

ExpeER
Distributed Infrastructure for EXPERimentation
in Ecosystem Research

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SEVENTH FRAMEWORK PROGRAMME

Capacities

Integrating activities: Networks of Research Infrastructures (RIs)

Theme: Environment and Earth Sciences

DELIVERABLE D 2.2

Deliverable title: Report on the outcomes of the two training sessions for disseminating ExpeER protocols

Abstract: The adoption of a set of core parameters and standardised measurement protocols for ecosystem research is a prerequisite for harmonized measurements in every discipline. Here we describe how the standardized protocols that were developed by WP2 earlier in this project were trained to external (non-ExpeER) participants in two training weeks in Rome and Amsterdam in respectively May and August 2013. Further we evaluate these training weeks and give recommendations for further actions.

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Contributors: Giorgio Matteucci, Leslie Firbank, Eva Krab

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PU Public (must be available on the website)	x
PP Restricted to other programme participants (including the Commission Services)	
RE Restricted to a group specified by the consortium (including the Commission Services) (precise to whom it should be addressed)	
CO Confidential, only for members of the consortium (including the Commission Services)	

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1. Background

The compilation and comparison of research findings across European ecosystem research facilities is often hampered by non-harmonised and non-standard measurement protocols that limit comparability of datasets. The primary goal of WP2 is to harmonize measurement and sampling methods for a core set of environmental and ecosystem variables across the focal network of participating research sites, so as to allow findings to be compared and generalised.

The task of WP2 is to develop standardised protocols to measure a set of key parameters that could serve as a pilot for establishing a set of consistent protocols across Europe. To spread the application of these protocols across Europe, the protocols need to be trained to people working at ecosystem observatories, LTER sites and experimental facilities. To be able to do this, three training weeks were organised; one training week for ExpeER participants (“TEsting and REfining SAMpling Protocols for Ecosystem Research; TERESA-PER) and two training weeks for Non-ExpeER participants (SAmpling Protocols for Ecosystem Research; SAPER) The following protocols were trained in these weeks:

1. Land Use Type (landscape analysis)
2. Leaf Area Index (grassland/forest)
3. Plant biomass (grassland/forest)
4. Soil macrofauna and soil decomposition processes (QBS technique, bait lamina, litterbags)
5. Soil gas exchange (different techniques)
6. Soil organic matter sampling (and analysis)

Furthermore additional issues were covered:

7. Plant phenology
8. The importance of metadata, and metadata entry

Trainers from all over Europe, from ExpeER partners and from other institutions, that were involved in writing the protocols trained these protocols in the three training weeks.

The TERESA-PER training session was organised near Rome, for ExpeER internal people in August 2012 by Giorgio Matteucci at CNR Research Area Roma-1, Montelibretti, RM (Central Italy), with field visits at forest observation and experimental sites. This training was organised to improve the protocols and get an idea about how to fill in the training weeks for non-ExpeER participants.

In May 2013 the first SAPER training week for non-ExpeER participants was also organised at CNR Area Rome-1 by Giorgio Matteucci. In August 2013 the second ExpeER SAPER training week was organised in Amsterdam at the VU University by Eva Krab.

2. The purpose of this document

This document gives an overview of the two ExpeER SAPER (Sampling Protocols for Ecosystems Research) training courses that were organised by WP2 in Rome and Amsterdam in May and August 2013. Included in this document are: the training programmes, participant lists, a description of which protocols were trained in what way and the evaluation of the courses (both an internal evaluation and an external evaluation by the participants) and of the trained protocols. Further recommendations are made for future actions.

3. Training course organisation

1. Objectives

The training courses were intended to develop and disseminate protocols for ecosystem measurements in the field, to help develop improved integration in data collection and use. The courses were aimed at people working at ecosystem observatories, LTER sites and experimental facilities. The courses were organised and funded through the ExpeER project, and aimed at non-ExpeER participants. During the training weeks the participants learned about how to undertake a range of field-scale ecological measurements in forests, grasslands and related laboratory work, and how to ensure that the data will be of value to the wider ecological community. The training week in Rome, was more focused on forests, whereas the training week in Amsterdam focused more on grasslands.

As the course was aimed at participants that are familiar with ecosystem measurements, one of the additional objectives for WP2 was to improve the quality and the clarity of the protocols after each of the training weeks with input of the participants. Also, organisation of the training weeks would help to improve to spread the ExpeER name and the knowledge of its possibilities for participants to use its infrastructure.

2. Programs

PROGRAM ROME COURSE 20-24 MAY 2013, CNR MONTELIBRETTI

Monday May 20

Arrival in Rome Airport in the morning, train to research area

15:00	Start of training course Welcome; course objectives and logistics (G. Matteucci, CNR) Land use types (L. Firbank, Univ. of Leeds) The key to immortality of experiment and data: the importance of metadating (D. Blankman, ILTER) Introduction to soil fauna sampling (Berlese traps, etc.) (R. Brait, AIES, Israel)
19:00	Close of first day
20:00	Dinner

Tuesday May 21

9:00 – 13:00	(coffee break included) Short follow up on metadating (D. Blankman, ILTER) Plant biomass (G. Matteucci, CNR; M. Kertesz, HAS)
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13:00 – 14:30 **Practical session on plant biomass (forest-tree, grasslands)**
Lunch break
14:30 – 19:00 (coffee break included)
Leaf Area Index (G. Matteucci, CNR; M. Kertesz, HAS)
Practical session on Leaf Area Index (forest-tree, grasslands)
Brief practical part on soil sampling and Berlese traps set-up
20:00 Dinner

Wednesday May 22

9:00 – 13:00 (coffee break included)
Soil macrofauna: the QBS technique, including identification of soil fauna (C. Menta, S. Pinto, Univ. of Parma)
13:00 – 14:30 Lunch break
14:30 – 19:00 (coffee break included)
Soil processes
Soil macrofauna: calculation of indexes (QBS, EMI) (S. Pinto Univ. of Parma)
Bait lamina and litterbags (S. Pinto, C. Menta, Univ. of Parma)
Soil organic matter (short demonstration, field sampling – G. Matteucci, CNR)
Plant phenology (discussion, focusing more on grassland) (M. Kertesz, HAS)
20:00 Dinner

Thursday May 23

9:00 – 13:00 (coffee break included)
Soil gaseous emission (C. Bertora, Univ. of Turin, G. Delle Vedove, Univ. of Udine)
13:00 – 14:30 Lunch break
14:30 – 19:00 (coffee break included)
Soil gaseous emission (C. Bertora, Univ. of Turin, G. Delle Vedove, Univ. of Udine)
20:00 Dinner

Friday May 24

8:30 – 13:00 Visit to the ExpeER Transnational Access site Rome Castelporziano
Eddy covariance tower (fluxes of CO₂, CH₄, O₃, H₂O)
Notes on Evapotranspiration and Soil Moisture
Land use types 4
Practical session on Leaf Area Index with indirect methods
12:30 - 14:00 Lunch break and closing of the training week
14:00 **END OF COURSE. Transfer to Rome Fiumicino Airport (30 min. from the experimental site) or back to the Research Area**

PROGRAM AMSTERDAM COURSE 26-30 AUGUST 2013, VU UNIVERSITY AMSTERDAM.

Monday August 26

Arrival in Amsterdam Airport in the morning, train to VU University/Hotel.

14.30	Registration and Coffee/Tea
15:00	Start of training course
	Welcome; course objectives and logistics (E. Krab)
15:15 – 15.45	Introduction to ExpeER (L. Firbank)
15.45 – 16.30	Land use types (L. Firbank)
16:30 – 17.30	Plant Biomass and Leaf area index (forests) (G. Matteucci, CNR)
17.30 – 19.00	Visit to nearby city forest: Practical session Plant Biomass/Leaf area index
20:00	Dinner at <i>Tapas Castro</i>

Tuesday August 27 *(Excursion to dune area - afternoon)*

9:00 – 11.30	The key to immortality of experiment and data: the importance of metadating (D. Blankman)
11.30 – 12.30	Plant biomass and Leaf Area Index (grasslands) (M. Kertész)
12.30 – 13.30	Lunch at <i>De Tegenstelling</i>
13.45	<i>Departure to fieldsite</i>
14:30 – 16:15	Practical session Plant Biomass (grassland, field)
16.15	<i>Departure to VU</i>
17:00 – 19:00	Practical session plant biomass / Leaf Area Index (lab)
19.30	Dinner (<i>BBQ at campus</i>)

Wednesday August 28 *(Excursion to grassland area Zaandam)*

9:00 – 11:00	Soil macrofauna: the QBS technique (S. Pinto/F. Gatti)
	Soil Processes (bait lamina and litterbags) (S. Pinto/F. Gatti)
11:15	<i>Departure to fieldsite</i>
11:45 – 13:00	Practical session Soil macrofauna/ Bait lamina/ Litterbags (field)
13:00 – 14:00	Lunch in the field
14:00	<i>Departure to VU</i>
14:45 – 16.00	Introduction to soil invertebrate taxa (microarthropods) (S. Pinto/F. Gatti)
16:00 – 19:00	Practical session Soil macrofauna/ Soil processes (lab) (S. Pinto/F. Gatti/ E. Krab)
20:00	Dinner at <i>De Stadskantine</i>

Thursday August 29

9:00 – 11:00	Introduction to soil gaseous emission (S. Pelissetti)
11:15 – 13:00	Practical session Soil gas emissions (field, <i>Hortus botanicus</i>)
13:00 – 14.00	Lunch at <i>the Tegenstelling</i>
14.00 – 15:00	Introduction to handling flux data (S. Pelissetti)
15:00 – 19:00	Practical session soil gas emissions (lab)

20:00 Dinner at *De Stadskantine*

Friday August 30 (*Excursion OTC experiment Bergen aan Zee*)

9:00 *Departure to fieldsite*

10:00 – 12:00 Open top chamber experiment Bergen aan Zee (B. Buizer)

12:00 *Departure to VU*

13:00 – 14:00 Lunch and closure of training course

14:00 *End of training course*

3. Trainers

Name	Institution	Country of Inst.	Rome	Amsterdam
Bert Buizer	VU Univ. Amsterdam	The Netherlands		X
Chiara Bertora	Univ. of Turin	Italy	X	
Cristina Menta	Univ. of Parma	Italy	X	
David Blankman	BGU	Israel	X	X
Eva Krab	VU Univ. Amsterdam	The Netherlands	X	X
Fabio Gatti	Univ. of Parma	Italy		X
Gemini Delle Vedove	Univ. Udine	Italy	X	
Giorgio Matteucci	CNR	Italy	X	X
Leslie Firbank	Leeds Univ.	United Kingdom	X	X
Miklós Kertész	MTA	Hungary	X	X
Raphael Breit	AIES	Israel	X	
Simone Pelissetti	Univ. of Turin	Italy	X	X
Stefania Pinto	Univ. of Parma	Italy	X	X

4. Participants

20-24 May, Montelibretti, CNR, Rome Italy

Name	Institution	Country of Institution (Nationality if different)
Algirdas Augustaitis	Aleksandras Stulginskis University	Lithuania
Daniela Quarato	Univ. della Tuscia - CRA	Italy

Enrica Nestola	Univ. della Tuscia - CNR	Italy
Erica Cacciotti	Univ. della Tuscia	Italy
Eva Krab	VU Univ. Amsterdam	The Netherlands
Flavia Savi	Univ. della Tuscia - CRA	Italy
Gergana Georgieva	IBER Academy of Sciences	Bulgaria
Raffaella Esposito	CNR-IBAF	Italy
Raphael Breit	AIES	Israel (USA)
Riccardo Ludovisi	Univ. della Tuscia	Italy
Sam Bowers	Univ. of Edinburgh	United Kingdom
Stefania Pinto	Univ. of Parma	Italy
Viktor Olah	Univ. of Debrecen	Hungary
Vittoria Coletta	CNR-ISAFOM	Italy

26-30 August, Amsterdam, VU University, The Netherlands

Name	Institution	Country of Institution (Nationality if different)
Anselma Lovens	Wageningen UR	The Netherlands (Italian)
Astra Ooms	VU Univ. Amsterdam	The Netherlands
Cong Wenfeng	Wageningen UR	The Netherlands (Chinese)
Cristian Georghe Sidor	FRMI	Romania
Eoghan Peter Cross	Aberystwyth Univ.	United Kingdom (Irish)
Giacomo Marchiori	Iuav University of Venice	Italy
Hanna Tamrat Gebirehiwot	Wageningen UR	The Netherlands (Ethiopian)
Juan Zuo	VU Univ. Amsterdam	The Netherlands (Chinese)
Maarten Op de Beek	Universiteit Antwerpen	Belgium
Mohamed Ageba	VU Univ. Amsterdam	The Netherlands (Egyptian)
Richard Hill	Aberystwyth Univ.	United Kingdom (British)
Richard van Logtestijn	VU Univ. Amsterdam	The Netherlands
Sabrina Carvalho	NIOO - KNAW	The Netherlands (Portuguese)
Weiwei Zhao	VU Univ. Amsterdam	The Netherlands (Chinese)

Participants in the courses were mainly PhD students, but also included a number of post-docs, technicians and field-assistants working at European Universities and diverse research institutes such

as the Romanian FRMI (Forest Research and Management Institute) and NIOO (Netherlands Institute of Ecology). In the two training courses, participants of 13 different nationalities, working in 17 different institutions in 8 European countries were trained.

4. Trained protocols

1. Selected parameters

Parameter	Responsibility for protocol	Trainers	Trained in Rome	Trained in Amsterdam
Land use types	Leslie Firbank	Leslie Firbank	YES	YES
Leaf area index (forest)	Giorgio Matteucci	Giorgio Matteucci	YES	YES
Leaf area index (grasslands)	Miklós Kertész	Miklós Kertész	YES	YES
Plant biomass (forests)	Giorgio Matteucci	Giorgio Matteucci	YES	YES
Plant biomass (grasslands)	Miklós Kertész	Miklós Kertész	YES	YES
Soil macrofauna QBSar	Elli Groner Cristina Menta Amelié Joseph	Cristina Menta Stefania Pinto Fabio Gatti	YES (C. Menta)	YES (S. Pinto, F. Gatti)
Soil macrofauna bait lamina	Jutta Stadler Mark Frenzel	Stefania Pinto Fabio Gatti	YES (S.Pinto)	YES
Soil macrofauna litterbags	Jutta Stadler Mark Frenzel	Stefania Pinto Fabio Gatti	YES (S.Pinto)	YES
Soil macrofauna extraction	No protocol	Raphael Breit Eva Krab	YES (R. Breit)	YES (E. Krab)
Gas fluxes soil CO ₂ respiration	Gemini delle Vedove Laura Zavattaro Giorgio Matteucci	Gemini delle Vedove Chiara Bertora Simone Pelissetti	YES	YES (S. Pelissetti)
Gas fluxes Eddy covariance	No protocol	Giorgio Matteucci Silvano Fares	YES (presented)	NO
Phenology	No protocol	Miklós Kertész	YES (discussed)	NO
Soil organic matter	Carsten Mueller	Giorgio Matteucci	YES	NO

Metadata	David Blankman	David Blankman	YES	YES
Open top chambers	No protocol	Bert Buizer	NO	YES

2. Training mode and field locations

	<i>Mode of training</i>	
	Rome course	Amsterdam
Land use types	Lecture	Lecture
Leaf area index (forest)	Lecture/demonstration/excursion	Lecture/demonstration
Leaf area index (grasslands)	Lecture/demonstration	Lecture/excursion/demonstration/practical
Plant biomass (forests)	Lecture/demonstration/practical	Lecture
Plant biomass (grasslands)	Lecture/demonstration	Lecture/excursion/demonstration/practical
Soil macrofauna QBSar	Lecture/demonstration/practical	Lecture/excursion/demonstration/practical
Soil macrofauna bait lamina	Lecture	Lecture/excursion/demonstration
Soil macrofauna litterbags	Lecture	Lecture/excursion/demonstration
Soil macrofauna extraction	Lecture/demonstration	Demonstration
Gas fluxes soil CO ₂ respiration	Lecture/demonstration/practical	Lecture/demonstration/practical
Gas fluxes EDDY covariance	Excursion/demonstration	-
Phenology	Lecture	-
Soil organic matter	Lecture/demonstration	-
Metadata	Lecture/demonstration	Lecture/ practical
Open top chambers	-	Excursion/ demonstration

The Rome training course was organised with four days at the CNR research area Rome 1, mostly with class-room presentations on protocols but also some practical sessions (tree biomass, grassland area index and biomass, soil macrofauna, soil respiration) that were carried out on the CNR research area 1 terrain. One day was reserved for an excursion to the Transnational Access site Rome Castelporziano, where an EDDY tower was visited and demonstrated. After the Rome course, the course content was evaluated and the decision was made to keep the program of the Amsterdam course similar to the course in Rome, shifting a bit the focus from forests to grasslands.

However, since the VU University does not have its own outdoor terrain with field sites, this course comprised more excursions for the practical work. As the focus of this training week was at grasslands, a dune area near Zandvoort, a wet peat-grassland near Zaandam and a dune area near Bergen aan Zee were visited. Also the focus was more on the practical part of training the protocols. As a consequence less protocols were treated in the Amsterdam course but more time was reserved for hands-on practical sessions. For example, the protocols for biomass and leaf area index (grasslands), soil macrofauna and soil respiration were practiced extensively in the field as well as in the lab.

5. Course and protocol feedback

1. Course feedback

Rome training course: Participants course evaluation. A course evaluation form was prepared and distributed to all the participants, to judge the Venue (Categories: Getting to the training course; Travel once at the course, housing and food; Laboratory working areas; Field working areas; Equipment and facilities) and the Course Organisation (Categories: Contacts before the course; Course handouts and materials; Overall timetable; Help and support during the course). Furthermore, a feedback on protocols was also asked. Concerning course evaluation, the eight participants that sent back the evaluation forms judged 4-75/5.00 the Venue and 4.84/5.00 the Course organisation. Eva Krab, who participated both as trainee and as an observer for preparing the Amsterdam course was asked to provide an Internal/participant expert evaluation: "Transport from the airport to the CNR research area was easy and accommodation, lunches and dinners were very well organised. The many trainers involved showed a great deal of enthusiasm. However sometimes the level and (the amount of detail) of the lectures did not correspond to the level of knowledge/experience of the participants. Many of the participants were first year PhD students that wanted to get some idea about what can be measured in an ecosystem experiment and how to do it, whilst the level of the lectures was in some cases more aimed at people who have some experience in measuring the variables measured by the protocol. Now, often lectures resulted in discussions between the trainers rather than between participants and trainers". Feedbacks on protocols is available from 9 participants, although not all of them evaluated all the protocols.

Amsterdam training course: Participants course evaluation: After the course we send out an email to the participants with the question to fill in a course evaluation form. Unfortunately only 6 participants filled in these forms. However, the evaluation showed that the participants were mostly very positive about the course. The venue scored an average 4.8; the course organisation scored overall 4.7, whereas the quality of the lecturers got a 4.6 mark (all out of 5 on a scale from poor quality to excellent). Specific comments showed that especially the field excursions were appreciated. Further there was one participant that mentioned that the English of some of the lecturers was hard to follow, and the metadata practical session could have been better (There was a

problem with accessing the right online forms). Also one participant mentioned that the program was very full with days from 9.00 -19.00 and an included dinner. However, overall the comments were very positive with one participant even stating:

« This is the best course I have ever attended and the one with the most useable tools for measure certain ecosystem properties. The information is extremely interesting and stimulated great discussions. The materials are well organized and presented well. I especially liked the fieldwork, the way the strategies were used to reinforce our learning of the concepts and our ability to retain and actually apply what we learned. »

Although there was some space for improvement, for example a few people dropped out of the course halfway and some logistic details (lectures that exceeded time etc.) It is safe to say that at least to the participants that did participate the whole week this was a very successful training.

2. Protocol feedback

The participants in the courses were provided with a protocol-evaluation form for each of the trained protocols. Below are listed the main remarks/comments for each of the evaluated protocols. Some of the impressions and evaluations are provided below. Detailed feedback from the respondents has been used to refine the protocols and the booklet.

Land use type

- *« The protocol seemed fairly easy to follow, but I would have liked more detail and instruction on how the EUNIS habitat classification works. »*
- *« Can be useful to have a set of maps as examples, both good and bad »*

Metadating

- *« The trainer explained the importance of metadating in ecosystem research and what kinds of data are required. The lab session helped, once the system was working correctly, describe what kinds of data are required to be collected in your research, which perhaps wasn't as clear from the initial presentation »*
- *« Good idea to put a tutorial video for details, maybe it is usefu also for other protocols... ! »*

Aboveground biomass (grasslands)

- *“The current protocol focuses on direct measurement of leaf area index. Some further info related to indirect method is recommended to provide in the new version. »*
- *« The protocol seemed fairly straightforward and easy to follow. »*

Leaf area index (grasslands)

- « *The lectures were understandable and the practical sessions were good to get a hands on experience and using equipment such as the image scanner for calculating LAI. »*

Soil gas emissions

- « *This protocol lacks of the calibration of CO₂. For example, some equations should be given and then people will be informed how to do the following calculation after getting the raw data in field. »*
- « *The procedures were largely similar to what I have experienced before and the protocol is appropriate for gas flux measurements. The lab calculations of CO₂ fluxes were slightly different, and perhaps a bit more time was needed in explaining the equations and theory better »*

Soil macrofauna diversity

- « *The protocol needs further information. For example, add the typical pictures for major soil microarthropod. Then people could easily recognize which group the soil fauna belong to. Moreover, major characteristics of soil microarthropod should be highlighted and then people could easily judge based upon that. »*
- « *There was a lot of information to take on board with identifying the different soil fauna, »*

3. Recommendations

After the Rome training course, the training week schedule was somewhat adapted. The start day included a short field trip (so that participants that travelled that day were not too tired to follow the lectures) and the metadata protocol was moved towards the morning. In a future course David Blankman suggested to move the metadata session to the end of the training week, so that people have an idea about what kind of data would be suitable for the metadata (DEIMS) website.

The inclusion of more fieldwork/practical session into the program was a success according to the participants' course evaluations. However, the inclusion of trips takes time from the program and takes a significant part of the funding. In the Rome training week both accommodation and food was included, In Amsterdam people had to find their own accommodation (although a reservation at a nearby hotel was made, and people could reserve a room there). This could not be avoided in Amsterdam since there was no campus accommodation. For a future course these issues should be considered.

For both the Rome as the Amsterdam training course there were some problems regarding the application of participants. There were fewer applications than expected, hence we accepted all the applicants and could therefore not select for other suitable candidates (site managers/technicians etc). One of the reasons could be the lack of efficient advertisement. The outreach WP has put the advertisement on the ExpeER website, the Facebook page and the internal news bulletin. However it

seems that this is not sufficient to reach non-ExpeER trainees. A later-stage e-mail campaign by the organisers seemed to be more successful in attracting participants for the training week. On the application form for the Amsterdam course we therefore asked about how the existence of the training week was communicated to the people applying. Most of the people applying heard about the course via colleagues indicating they did not visit the ExpeER website and that the e-mails sent around by the organisers did not reach them directly. The way in which these courses/workshops are advertised should therefore be reconsidered.

Another matter during the Amsterdam course was that four participants that applied for the training week dropped out just the week before the course. Fortunately PhD students from VU Amsterdam could quickly fill these places. Another two participants did not even cancel their application, but just did not show up. As this is a free training course we could not apply any consequences to this. In a next training course, perhaps a small application fee will stimulate people to actually come to the course (or think a bit more before applying) and can be used to cover for the expenses that are made in preparation of the course. In the Amsterdam case for example, public transport cards had already been bought for all the participants.

To some participants however the fact that some of the protocols were still 'work in progress' at time of the course was confusing. Perhaps the protocols should have been finalized before the training courses for non-ExpeER participants, or the fact that the participants' input is required to optimize the protocols should be emphasized at the start of the training week.

These points should be taken into account for a future training-campaign. However, the excellent evaluations we received for the training weeks shows that they were a success and most likely will be a success in future editions.

6. Next steps

After the training weeks, protocols will be updated according to the experience of the trainers and the protocol feedback forms of the participants. An extra enquiry will be sent around by e-mail to the participants of all the training weeks (including the first training week aimed at ExpeER participants) about the applicability of the protocols. Based on these evaluations, the protocols will be finalized and published on the ExpeER website and spread among the site managers of ExpeER sites.

In addition, the possibilities of organising a third training week aimed at non-ExpeER participants are currently explored. This third training week could potentially be organised in eastern Europe and should be funded through the ExpeER TNA budget.

7. Annex

Deliverable Check list

To be completed by Deliverable leader

	Check list	✓	Comments
BEFORE	I have checked the due date and have planned completion in due time		Please inform project management team of any foreseen delays
	The title corresponds to the title in the DoW (Description of Work)	X	If not please inform project management team with justification
	The contents corresponds to the description in the DoW (Description of Work)	X	
	The dissemination level corresponds to that indicated in the DoW (Description of Work)	X	
	The contributors (authors) correspond to those indicated in the DoW (Description of Work)		
	The Table of Contents (ToC) has been validated with the WP Leader	X	Please validate the ToC with the WP leader before drafting the deliverable
	I am using the ExpeER deliverable template (title page, styles etc)	X	Can be found in the intranet
AFTER	The deliverable has been reviewed internally in my organization		Please ask colleagues to review the deliverable for its scientific content
	The deliverable has been reviewed by all contributors (authors)	X	Make sure all contributors have reviewed and approved the final version of the deliverable. You should leave sufficient time for this validation.
	I have done a spell check and had the English verified	X	Ask a colleague with a good level of English to review the language of the text and do a spell-check too.
	I have sent the final version to the WP Leader for approval	X	Please send the final validated draft to the Coordinator (project management team) & ExC for validation before the submission to the EC.