Abisko, or Toolik.

   c. Laboratory practices, chemical use
      Toolik - Lab safety training (on-line training) required; hazmat training/disposal (Emergency Medical Technicians (EMTs)). Toolik also provides relatively simple common-use equipment, not complicated (in general).
      Cairngorm – code of practice, guidelines; supervisors are responsible. Cairngorm – no common-use equipment is purchased but cameras are available.
   - Abisko – Try to avoid boy's toys; have less complicated equipment than there used to be – sold some of the lab equipment; if you want a GC (gas chromatographer), you have to bring your own now.

   d. Field work
      Sign out/ safety plans required.
   - Abisko – if you work on ice you need to be two persons, people should not be alone in boats.
   - Cairngorm – tell people they should have a buddy system, tell people not to work alone. Toolik – sign out, recommend against working alone, but don't require it.

Group 2 - Theme: Health and safety – Hazards and mitigation measures at station and in field, and emergency preparedness (accidents, illnesses, evacuations, search and rescue)

Rapporteur: Nick Cox (NERC Arctic Station, Svalbard, UK)

Report sub-theme: 6.2 Describe important health and safety aspects and mitigation measures, and Report sub-theme: 6.3 Emergency preparedness

1) Pre-visit health and safety
   - Disclaimers adopted by some stations but generally agreed they are of little value.
   - "Confidential Personal Details" provided by each visitor. The form includes personal contact details, next of kin contact details, level of field experience, and any medical conditions the station manager should be aware of.
   - Risk assessments. The NERC station prepares risk assessments for such things as rifles, bears, sea ice travel, boating, lab work, etc. The risk assessments list hazards plus methods and equipment to minimise danger attributed to each hazard. The document is signed by each scientist and their employer.
   - Chemical risk assessments are required in the UK. Containment of Substances Hazardous to Health (COSHH) are prepared by research groups and assessed by a lab safety officer.
   - Insurance. It was agreed scientists should be advised to arrange insurance including medical care and search and rescue.
   - Station handbook (web based) including information about anything and everything visitors need to know when preparing to travel to and visit a station.
   - "Safety Guide" highlighting station and field hazards. The Guide describes dangers, procedures, equipment and how to use safety equipment.
   - The NERC station manager visits scientists at their university to discuss their plans in detail.

2) On station health and safety
   - Station briefing including information on fire hazards and procedures.
   - Field records including names of personnel, time of departure, route and field locations, radios, rifles and estimated time of arrival at the station.
   - Accident and near miss reporting. It was agreed that INTERACT should have a near miss data base.
   - Chemical dangers. It was suggested there should be regular lab audits. There should be a lab safety officer to oversee such rules as no eating and drinking in labs, correct footwear and the correct labelling and storage of chemicals.
   - Kitchen dangers.
   - Wood/metal/etc. workshop dangers.
   - Vehicle and bicycle dangers.
   - Assessment of electrical equipment including age and condition of equipment.
   - Carbon monoxide danger in stations, vehicle cabs, boat cabins, huts and tents. Use of CO monitors at the NERC station.

3) <u>In the field health and safety</u>
   - Lake ice dangers.
   - Boating.
   - Avalanches.
   - Rock fall from cliffs during the melt.
   - Glacier dangers.
   - Sea ice dangers.
   - Ice foots.
   - Ice and snow filled gulleys with melt streams below.
   - Rivers and glacier melt water.
   - Capsizing icebergs.
   - Glacier snouts.
   - Skidoo dangers.
   - CO poisoning.
   - Weather dangers including high winds, low temperatures, white-out etc.

4) <u>Training</u>
   It was agreed that scientists venturing in hazardous locations should be appropriately equipped, trained and assessed. The following activities require equipment and training:
   - Glacier travel and crevasse rescue.
   - Sea ice.
   - Tundra.
   - Boating.
   - Skidoos or snow scooters.
   - Rifle and flare pistol training.
   - Polar bear awareness training.
   - Under cliff – hard hats and back protectors.
   - River crossing.
   - Training.
   - Navigation training including map, compass and GPS.
   - Radio.
   - Satellite telephone.
   - Chainsaw training.
   - Ice drills.

<u>Notes</u>

1   The group noted that there is a marked difference between stations, some with more hazards than others. Abisko for instance is situated in fairly safe terrain with few hazards.

2   One station is considering providing field scientists with locator beacons.

3   The groups noted that in an emergency it is preferable to call on a professional rescue service.

Group 3 - Theme: Health and safety – Medical facilities, medical and safety training, and information to visitors

Rapporteur: Ninis Rosqvist/Christine Barnard (Tarfala Research Station, Sweden and CEN Stations, Canada)

Report sub-theme: 6.4 Medical facilities,
Report sub-theme: 6.5 Medical and safety training, and
Report sub-theme: 6.6 Key information needs for applicants and visitors

Main issues:
- Station managers must clarify the user's responsibility (be aware of all documents) and awareness of insurance and costs of evacuation in case of emergency.
- Proper training of staff and students prior to arrival.
- Must have checklist before they go out in the field with information on planned time of return: radio (VHS, iridium, etc.), GPS, map, first aid kit, survival kit, etc.
- Provide list of things user must bring: warm, water proof clothes, shoes and boots, sunglasses, sunscreen, etc.
- Management must be prepared to deal with problems with staff and students mental issues, incompatible personalities etc. and must be briefed on the importance of establishing and maintaining a good group atmosphere at the station and in the field.
- Alcohol policy – no tolerance at CEN stations. This is noted in manual but moderate consumption will be tolerated at some sites.
- In the application form of station use, ask user to identify health problems and read information on website on Health and Safety and then click "I have read this information and agree".

Allergies can occur (for instance previously unknown allergies breakout in case of exhaustion), so it is important to have epipen (adrenaline) on site as well as medication to reduce reactions and swelling (Reactin, Benadryl, Claritin, etc.).

Session 8 – Best practise theme: 9) Research and Monitoring

Breather presentations
By Syndonia Bret-Harte, Toolik Field Station (USA) and Christer Jonasson, Abisko Scientific Research Station (Sweden).

Presentations on the theme: Research and monitoring

See the presentation on: http://www.eu-interact.org/station-managers-forum/meetings/station-managers-forum-4/

Brief notes from Breather presentations (see presentations for details**).**

Toolik Field Station:
No central coordination of research funding. Monitoring data collected by different groups. Toolik Environmental Data Centre, collect some data and receives data from collaborating projects (see presentation). Complement existing programmes to cover as many variables as possible. Many long term programmes are relying on committed people and it can be a challenge to continue these programmes (get someone else to take over).

Abisko:
Monitoring started in 1913. It is important with long term data, but important to think of what the data should be used for. Abisko has its own monitoring programme under permanent development – dynamic. Research projects transferred to monitoring if possible to expand long-term monitoring efforts. Monitoring – manipulation - modelling coupled. In-house research and science support.

Best practises from breather presentations:
- Strong scientific leader essential.
- Clear mission to encourage visiting researchers.
- Be pro-active – fill gaps.
- Encourage and fund young scientists.
- Staff to support visiting scientists.
- Careful and long-term planning.

Discussion
The conditions (environment, facilities, resources, etc.) determine what you can do. It is not about having the broadest research and monitoring programme, but do the best you can with the available resources.

Many stations have donor driven research/monitoring programmes (either fixed tasks or sum of money), combined with individual research/monitoring programmes (externally funded).

Ii is important to differentiate between research and monitoring. A research station should take responsibility for capturing research/monitoring data for future use (monitoring).

There is a need for monitoring. Call it what it is – monitoring – and don't play the game of many donors who don't like the word monitoring (as it implies long-term funding), but instead come up with terms like observations.

When designing research and monitoring programmes, you should start with simple stuff. Design something for small money and build on this. Find inspiration by looking at what other stations are doing. It was suggested that INTERACT could provide a list of parameters that we could all monitor (maybe relevant for a work package in INTERACT phase 2) or identify a monitoring "light" version that all stations should pursue individually.

Data and data sharing. Everybody wants data, but it is complicated to know where and how to store and get data (for networks and programmes, e.g. SAON). The strength is to have many sampling plots (for e.g. methane that affects global issues) for global/regional analysis, but monitoring at single stations can also be relevant for local issues.

It was recommended that we included a paragraph on why monitoring is important in the report, including the importance of single station and multiple stations monitoring.

INTERACT could work on adaptive monitoring and rapid response to extreme events. Let everyone know if certain situations occur and lets all monitor (an unused potential of INTERACT).

Session 9 – Best practise theme: 8) Outreach and marketing, 10) Training and education, and 11) Knowledge capture and sharing

Breather presentation
By Morten Rasch, Zackenberg Research Station, Greenland (Denmark).

Presentation on the themes: Outreach and marketing, Training and education, and Knowledge capture and sharing.

See the presentation on: http://www.eu-interact.org/station-managers-forum/meetings/station-managers-forum-4/

Participants were divided into three break-out groups, one on each theme.

Group 1 - Theme: Outreach and marketing

Rapporteur: Lis Mortensen (FINI, Faroe Islands)

How is your station/facility marketed?

In our discussion we divided the marketing and outreach into three categories:

a) non-scientists (the public, local people and politicians)

b) users of the natural environment (such as local hunters)

c) scientific community.

The contact with non-scientists varies greatly among stations, but many stations inform local communities about the activities at the institution. Some stations invite the public to visit the station on certain occasions, including decision makers, the general public, kids and youth from kindergarten to high schools.

KEVO emphasizes marketing to the scientific community more than towards the public. Contact with the public would fall into the category of outreach. KEVO has a lot of interesting outreach activities; e.g. a summer high school is organized every year. This is a two week course on northern ecology, where young people, especially from the Saami community, participate. The course includes regular high school math, biology and Saami language lessons.

Svanhovd receives many visitors. The station is good at contacting local media when something happens and therefore very visible in the local community. Svanhovd hosts all kinds of meetings by external users. These events often turn into marketing and outreach opportunities for the Svanhovd station since the events often ask for a presentation of the station.

FINI has a number of outreach events which also serve as marketing of the station. These activities include visits from schools and the public at the institution and exhibitions, excursions, interviews in the television and radio, and participation in local cultural events.

Who are our stakeholders?

Some important groups of stakeholders are shared between most stations. These are national/local authorities (including politicians and authority staff), donors and the scientific community. It may however also be relevant for stations to target other non-scientific stakeholder groups, especially where the station operates in or near local communities. So, the general public can also be stakeholders and especially people living in and using the natural environment are important stakeholders. The relationship between these groups and the station vary a lot according to the local circumstances.

In GINR, the local fishermen and hunters represent stakeholders, while deer hunters represent important stakeholders at KEVO. Svanhovd has become part of an interesting project that helps integrating immigrant women into the society in northern Norway. This is an example showing that

a specific group, in this case immigrant women have become stakeholders. In the Faroe Islands an additional stakeholder are schools (both school children and teachers). Some activities are focused on school children who visit the institution and participate in cultural events. Other activities are focused on teachers and include courses, excursions and written material.

Press policy
All stations practise in various degrees a proactive press policy taking into regard the possible sensitivity of the information. At all stations, scientists give comments to the press as scientific experts on a regular basis.

The GINR has an office for communication, which makes sure that information and communication is correct and appropriate. Some of the information is politically sensitive, - such as information about population of caribous. Information with this kind of sensitivity has to pass through the director or the press office. GINR uses a specific contact form where the scientist describes the communication with the press including questions and answers. In general the GINR press office has quite a proactive press policy. Svanhovd also has a unit with two people who deal with communication. These people cooperate with project leaders. Each project leader is responsible for communicating project activities and possible news from each project to the communication unit. At KEVO the station is effective in communicating good stories to the press, when this is appropriate.

In the discussion, we talked about the importance of constantly improving the contact with the public through the press policy as this is where the general public gets information on what the station actually does. We stressed the importance in sending out good stories from activities at the institution to the local press. These stories are an important way of communicating to the public about the activities at the station.

Outreach and interaction with local community through for instance Citizen Science activities
Svanhovd has built up a museum exhibition describing the cultural, physical and biological environment in northern Norway with emphasis on the environment around the station. This exhibition is very important as part of the outreach and marketing activities at the station as it informs about the activities and results of the work at the station.

GINR recently developed a dialogue forum on the web site where the public can ask an expert. This has become quite popular. The dialogue forum includes photos where people can guess what the photo shows, such as spoors, plants, insects, birds, etc. FINI also has a museum exhibition at the Natural History Museum describing the geology and the physical environment of the Faroe Islands. The museum exhibition, if they are done in a proper way, is a good way to communicate scientific information. At GINR, a Citizen Science project has been developed where people are asked to look out for humpback whales and to send in pictures from the observation. In Svanhovd, a Citizen Science project has been developed for bear observation. People are encouraged to look out for bear

droppings, collect them and send them to the station for further analyses. These observations make it possible to follow the movements of specific bears and follow how the bear population develops.

Group 2 - Theme: Training and education

Rapporteur: Syndonia Bret-Harte (Toolik Field Station, Alaska, USA)

Station courses and training programme: includes scientific training/education, practical information to operate station, safety and health training, etc. as well as education of the political level, administrators and the public.

1) **Training and education related to operations at stations**
    Wide variety of trainings offered across stations. Extent varies by remoteness, and environment (polar bears, etc.); also by how dangerous the activity is, and by legal requirements.

    A.) **Operations courses for staff:**
    - First aid.
    - Certifications for water treatment.
    - Food safety.
    - Snowmobile operation.
    - Etc.

    B.) **Safety training for visitors and staff:**
    - First aid (can be offered at station or other location, by the staff or professional);
    - Rifle training and polar bear training
        o at Svalbard – best to be centralized;
        o rifle training in Canada – only authorized people can have access;
        o bear safety and first aid at Toolik (by CPS – CH2M Hill Polar Service);
        o British Antarctic Survey: very sceptical about courses because they can vary so much.

    Nick Cox (NERC Arctic Station): assessment of skills and potential hazards is very important; they spend a lot of time assessing.
    Riku Pavola (Oulanka): they do not run any courses.
    Christer Jonasson (Abisko): no courses for visitors at all, only for staff – first aid.

2) **Courses on science run by the station and courses on science run in collaboration with other entity (university, station)**

    Courses offered by stations include both undergraduate and graduate courses. If the station is owned by a university, that university's courses often have priority (University of Copenhagen), but stations are often open to courses by others (University of Alaska Fairbanks (UAF) offered at course at Toolik for 4 years). Managers can also offer courses and be responsible for supervision of students (University of Bohemia) depending on the skills of the manager. Students can work for station and be educated as well.

Svalbard isn't too proactive about attracting courses, but regular courses are offered at University of Svalbard (UNIS).

Cost is a barrier for remote stations, but Abisko has to turn away student because courses are too popular and they are planning to build a new housing block for young students. In Antarctic, there are positions for artists and writers. Toolik has an artist-in-residence programme too.

In the US, there is a programme for K-12 teachers to integrate research in their teaching, the Polar Secretariat has a programme and US NSF has programmes for up to four teachers at Toolik in the summer.

There is a trade-off between research and field courses for some stations. This can be managed by restricting the period for when courses can be held at the station.

Supervision is needed for courses – enough staff is critical to inform of practicalities, health and safety, alcohol policy, etc. The station also often has to take responsibility for calling about medical issues; e.g. student who fell and broke arm.

Svalbard – bear killed school boy – British Inquiry at Svalbard and in UK identified a chain of errors; only one rifle and a flare gun for a group of 13, it didn't work right (WWII Mauzer; old; hired rifle – half-load position, can't be fired).

Outreach in the form of courses for local schoolchildren and retired people are done at some stations.

Arctic Station (Greenland) is close to the town and the station is used for town events, open days at station to invite in the public, show off station or ship. In Canada, there are permanent exhibits for locals at a newly established station, there is an outreach coordinator to engage Cree and Inuit students and there is a science curriculum and community observations (citizen science programme) also run by Canadian stations. Websites are important educational tools: discover the arctic web site for the public for Svalbard http://www.kingsbay.no/index.php?option=com_content&view=frontpage&Itemid=114 and the "Abisko eye" public website section (in Swedish only) http://www.linnea.com/~ans/abiskoogat/index.html.

Most stations have some education/outreach for public and often link to schools.

Young scientists:
Seed money for Ph.D. students provided by Abisko by competition – little money, big results.
Master's courses with researchers as lecturers.
Undergraduate (REU) scholar program supported at Toolik through grants and seminar series for students and others. In the US, large stations have weekly science seminars; smaller stations have two-day research retreats.
Over-winter seminar at Institute (Cairngorm).
Newsletter for scientists, students, politicians 4 -6 times/year.

3) **Education for politicians, visiting dignitaries;**
    Require a lot of energy, but is very important.

Group 3 - Theme: Knowledge capture and sharing

Rapporteur: Brian Barnes (Toolik Field Station, Alaska, USA)

Knowledge capture and sharing (research - information that can improve research/monitoring, improve knowledge of activities and legitimize the station)

Knowledge captured at stations includes:
- Land use history and present activities.
- Data (in-house and external projects).
- Publications.

Capturing of knowledge will enable better gap analysis and enable researchers to build on existing knowledge and data, thus leading to better research and monitoring. It is also important for legitimizing of the station in relation to the public, institutions, governments, donors, etc.).

Obtaining and providing spatio-temporal information on past and present activities is of importance for the planning of future research and monitoring efforts and can help minimise conflicts between research projects.

In-house data should be stored and, if at all possible, made available for others (e.g. the public, researchers, scientific networks, governments, international organisations, etc.). For external projects, meta-data should be captured and made available to enable relevant stakeholders to contact the data owner. It is considered difficult to capture data of external projects due to often different structures of station and researchers databases. Quality assurance of shared data is necessary. If resources are available, data can also be shown graphically.

Sharing of results/events is also important in legitimizing the station and should be part of the station's outreach activities.

Knowledge capture and sharing (management - information that can improve management of the station)
Capturing of management regulations and procedures is important for transferring knowledge accumulated over time between employees at the station and during changes in staff. It is therefore important to write down regulations, procedures, etc. in one or more logically structured documents.

It is also important to have a system that captures incidents that require new or existing regulations/procedures to be changed. This is especially important in relation to health and safety aspects (e.g. recording and discussing incidents and near misses).

Visitors can also contribute via evaluations of stays, allowing management to learn how the stay is experienced from a guest point of view (e.g. evaluations (in person or on paper, suggestion box). Written (and possibly anonymous) evaluations/suggestions may be better than meeting in person as this may make some people more reluctant to make negative comments.

Plenum discussion

Outreach
When developing your outreach strategy it is important to know what your target group (donors, researchers) wants, so you can target your activities/outputs to the relevant groups.

Be aware of different stakeholders nationally and internationally (international researchers vs. local decision makers/public). Invite decision makers/donors and let them stay for 1-2 days at the station.

Websites, brochures, etc., are fine but most important are personal appearance at conferences, meeting, etc.

Excellent science does not necessarily attract people/funding. Zackenberg did not have the experience to produce good science that could attract funding, so they started up explaining the potential to national funding agencies.

Private fundraisers can be an important funding mechanism and the grants can often be used more freely than government funding.

Teaching and training
Arrange field courses, Ph.D. courses, train the next generation of scientists – but possibilities may be limited for logistical reasons.

Knowledge capture and sharing
Annual reports, papers published with data from the station, books, manuals for most functions at station including logistics and monitoring.

As a minimum, a station should have
- A database for projects undertaken at the station with contact details for the principal investigator.
- A database for the data collected by the station (if data is collected by the stations).

Data available free of charge should be a goal for all stations.

Session 10 – INTERACT phase 2 and suggestions for the future

Presentation: INTERACT phase 2 and suggestions for the future

By Terry Callaghan and Margareta Johansson (INTERACT coordinator and executive secretary)

See the presentation on: http://www.eu-interact.org/station-managers-forum/meetings/station-managers-forum-4/

Suggestions from the INTERACT secretariat.

Question 1: Do you want to continue?
Answer: Yes!

Question 2: Should the network have a station or joint research activities focus?
Answer: Station focus.

Question 3: What geographical domain should we cover?
Answer: Arctic and northern alpine areas.

Question 4: What disciplinary domain should we cover?
Answer: Stay terrestrial.

Question 5: Should we keep Transnational Access and Station Managers Forum? New suggestions?
Answer: Keep TA and try to make this truly circumarctic. Keep SMF and try to make more thematic. New suggestions includes: exchange of field assistants to learn from each other, continue Back To the Future (BTF) project to provide contacts to "elders" and transfer knowledge to the younger generation.

Question 6: Ideas for work packages?
Answer: Build on existing progress (not repeat).

Question 7: Has the secretariat mandate to go forward with the work towards a phase two of INTERACT?
Answer: Yes!

Statement 8: We need a new coordinator. The present coordinator (Terry V. Callaghan) cannot continue, but would like to play a role in a phase two.
Answer: All found this regrettable as the contributions by the coordinator have been invaluable to the project and all agreed that we should ensure a role for him in a possible phase two. The network should consider potential candidates and the role of the present coordinator, and discuss this at upcoming meetings in the network. It is important to transfer knowledge between new and present coordinator.

Suggestion for a joint science publication (Morten Rasch).

Morten suggested to make an INTERACT Science booklet with popular science article as an INTERACT outreach/marketing publication. This was agreed and funding mechanisms should be identified.

Hannele presented the additional idea that INTERACT should invite TA scientists to contribute to a special issue of a scientific journal. This was also agreed and the idea should be refined.

Hannele and Morten continue talks on these ideas together with relevant work packages (1, 3, 4 and 8).

Concluding remarks

By Station Managers' Forum Chair Morten Rasch, Department of Bioscience, Aarhus University, Denmark.

Morten thanked everyone for the contributions to the first report deliverable under the Station Managers' Forum – the INTERACT Station Catalogue. In particular he thanked Kirsten Elger and Thomas Opel from AWI, who were the task leader for this report. The report has been very well received by the EU and people outside our network, and will act as a brilliant marketing tool for showing what the INTERACT network is capable of.

Morten mentioned that it is important that we keep momentum and continue work in upcoming deliverables, but also think about the future and new opportunities. It had been a pleasure for him to be at the meeting and once again experience this pleasant atmosphere, constructive participation and commitment to continue the joint efforts to create a successful network of research stations.

Next meeting will be held in connection with the INTERACT annual meeting 4-8 March 2013 at Greenland Institute of Natural Resources, Nuuk, Greenland.

Appendix 1. Agenda – INTERACT Station Managers' Forum 4.

Agenda
INTERACT Station Managers' Forum 4
Luční Bouda, Krkonoše Mountains National Park, Czech Republic
25-28 September 2012

Day 1 (Tuesday, 25 September 2012)

14.00 Departure Prague Airport, Terminal 2 (rented bus to Luční Bouda, Krkonoše Mountains National Park)

15:00 Departure Metro Station Cerny Most (rented bus to Luční Bouda, Krkonoše Mountains National Park)

18.00 Arrival at Luční Bouda, Krkonoše Mountains National Park (micro-bus to the venue site)

18.00-19.00 Check in at Luční Bouda, Krkonoše Mountains National Park

19.00 Dinner

20.00 Start of Station Managers' Forum meting 4

Session 1
20.00 Opening and Introduction
   a) *Welcome and introduction of agenda and practicalities* (Mr Hrebácka (KRNAP), Mr Raj (KPN), Jaroslav Andrle (KRNAP), Milena Kociánová (KRNAP), Roksana Knapik (KPN) and Elmer Topp-Jørgensen) (15 min)
   b) *Introduction of participants* (15 min)
20.30 Welcome and presentation of Krkonoše Mountains National Park (Roksana Knapik (KPN) and Jaroslav Andrle (KRNAP), 15 min)
20.45 News from the INTERACT secretariat (Terry Callaghan/Margareta Johansson) (30 min)
21.15 INTERACT Station Catalogue – Web edition (Kirsten Elger, AWI) (15 min)

21.30 End of Day 1

Appendix 1. Agenda – INTERACT Station Managers' Forum 4.

Day 2 (Wednesday, 26 September 2012)

07.00 Breakfast

08.15 Opening statement by Station Managers' Forum Chair (*Morten Rasch*) (15 min)

Session 2

08.30 Breather - Station Presentation, including theme example *(FINSE, Thorbjørn Ergon)* (20 min)
08.50 WP2 – Station Management – Theme: Plans and checklists (Plenum)
   a) *Introduction to theme* (10 min)
   b) *Discussion of key issues for plans and check lists* (50 min)
   c) *What needs to be done to finish the theme* (10 min)

10.00 - 10.30 Coffee

Session 3

10.30 Breather - Station Presentation, including theme example *(KEVO, Otso Suominen)* (20 min)
10.50 WP2 – Station Management – Themes: a) Policies and b) Environment and efficiencies
   a) *Introduction to theme* (5 min)
   b) *Break out groups* (30 min)
   c) *Reporting from break out groups and discussion* (30 min)
   d) *What needs to be done to finish the themes* (5 min)

12.00 – 13.30 Lunch

Session 4

13.30 Breather - Station Presentation, including theme example (20 min)
13.50 WP2 – Station Management – Themes: a) Staff, b) Visitors, and c) Permit issues
   a) *Introduction to theme* (5 min)
   b) *Break out groups* (45 min)
   c) *Reporting from break out groups and discussion* (30 min)
   d) *What needs to be done to finish the themes* (5 min)

15.15 - 15.45 Coffee

Session 5

15.45 – 17.15 WP7 - Communication standards for Network Interaction across Stations (Tomas Thierfelder, SLU) (90 min)

18.30 Dinner

20.00 - 21.30 WP2 and 8 – Stakeholder involvement in UNESCO Man and Biosphere Reserves: The case of the Krkonoše/Karkonosze Mountains (Lis Mortensen) (90 min)
   a) *Petr Ceé (Director at major ski resort)*
   b) *Kamila Hlinková (Community organisation)*
   c) *Jiří Flousek (/National Park administration/UNESCO Man and Biosphere Reserve)*

21.30 End of Day 2

Appendix 1. Agenda – INTERACT Station Managers' Forum 4.

Day 3 (Thursday, 27 September 2012)

07.00 Breakfast

Session 6
08.15 WP4 Transnational Access – update and lessons learned (*Kirsi Latola and Hannele Savela*) (15 min)

Session 7
08.30 Breather - Station Presentation, *including theme example (Tarfala, Ninis Rosqvist)* (20 min)
08.50 WP2 – Station Management – Theme: Health and safety (Plenum)
   a) *Introduction to theme* (5 min)
   b) *Discussion of key issues for health and safety* (70 min)
   c) *What needs to be done to finish the theme* (10 min)

10.15 – 10.30 Coffee

Session 8
10.30 Breather - Station Presentation, *including theme example (Abisko, Christer Jonasson,* 10 min*) / Toolik, Syndonia Bret-Harte and Brian Barnes,* 10 min*)*
10.50 WP2 – Station Management – Theme: Research and monitoring (Plenum)
   a) *Introduction to theme* (5 min)
   b) *Discussion of key issues for science and monitoring* (60 min)
   c) *What needs to be done to finish the theme* (5 min)

12.00 - 12.30 Lunch
12.30 - 15.00 Excursion

Session 9
15.00 Breather - Station Presentation, *including theme example (Zackenberg, M. Rasch,* 20 min*)*
15.20 WP2 – Station Management – Themes: a) Marketing and outreach, b) Education and training, and c) Knowledge capture and sharing
   a) *Introduction to theme* (5 min)
   b) *Break out groups* (45 min)
   c) *Reporting from break out groups and discussion* (3 x 15 min)
   d) *What needs to be done to finish the themes* (5 min)

Session 10
17.00 INTERACT Phase 2 and suggestions from the Coordinator (Terry V. Callaghan) (45 min)
17.45 An INTERACT Science booklet–suggestion for outreach and marketing (M. Rasch) (10 min)
17.55 – 18.00 Closing of SMF4, tasks ahead and next SMF meeting (5 min)

18.30 INTERACT Station Catalogue Banquet Dinner

Session 11
20.00 INTERACT Station Catalogue Celebration

End of Day 3

Appendix 1. Agenda – INTERACT Station Managers' Forum 4.

Day 4 (Friday, 28 September 2012)

07.00 Breakfast

Departure 08.30 (rented bus to Prague Airport/Prague)

Arrival Prague Airport ca. 11.30

Appendix 2. Participant List – INTERACT Station Managers' Forum 4.

Participant List
INTERACT Station Managers' Forum meeting 4
Krkonoše Mountains National Park, Czech Republic
25-28 September 2012

Name	Station/organisation	Phone	e-mail
Alex Bernadova	Petubiabukta Station	+420604475490	sumenka@gmail.com
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Appendix 2. Participant List – INTERACT Station Managers' Forum 4.

Continued… Name	Station/organisation	Phone	e-mail
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Outline regarding WP7 activities at INTERACT Station Managers Forum IV

Session title: Communication standards for Network Interaction across Stations

Part 1; plenary discussions 13:30 – 14:00:

Changing focus from Station-scale to Interaction across stations

1. *Sharing Information across INTERACT Stations*
    a. Exactly what is the benefit of sharing information?
        i. At the global INTERACT network scale?
        ii. At the regional scale?
        iii. At the stations scale?
    b. What information should be shared?
        i. Metadata on past and on-going research and monitoring activities
        ii. Metadata on permanently installed monitoring equipment
        iii. Primary data – very complicated?
        iv. Others?
2. *If Information is to be Shared, it must first be Harvested*
    a. By digitising and storing archived information
    b. By continuously harvesting and storing metadata regarding on-going activities
        i. E.g. by means of a compulsory electronic visitors application form
3. *Sharing Information means Sharing a Core of Communicative Standards across Stations*
    a. Station administration
        i. Electronic visitors application form
            1. Main instrument for harvesting activity data
            2. Possibility of routines for hostel reservations
            3. Possibility of routines for hostel billing
    b. Data management
        i. Database record of past and present research and monitoring activities
            1. Breathed alive via the electronic visitors application form
        ii. Content of visitors application forms
            1. What, when, and where – requires a GIS
            2. What; in accordance with standardised metadata nomenclature across INTERACT stations.
            3. Where; in accordance with official (multilingual) place-name registers and standardised geodetic datum's.
            4. When; !
        iii. Storage of database record
            1. Database structure and format
            2. Metadata query keys
                a. INSPIRE - OGC
4. *Dissemination of Station-data across the INTERACT – Centralised Database Services*
    a. Letting everybody see what everybody else is doing
        i. Sharing resources
        ii. Finding venues
        iii. Avoiding redundancy and latency (overlapping and lacking actions)
        iv. Collaborative synergies
        v. Others?

Please turn the page

b. Links with external services (such as Arctic SDI)
   i. Providing environmental information to official services across the Arctic
      1. INSPIRE - OGC
   ii. Utilisation of map services that are consistent across the Arctic
      1. INSPIRE - OGC
   iii. Etc.

Part 2; group-wise assessment 14:00 – 14:30:

Assessment of the possibilities for individual stations to adapt a core of shared communicative standards

We'll constitute discussion-groups that contain approximately 5 participants for group-wise assessment of the issues listed above.

- Please read the discussion list "circulatory", where you return to issue 1 after having arrived at issue 4, and systematically consider one issue after the other.
- As representatives of the INTERACT research and monitoring stations, please present your view on the listed issues to your group-fellows.
  - What is your opinion?
  - Which administrative routines do you already possess?
  - Are they analogue or digital?
  - What benefits do you see?
  - And what drawbacks?
  - Are there any additional administrative routines that you would like to streamline across the INTERACT?
  - Other comments?
- Please establish a protocol for group-wise presentation (part 3 of session) and as a written report to be delivered to the session moderator (INTERACT partner SLU).

Part 3; group-wise presentations and brief summary discussions 14:30 – 15:00

Analysis of the possibilities for individual stations to adapt a core of shared communicative standards

- Presentations of group-wise assessment
  - 5 minutes per group
- Conclusions and summary discussion
- Session closure

Please deliver assessment protocols to session moderator closely after session closure!

Thanks' for your collaboration

Tomas Thierfelder
Swedish University of Agricultural Sciences SLU