Berlin conference

Oligocene to Pliocene palaeovegetation maps for Sundaland.

Robert J. Morley [1,2,3], Harsanti P Morley[1] and Jaizan md Jais[4] .

1 Palynova, Littleport, Cambs, UK
2 NIKO Asia Ltd, Jl Kemang Timur
3 Dept of Earth Sciences, Royal Holloway, University of London, UK
4 Petronas PMU, Kuala Lumpur, Malaysia

This paper presents palaeovegetation maps for Sundaland for six time slices, from the mid Oligocene to Pliocene. The maps use detailed palaeogeographic reconstructions by Shoup et al (2012), constructed for the Sunda Shelf from an extensive seismic and biostratigraphic database, and, augmented for Sumatra and Java from literature review. These maps have been incorporated onto the more generalised maps of Hall (2012) which present palaeocoastlines and some topographic detail. The reconstructions provide a comprehensive illustration of the broad changes of the Sunda landscape which have taken place through time. The new base maps also show the distribution of freshwater rift valleys and brackish lakes, and also the distribution of Neogene inland seas, as well as the distribution of probable upland areas across the Sunda region.

The vegetation maps are based on an extensive mainly unpublished palynological database which has been generated during the course of hydrocarbon exploration studies, with examples of each vegetation type being illustrated by a pollen profiles from two well sections from the Malay Basin.

The time slices mapped are: mid Oligocene, ~30 Ma, latest Late Oligocene, ~24 Ma, Early Miocene, ~19 Ma, Middle Miocene, ~15 Ma Late Miocene ~ 9 Ma and Early Pliocene ~ 4 Ma. The vegetation types mapped are: lowland evergreen rain forest, montane evergreen rain forest, lowland seasonal climate vegetation, montane seasonal forest and also peat swamp forest types. The manner in which each vegetation type can be characterised is discussed, paying particular attention to the differentiation of lowland evergreen from lowland seasonal, montane evergreen from montane seasonal, and the distribution of different peat swamp forest types.