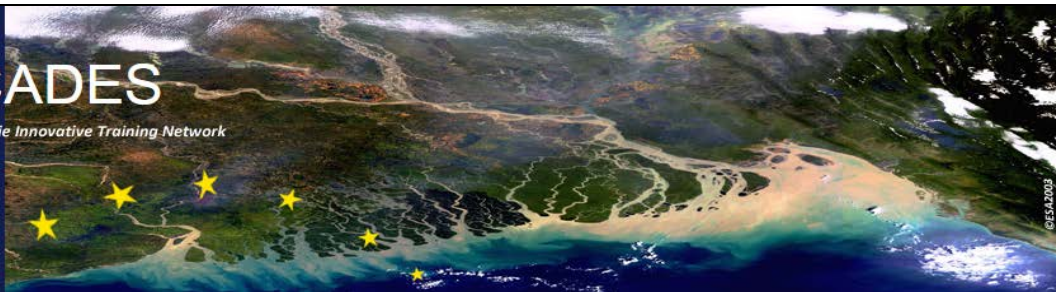



## Training Event Brief Description

<b>Title:</b> Process understanding: from local measurements to catchment integration	
<b>Date(s):</b> 2016/03/01 to 2016/03/02	<b>Location:</b> Uppsala, Sweden
<b>Lead institution:</b> Uppsala University (UU)	<b>Type:</b> Mini Conference
<b>Contact name:</b> Leo Rodrigues <b>Local Contact:</b> Gesa Weyhenmeyer	<b>Contact email:</b> <a href="mailto:J.Leandro-Rodrigues@exeter.ac.uk">J.Leandro-Rodrigues@exeter.ac.uk</a> <b>Local contact email:</b> <a href="mailto:Gesa.Weyhenmeyer@ebc.uu.se">Gesa.Weyhenmeyer@ebc.uu.se</a>
<p><b>Description:</b> The mini conference covers the scientific work of work package 1 of the C-CASCADES project with focus on process understanding of the carbon cycling during transport from land to the ocean. Talks, discussions and exercises span from carbon cycling in headwaters and streams to the carbon cycling in lakes, rivers, and river mouths. Conceptual models of the aquatic carbon cycling will be developed, temporal changes in the carbon cycling in inland waters will be tracked with inland water inventory data, and research results of the participants will be presented and synthesized. A field excursion will bring insights into carbon measuring techniques. Invited speakers will guarantee presentations of up-to-date research results on the carbon cycling so that the participants get an overview over present knowns and unknowns in the carbon cycling.</p>	
<p><b>Outcome for all participants:</b> The participants are expected to acquire the following skills during the mini conference (including pre- and post-preparations):</p> <ol style="list-style-type: none"> <li>1. To understand processes that influence the cycling of carbon in running waters and lakes</li> <li>2. To develop conceptual models on carbon cycling during transport from land to sea</li> <li>3. To analyse changes over time in aquatic carbon cycling and to determine the drivers</li> <li>4. To differentiate between the cycling of CO<sub>2</sub> and CH<sub>4</sub> in inland waters</li> <li>5. To critically evaluate published material on the carbon cycling</li> <li>6. To improve written and oral communication skills</li> </ol>	
<p><b>Assessment criteria:</b> Each ESR/participant has to read several scientific papers prior to the Mini-Conference and to develop a conceptual model on carbon cycling in aquatic ecosystems. The model needs to be presented at the Mini-Conference. The ESR/participant needs to actively participate in the lectures, discussions and computer exercises. The ESR/participant will also be required to present his/her own research results, either at the annual meeting or as a recorded PowerPoint file which will be distributed among the participants. After the Mini-Conference the ESR/participant has to hand in a written synthesis of the Mini-Conference and a written critical review of four scientific papers on the fate of carbon cycling in inland waters according to special evaluation criteria that will be handed out. Deadline for the synthesis and critical review is April 15, 2016.</p>	
<b>ECTS awarded:</b> 4	<b>Awarding institution:</b> UU
<p>If you wish to register for this event, please send an email (including a CV and a motivation letter for non-C-CASCADES students), before <b>January 11, 2016</b> to the “<b>Contact email</b>” above and add to the subject line “<b>MC1-Process understanding</b>”. Maximum participants: 25.</p> <p>If you want more information about this event, please contact Gesa Weyhenmeyer (see above)</p>	



## MC1: Annex 1

### AGENDA

Tuesday, March 1 <sup>st</sup> , 2016	Location
<p>9.00-10.15 : Introduction; Presentation of participants; Presentation (oral, max 5 minutes per participant) and discussion of the conceptual carbon models; preparation of a common conceptual model</p> <p>10.15-10.30 : Coffee Break</p> <p>10.30-11.15 : <b>Timothy Quine</b>: <i>'Evidence for perturbed SOC-dynamics in erosional, colluvial and floodplain settings'</i></p> <p>11.15-12.00 : <b>Lars Tranvik</b>: <i>'Carbon cycling in lakes'</i></p> <p>12.00-13.00 : Lunch</p> <p>13.15-14.00 : <b>Tom Battin</b>: <i>'Carbon cycling in alpine streams'</i></p> <p>14.00-14.45 : <b>Josette Garnier</b>: <i>'Carbon cycling in rivers'</i></p> <p>14.45-15.15 : Coffee Break</p> <p>15.15-17.00 : <b>Gesa Weyhenmeyer</b>: <i>'Assessment of temporal changes in the carbon cycling in running waters and lakes with inland water inventory data'</i> (computer exercise and extensive discussion on potential drivers)</p> <p>18.30 : Dinner</p>	<p>Uppsala University, Norbyvägen 18C, 752 36 Uppsala Sweden <b>Lecture room 6</b></p> <p><b>Access by public transport:</b></p> <p>By bus: line 6, 7, 21; stop: 'Evolutionsmuseet' By foot: ±20 min from Central Station</p> <p><b>Map:</b></p> 
<p><b>Wednesday, March 2<sup>nd</sup>, 2016</b></p> <p>9.00-9.30 : Discussion on how the cycling of CO<sub>2</sub> differs from the cycling of CH<sub>4</sub> in inland waters</p> <p>9.30-10.30 : <b>David Bastviken</b>: <i>'Greenhouse gas cycling in inland waters'</i></p> <p>10.30-10.45 : Coffee Break</p> <p>10.45-11.30 : <b>Goulven Laruelle</b> : <i>'Carbon cycling in estuaries'</i></p> <p>11.30-12.30 : Lunch</p> <p>12.30-13.45 : Drive to Erken</p> <p>14.00-15.00 : Boat trip to the Eddy tower flux (if ice conditions allow, otherwise lecture on it) with group 1; group 2 explanation of sensors and GLEON (global lake ecological observatory network) and coffee</p> <p>15.00-16.00 : Group switch</p> <p>16.00-20.30 : Sauna and Dinner at Erken</p> <p>20.30-21.45 : Drive back to Uppsala</p>	

## DETAILED CONTENT OF THE MINI CONFERENCE

<b>Block 1: Introduction</b>	
<b>Length:</b> Prior to the mini conference	<b>Time slot:</b>
<b>Trainer:</b> Self-studies with feedback from WP1 researchers	<b>Requirement:</b>
<b>Description:</b> This block is an introduction to the mini conference. Participants are required to read 10 peer-reviewed key papers on carbon cycling in inland waters. After reading the participants have to prepare a conceptual model on the carbon cycling during transport from land to ocean which they have to bring to the mini conference.	
<b>Block 2: Understanding of carbon cycling in headwaters, streams, lakes, rivers, river mouth waters and estuaries</b>	
<b>Length:</b> 2 days	<b>Time slot:</b> Tuesday and Wednesday
<b>Trainers:</b> Timothy Quine, Josette Garnier, Tom Battin, Lars Tranvik, Gesa Weyhenmeyer, Goulven Laruelle, David Bastviken (invited)	<b>Requirement:</b>
<b>Description:</b> The lectures, discussions and computer exercises will give insights into the carbon cycling in inland waters. Focus is on process understanding.	
<b>Block 3: Field excursion</b>	
<b>Length:</b> Half day	<b>Time slot:</b> Wednesday afternoon
<b>Trainers:</b> Silke Langenheder, William Colom, Nina Svensson (UU)	<b>Requirement:</b>
<b>Description:</b> The field excursion gives insights into carbon measuring techniques. Erken Laboratory is part of the Global Lake Ecological Observatory Network (GLEON) which uses newest sensor technology, including eddy tower flux measurements at the lake water-atmosphere interface (see detailed program in the next page)	
<b>Block 4: Oral presentation</b>	
<b>Length:</b> 20-30 minutes	<b>Time slot:</b> Annual meeting or from home for external participants
<b>Trainer:</b> C-Cascades participants	<b>Requirement:</b>
<b>Description:</b> The 5 WP1 ESRs will deliver a 20-30 minute group oral presentation to provide a brief overview of MC1 at the annual meeting. It is suggested no more than 20 minutes for the presentation itself to allow plenty of time for questions and discussions. WP ESRs will deliver similar presentations at their relevant MCs.  Alternatively, for external participants, each participant will present a brief overview of MC1, and a synopsis about their background and research by recording a 10-15 minute presentation. The presentations will be made available among the MC1 participants and feedback will be given.	
<b>Block 5: Synthesis and critical review</b>	
<b>Length:</b> After the mini conference	<b>Time slot:</b>
<b>Trainer:</b> Self-studies with feedback from Gesa Weyhenmeyer (UU)	<b>Requirement:</b>
<b>Description:</b> After the mini conference the participants are requested to write a synthesis of the most urgent questions that they believe still need to be answered concerning the carbon cycling in inland waters. They are also requested to suggest possible approaches to get an answer to the questions. In addition, the participants have to prepare a written critical review of four scientific papers on the fate of carbon cycling in inland waters according to special evaluation criteria that will be handed out. The purpose of this block is to get a holistic overview over the carbon cycling and to critically review published material on the carbon cycle.	

# Programme Erken

12.30	: Bus drive to Erken from 'Restaurang Feiroz', von Kraemers allé 1A, Uppsala
13.45	: Arrival at Erken

People at Lake Erken: Silke Langenheder, William Colom, Nina Svensson

## Group 1 (see below in which group you are)

14.00-15:00	: Meet William and Nina at the bridge outside; they will go with you to the island (if ice conditions allow) and explain the measurements which are carried out at Erken, including mesocosm experiments
15:00-15:30	: Coffee break for group 1
15.30-16:00	: Silke will held a lecture on Erken, SITES and GLEON in the lecture hall

## Group 2

14.00-14.30	: Silke will held a lecture on Erken, SITES and GLEON in the lecture hall
14.30-15.00	: Coffee break for group 2
15.00-16:00	: Meet William and Nina at the bridge outside; they will go with you to the island (if ice conditions allow) and explain the measurements which are carried out at Erken, including mesocosm experiments

## Both groups

16.00-20.30	: Sauna and leisure time, dinner at around 18.00
20.30	: Departure from Erken
21:45	: Arrival at Uppsala (1 stop at Park Inn hotel and 1 stop at Lägenhetshotell)

Group 1	Group 2
Prof. Pierre Regnier (ULB)	Prof. Lei Chou (ULB)
Prof. Timothy Quine (UNEXE)	Dr. Josette Garnier (CNRS-IPSL)
Dr. Vincent Thieu (CNRS-IPSL)	Mr. Jos van Gils (DELTARES)
Dr. Sacha. de Rijk (DELTARES)	Dr. Sandra Arndt (UNIVBRIS)
Prof. Bernhard Wehrli (ETHZ)	Prof. Tom Battin (EPFL)
Mr. Peer Fietzek (KM Contros)	Dr. Emily Mainetti (ULB)
Dr. Goulven Laruelle (ULB)	Marie-Sophie Maier
Anna Canning	Andreas Androulakakis
Åsa Horgby	Jens Terhaar
Mahdi Nakhavali	Adam Hastie
Audrey Marescaux	Jo Uhlbäck
Matteo Puglini	Fabrice Lacroix
Philip Pika	Miriam Glendell
Simon Bowring	Nino Amvrosiadi
Anna Nydahl	