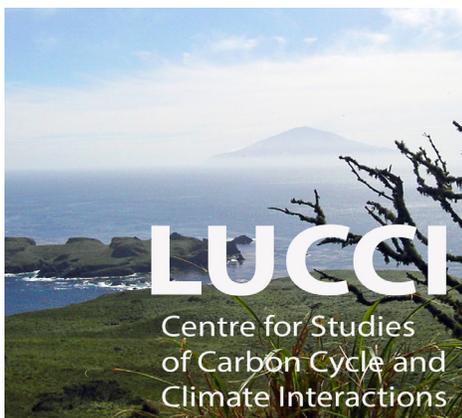


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## LUCCI NEWSLETTER MARCH 2014

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*This is the LUCCI newsletter. The purpose of this is to keep all members and other researchers informed about what is going on in LUCCI. Of course there is always fresh news on the webpage.*

### R3I WORKSHOP IN MARCH

R3I is the Research Integration, Innovation and Inspiration group of PhDs and postdocs within LUCCI.

On the 31st of March there will be a Workshop on the theme of "Carbon Cycles and Climate Interactions at Different Timescales". Keynote speakers are Svante Björck and Jörgen Olofsson. Further, there will be presentations from all workpackages, as well as discussions.

### LUCCI ANNUAL REPORT

The LUCCI Annual Report 2013/2014 is printed and available. Thank you everyone for contributing to the report. If you want a copy, it is available at Susanna's office, room 453 at INES, or Anna Ekbergs office at CEC, Ekologihuset. You can also contact Susanna if you cannot pick it up, and it will be sent by mail. The report is also available as pdf on the website.

### THE 5 YEAR EVALUATION

The five year evaluation report was completed and submitted in September. Next was the personal interviews that took place on January 27-28. Thank you everyone for contributing to the work! What happens next is that the evaluation committee will review the report and personal interviews. Their final comments and the way forward will be announced in June 2014.

### ANNA EKBERG NEW SCIENTIFIC SECRETARY OF LUCCI

Anna Ekberg is now on the position as scientific secretary for LUCCI. She has worked as assistant professor at the Department of Physical Geography and Ecosystem Science. She is also coordinator of the research school ClimBEco that promotes young scientists to engage in interdisciplinary research on climate, earth system and society in a changing world, and has recently been engaged as research coordinator at the Centre for Environmental and Climate Research (CEC) with main working focus on the Climate Initiative and Sustainability Forum at LU. We also take the opportunity to thank Maj-Lena Linderson for her hard work and dedicated service.



Anna Ekberg

### NEXT LUCCI ANNUAL MEETING IN SEPTEMBER

The LUCCI annual meetings are normally in springtime, however this year it will be in autumn, on the 9<sup>th</sup> and 10<sup>th</sup> of September. A formal invitation will be sent out soon, but please make a note in your calendars already now. Venue and agenda to be announced closer to the meeting.

### LUCCI AT FORSKARBLADET.SE

Geologist Kristina Mehlquist's research is highlighted in the next issue of Forskarbladet.se. She has discovered new species of early flora in Sweden, and even discovered layers from the Devonian, which was thought to have disappeared from the geological layers of Sweden.

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Have you got LUCCI news for the web site, the newsletter or other outreach?  
Please contact Susanna:  
susanna.olsson@nateko.lu.se

**LUCCI**  
Lund University Centre for Studies of  
Carbon Cycle and Climate Interactions

[www.lucci.lu.se](http://www.lucci.lu.se)



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## Publication in the spotlight

A short popular science abstract from a recently published paper

Jamali, S. et al. (2014) *Remote Sensing of Environment* 141, 79-89.

### *Automated mapping of vegetation trends with polynomials using NDVI imagery over the Sahel.*

Vegetation indices (e.g. vegetation amount or greenness indicators) derived from satellite data are suitable for monitoring vegetation change over large areas. Linear regression models have been widely used for this task but these models assume that vegetation changes gradually and linearly (with constant rate) through time, which may not always be the case (for example, as a response to drought, insect attack or fire).

We propose an automated method for detection of areas with non-linear changes using annual NDVI (Normalized Difference Vegetation Index) for the Sahel of North Africa for the period 1982-2006. Our results show that although non-linear trends are infrequent and scattered throughout the Sahel they can flag unique hotspots of vegetation change that are associated with distinct vegetation types (e.g. woody shrublands) and may also be associated with direct human impact on the land surface caused by, for example rapid urbanization or strife. Our method can be useful for analyzing trends in other long-term data series (e.g. temperature or precipitation). It can also help to contribute more accurate information to the emerging field of Land Change Science.

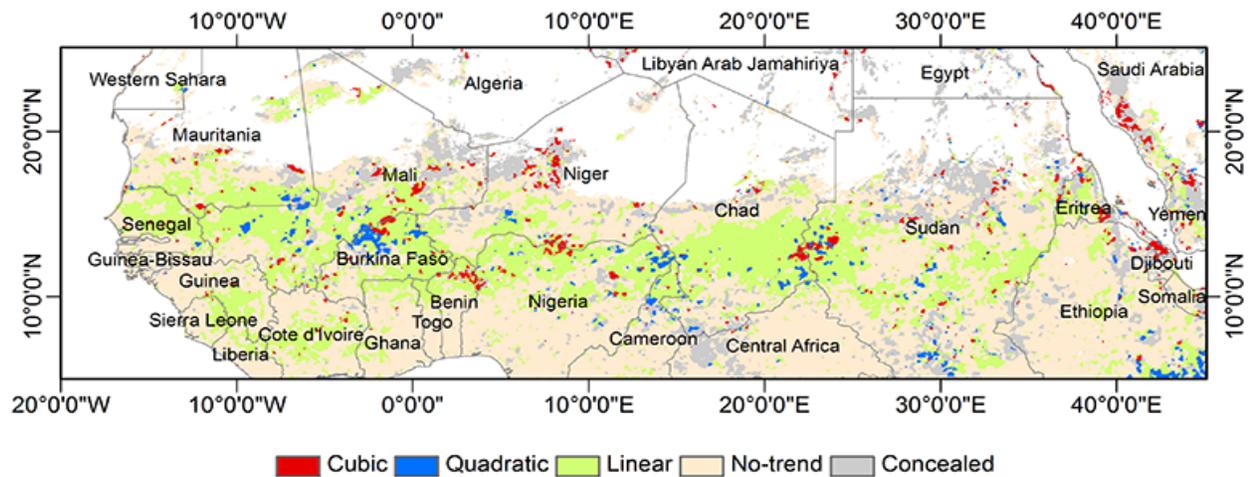


Fig. The trend type map obtained by using the annual GIMMS-NDVI data series for the study area, 1982-2006, in the trend classification scheme. The cubic, quadratic and concealed trend types indicate nonlinear change. Areas with a mean yearly NDVI <0.1 were masked out.

Sadegh Jamali is a PhD student at the Department of Physical Geography & Ecosystems Analysis. He is working on the project **Analysis of Vegetation Trends in the Earth System using Satellite Remote Sensing**.



This study focuses on vegetation trend analysis using long time-series of Earth Observation data. The main objectives are: to refine trend detection methods for tracking ecosystem change in a spatio-temporal domain, and to design and implement a framework for a complete analysis of vegetation trends. The tools developed from the work will enable more accurate and nuanced analysis of vegetation dynamics as observed from space.

*For a list of other recently published papers from the LUCCI scientists, see <http://www.lucci.lu.se/highlights.html>!*