

order to be used in a GIS environment (Eklöf *et al.* in progress). Thanks to this technical improvement, it will be possible to simulate pollen assemblages in real modern landscapes, and therefore to test and improve the simulation approach. Moreover, it will open invaluable possibilities of comparing simulated pollen assemblages from past landscape scenarios against empirical pollen data, which should be the most effective tool for landscape reconstructions from fossil pollen data to date.

Prospects

The research strategy described above has as its ultimate goal, estimation of past openness at the global scale, which is a necessity if the effect of past vegetation changes on climate is to be modelled and understood. There are today several ongoing international research programmes tackling these questions. BIOME 300 was initiated this year by PAGES/LUCC/GAIM in order to gen-

erate global land-cover maps for a large number of time windows covering the past 300 years with the spatial resolution relevant to the needs of climate models. One of BIOME 300's priorities is to improve the accuracy of the maps with the help of all possible expertise within land-cover research, e.g. geographers, historians and paleoecologists (mainly palynologists). In order to achieve this enormous and challenging task, we believe that there are two possible complementary approaches if pollen data are to be used: (1) extrapolation of reconstructions from local to regional scale (areas of one to 500 kilometers diameter) using a robust calibration of pollen assemblages against landscape units, model simulations of past landscape scenarios, and model-data intercomparison; (2) "biomization" based on the approach used in the reconstruction of past natural vegetation for the purpose of climate modelling (i.e. Prentice *et al.* 1996), but introducing new "human-

induced" biomes. We plan to test and combine both approaches. The former is currently tested in southern Sweden, and the latter approach is still in its very initial phase and proceeds independently (Sugita *et al.* in progress).

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For full references please consult www.pages-igbp.org/products/newsletters/ref2003.html



WORKSHOP REPORTS

BIOME 300 – A Joint Initiative of LUCC and PAGES

An organizational workshop for BIOME 300 was held in Bern, Switzerland from the 5th through the 7th of March, 2000, under the auspices of PAGES, LUCC, and the Bern Geobotanical Institute, and funded largely by the Netherlands NWO. This meeting brought together over 40 researchers from nearly 20 countries in Europe, Asia, and the Americas to discuss which methods and data are most appropriate to the detailed reconstruction of past land-cover changes. More extended accounts of the meeting and subsequent progress may be found in current LUCC, IHDP and IGBP Newsletters.

Under the leadership of Frank Oldfield (PAGES), Emilio Moran (LUCC Focus Group 1), Rik Leemans (GAIM/LUCC), Andre Lotter (Switzerland), and Marie-Jose Gaillard (Sweden), this group had two primary objectives. The first is to devise a plan for the production of coordinated databases and revised land cover maps at 50 year intervals since AD 1700. The planned development path for this Fast Track BIOME 300 product will be approxi-

mately one year. Klein Goldewijk (Netherlands) and Navin Ramankutty (USA) will harmonize the results of their ongoing efforts to compile global data bases, consider the many constructive suggestions of the Bern workshop and prepare a new prototype database. This will be discussed at a meeting linked to a Symposium entitled "Past land cover, human activities and climate variability: future implications" to be held at the Fall meeting of the American Geophysical Union in San Francisco, December 15–19. Shortcomings will be reviewed and further improvements suggested. The months thereafter will be used to develop the final fast-track database, which will be released during the IGBP Open Science Meeting in July 2001 in Amsterdam.

The second objective is to begin the task of building a community for a longer-term effort to reconstruct and understand human impacts on the landscape over the past several millennia. This effort included discussions of the methods that should be included, the data sources available in the various regions,

and the perceived gaps in data coverage and interpretive methods.

A steering group for this longer term research agenda, growing out of the BIOME 300 meeting, was established at the end of the workshop, that includes: Frank Oldfield (PAGES), Emilio Moran (LUCC), Carol Crumley (USA), Marie-Jose Gaillard (Sweden), Rik Leemans (the Netherlands), Charles Redman (USA), Shinya Sugita (Japan), and Bob Thompson (USA). Most of the members of this group will also hold a meeting at the Fall AGU (see above).

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