| EGU.eu |

Home

Online Library CP

Recent Final Revised Papers

- Volumes and Issues
- Special Issues
- Library Search
- Title and Author Search

Online Library CPD

Alerts & RSS Feeds

General Information

Submission

Review

Production

Subscription

Comment on a Paper





■ Volumes and Issues ■ Contents of Issue 4 ■ Special Issue Clim. Past, 5, 647-659, 2009 www.clim-past.net/5/647/2009/

© Author(s) 2009. This work is distributed under the Creative Commons Attribution 3.0 License.

Western equatorial African forest-savanna mosaics: a legacy of late Holocene climatic change?

A. Ngomanda¹, A. Chepstow-Lusty², M. Makaya³, C. Favier², P. Schevin², J. Maley², M. Fontugne⁴, R. Oslisly⁵, and D. Jolly^{*,†} ¹Institut de Recherche en Ecologie Tropicale, IRET/CENAREST, BP. 13354, Libreville, Gabon

 ² Institut des Sciences de l'Evolution de Montpellier, UMR 5554, Université de Montpellier II, Place Eugène Bataillon, cc 61, 34095 Montpellier Cedex 5, France
³ Université des Sciences et Techniques de Masuku, Département de Géologie, BP. 901, Franceville, Gabon

⁴Laboratoire des Sciences du Climat et de l'Environnement, UMR CEA/CNRS 1572, Domaine du CNRS, 91198 Gif sur Yvette cedex, France

⁵IRD – Cameroun, BP. 1857, Yaoundé, Cameroun

^{*} formerly at: Institut des Sciences de l'Evolution de Montpellier, UMR 5554, Université de Montpellier II, Place Eugène Bataillon, cc 61, 34095 Montpellier Cedex 5, France

[†]deceased

Abstract. Past vegetation and climate changes reconstructed using two pollen records from Lakes Maridor and Nguène, located in the coastal savannas and inland rainforest of Gabon, respectively, provide new insights into the environmental history of western equatorial African rainforests during the last 4500 cal yr BP. These pollen records indicate that the coastal savannas of western equatorial Africa did not exist during the mid-Holocene and instead the region was covered by evergreen rainforests. From ca. 4000 cal yr BP a progressive decline of inland evergreen rainforest, accompanied by the expansion of semi-deciduous rainforest, occurred synchronously with grassland colonisation in the coastal region of Gabon. The contraction of moist evergreen rainforest and the establishment of coastal savannas in Gabon suggest decreasing humidity from ca. 4000 cal yr BP. The marked reduction in evergreen rainforest and subsequent savanna expansion was followed from 2700 cal yr BP by the colonization of secondary forests dominated by the palm, Elaeis guineensis, and the shrub, Alchornea cordifolia (Euphorbiaceae). A return to wetter climatic conditions from about 1400 cal yr BP led to the renewed spread of evergreen rainforest inland, whereas a forest-savanna mosaic still persists in the coastal region. There is no evidence to suggest that the major environmental changes observed were driven by human impact.

■ Final Revised Paper (PDF, 2543 KB) ■ Discussion Paper (CPD)

Citation: Ngomanda, A., Chepstow-Lusty, A., Makaya, M., Favier, C., Schevin, P., Maley, J., Fontugne, M., Oslisly, R., and Jolly, D.: Western equatorial African forest-savanna mosaics: a legacy of late Holocene climatic change?, Clim. Past, 5, 647-659, 2009. Bibtex EndNote Reference Manager

| EGU Journals | Contact



Search CP

| Library Search | •• |
|----------------|----|
| Author Search | • |

News

- Two Editors of Climate of the Past among EGU 2009 medalists
- Publications by EGU Medalists
- Online textbook in climatology available
- TWO editors of Climate of the Past funded by ERC

Recent Papers

01 | CP, 01 Dec 2009: Pollen-based biome reconstructions for Latin America at 0, 6000 and 18 000 radiocarbon years ago

02 | CP, 27 Nov 2009: Corrigendum to Preface "Climate change: from the geological past to the uncertain future – a symposium honouring André Berger" published in Clim. Past, 5, 707–711, 2009

03 | CPD, 27 Nov 2009: Mountain uplift and the threshold for sustained Northern Hemisphere

