



Open PAGES Focus 4 Workshop Human-Climate-Ecosystem Interactions

Towards a more accurate quantification of human-environment interactions in the past

University of Leuven, Belgium

February 3-7, 2014

Second Circular

1. Rationale and workshop aims

Since the introduction of agriculture, humans have profoundly impacted natural environments through land cover change. These, in turn, caused significant changes in soil and sediment properties as well as the functioning of aquatic ecosystems. Furthermore, long-term human-induced land use change has been argued to be responsible for significant changes in the global carbon cycle with feedbacks to climate, suggesting that the Anthropocene era began long before the Industrial Revolution. However, the extent to which humans have impacted the environment at regional to global scales prior to the modern era is still under debate. Current estimates of regional and global land cover histories show large discrepancies. Thus an accurate quantification is necessary to fully grasp the extent to which humans have impacted terrestrial and aquatic ecosystems and/or climate, and to explore the feedback mechanisms between environmental change and societal development, collapse or resilience. Research on the past in order to better understand and manage terrestrial ecosystems in the future is complicated by uncertainty on past human impacts.

A more detailed integration of data from both environmental sciences and humanities is needed to resolve these issues. This requires not only the development of a forum where scientists from a variety of disciplines can meet and share their data and ideas, but also to critically evaluate existing approaches and to discuss methodological innovations that will allow to incorporate data of various qualities and resolutions. This PAGES workshop aims to provide such a platform to share data, results and ideas on how to quantify past human-environment interactions.

Topics to be discussed include the quantification of:

- (i) human impact on the landscape (including population dynamics, land use and vegetation change) at various spatial and temporal scales;
- (ii) environmental response to human impact (on soils, sediments, lakes, C cycle and climate);
- (iii) threshold levels and feedback mechanisms between human activities and the environment.

2. Workshop structure

The workshop aims to provide a stimulating working environment in which priority will be given to discussions on how to quantify past human-environment interactions. Next to oral and poster presentations, sufficient time for discussion in break-out groups as well as plenary discussions will therefore be provided. Oral sessions will be centered on specific themes introduced by invited key-note speakers. The workshop will include a mid-conference field trip to a key area in the region for the study of Holocene sediment fluxes, land cover reconstructions and archaeology in Central Belgium.

At present, the following persons have accepted to give an invited lecture:

- Amy Bogaard (Oxford University): How sustainable were Neolithic European farming economies? Insights from weed ecology and crop stable isotope analysis
- Jed Kaplan (University of Geneva): What role for humans in global land cover change over the Holocene? Insights from models and data
- Petr Kunes (Charles University of Prague): Comparing past quantitative land-cover estimates and data on human impact provide novel insights into human-landscape interactions
- Patrick Belmont (Utah State University): Climate and human dynamics as amplifiers of natural change in river networks
- Tim Beach (Georgetown University): Quantification of Maya impacts on the landscape
- Carole Crumley (Uppsala University and IHOPE): Searching the Past for Clues to the Future
- Dan Penny (University of Sydney) on the interaction between social and natural resilience to climate change in SE Asia
- Gary Stinchcomb (PennState University) on Pre-colonial human impact on floodplain dynamics in eastern North America
- Chung Chun Huang (Saanxi Normal University): Pre-historical human impact as recorded in soil profiles in China's Yellow River basin
- Tsige Gebru Kassa (University of Cologne): Holocene palaeovegetation history of the Tigray Plateau in Northern Ethiopia from Buried Wood Charcoal: implication for climate and land use
- Daniel Schillereff (University of Liverpool): Industry, agriculture and catchment conditioning: lake sediments in the upland rural landscape of Northwest England'

3. Abstract submission

Abstracts for oral and poster presentations related to one of the themes of the workshop will be accepted by the organizing committee prior to **October 20, 2013**. You can submit your abstract through an online submission form. The length of the abstract is limited to 3000 characters. When submitting your abstract, you can state your preference for an oral or poster presentation. Authors will be informed upon the acceptance of their abstract by November 8, 2013. This acceptance will only be final after registration to the workshop by the presenting author. Further guidelines on the submission of abstracts can be found on the workshop webpage (<http://ees.kuleuven.be/pages>). All abstracts accepted for presentations during this workshop will be published in a book of abstracts available to participants at the beginning of the workshop.

4. Registration and costs

Early-bird registration is possible until December 1, 2013 at a cost of € 280. This fee includes book of abstracts, lunches, welcome reception, refreshments, workshop dinner and the mid-workshop field trip. After December 1, 2013, registration is possible at a cost of € 330. Registration will close January 5, 2014. You can register for this workshop through a web-based registration form on the workshop webpage.

Payment is possible by credit card or bank transfer. More details on payment procedure will be provided by email after registration. Note that registration will only be final when payment is received.

5. Important dates

- Deadline for submission of abstracts: October 20, 2013
- Acceptance of abstracts: November 8, 2013
- Communication of preliminary workshop program with list of accepted oral and poster presentations: November 15, 2013
- Early-bird registration: before December 1, 2013
- Registration closes: January 5, 2014
- Distribution of final workshop program: January 15, 2014
- Workshop: February 3-7, 2014

6. Location

The workshop will take place in Leuven, which is conveniently and centrally located in Belgium and Europe. A 15 minute train journey separates Leuven from Brussels Airport, which has direct connections with over 60 cities across Europe and several cities in Africa, Southeast Asia and North America. Regular train services (± 30 minutes) link Leuven with Brussels and Liège international railway stations with high-speed train connections to London, Paris, Cologne and Frankfurt. The venue of the workshop is the KU Leuven (University of Leuven), at the campus located in the town center (Blijde-Inkomststraat 21, 3000 Leuven). Founded in 1425, it is the oldest university of the Low Countries. The university offers excellent conference facilities.

7. Accommodation

So far, we have agreed a special price with two hotels for the duration of the workshop:

- Ibis Leuven Centrum (<http://www.accorhotels.com/gb/hotel-1457-ibis-hotel-leuven-centrum/index.shtml>): Conference prices are € 89.95 per night for a single room and € 103.95 per night for a double room. Prices include taxes and breakfast. Booking information can be found on the workshop webpage.
- Ibis Budget Leuven (<http://www.accorhotels.com/gb/hotel-6682-ibis-budget-leuven-centrum/index.shtml>): Prices will be around € 70 per night, breakfast (€ 7.5) excluded. Detailed price information will follow in December.

A larger selection of hotels can be booked through the regular international booking sites, including Hotel Mille Colonne, Hotel la Royale, Theater Hotel Leuven Centrum, Novotel Leuven Centrum, Mercure Leuven Centrum and Hotel Binnenhof.

Other accommodation options in Leuven include Guesthouse St Jacob (<http://www.stjacob.be>) and Leuven city hostel (<http://www.leuvencityhostel.com>) which provide dorm rooms and private rooms. In addition there is a large choice in B&B, as well as some short term apartment rents. More information can also be found on the website of the city of Leuven (<http://www.leuven.be/en/tourism/staying/index.jsp>). When booking accommodation, take into account that the conference takes place at the city center university campus. Accommodation located near the University Campus in Heverlee may require a 15-20 minutes travel time by bus.

8. Organizing committee

This workshop is organized by LUCIFS (representing the working group on soils and sediments of PAGES Focus 4), the Centre for Archaeological Sciences at KU Leuven (CAS) and a Belgian Science Policy funded interuniversity research program on long-term sustainability. The workshop is funded by PAGES and CAS.

Scientific organizing committee:

Gert Verstraeten, Geography, KU Leuven, Belgium
Thomas Hoffmann, Geography, U Bonn, Germany
Bastiaan Notebaert, Geography, KU Leuven, Belgium
Elena Marinova, Archaeobotany, KU Leuven, Belgium
Andreas Lang, Geography, U Liverpool, UK
Gilles Erkens, Deltares, The Netherlands
Hans Middelkoop, U Utrecht, The Netherlands
Kristof Van Oost, Geography, UC Louvain, Belgium

Local organizing committee:

Gert Verstraeten, Geography, KU Leuven, Belgium
Bastiaan Notebaert, Geography, KU Leuven, Belgium
Elena Marinova, Archaeobotany, KU Leuven, Belgium
Hanne De Brue, Geography, KU Leuven, Belgium
Nils Broothaerts, Geography, KU Leuven, Belgium
Marie-Rose Mottoul, Geography, KU Leuven, Belgium
Jeroen Poblome, Archaeology, KU Leuven, Belgium
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9. Contact address

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