

Excerpts from the 6th Latin American Congress of Sedimentology

Excertos do 6º Congresso Latino Americano de Sedimentologia

The 6th Latin American Congress of Sedimentology (VI LACS) was held at the Universidade de São Paulo main campus, in the city of São Paulo, 14-17 July 2013. This is the main scientific event focused on the Latin American community of sedimentologists and stratigraphers, promoted under the seal of IAS, the *International Association of Sedimentologists*, since 1997. The VI LACS had 380 registrations: 251 from Brazil and 129 from 17 other countries, mainly of South America. There were 121 presented works, which integrated the abstracts book. After the event, the authors were invited to submit a full paper version of their abstracts to the *Annals of the Congress*, which is being published now as this special supplement of the *Brazilian Journal of Geology*, with financial support from the Brazilian National Council for Scientific and Technological Development - CNPq (Grant 452723/2013-2).

The seven papers of this special supplement are ordered accordingly the age of the sedimentary succession analysed, from the Proterozoic to the Holocene. In the first article “Unusual thick eolian sand sheet sedimentary succession: Paleoproterozoic Bandeirinha Formation, Minas Gerais”, Fábio Simplício and Giorgio Basilici deal with an eolian sand sheet sedimentary succession with anomalous (more than 50 m) thickness, related to the first rift stage of Espinhaço Basin evolution. The authors discuss the sedimentary conditions, as early cementation near the surface, necessary to promote the prolonged formation only of protodunes (dunes without slipfaces).

The second article “Modelling a glacier advance-retreat cycle in the upper Devonian Cabeças Formation, eastern Parnaíba Basin, Brazil”, by Barbosa et al., reports glaciotectonic features that represent the first evidence of the Fammenian glaciation in the southeastern border of the Parnaíba Basin, Northern Brazil. The authors define three facies associations (deltaic front, subglacial deposits and melt-out delta front), each one representative of a depositional phase in a glacier advance-retreat cycle, and show the wide variety of deformational structures produced in each phase.

In the third article “Diagenesis reaction geochemical modelling of Snorre Field sandstone reservoir using comparative code results”, Klunk et al. compare the results of three computer geochemical models (*Dissol-thermal*, *Gwb* and *Toughreact*), used to predict diagenetic processes (precipitation versus dissolution of minerals) based on thermodynamic and kinetic parameters. The models are applied to data from a same reservoir sandstone of the North Sea. The authors show that the found differences among the results from the three models depend on the temperature interval, with tendency to decrease at higher temperatures.

In the fourth paper “The Cogollo Group and the Oceanic Anoxic Events 1a and 1b. Maracaibo Basin, Venezuela”, Dot et al. (PDVSA) deal with the broader calcareous platform system of the Maracaibo Basin. Based on sedimentological and organic geochemistry data from six cores, the authors propose two beds of petroleum source rocks, additional to the well-known and main source rock of this basin, the La Luna Formation. These two beds are correlated to the amplification of anoxic conditions from the deep basin to the shallow shelf during Aptian transgressions.

The three last articles are all about Quaternary deposition. The first of them “Tidal and fluvial deposits from the Pleistocene Itauba Formation, onshore part of the Foz do Amazonas Basin, Amapá”, by Bezerra et al., deals with the Itauba Formation, the sedimentary substratum of Holocene tidal deposits influenced by the Amazon River, in the Amapá Coastal Plain. Outcrop-based facies and stratigraphic analyses in combination with Optically Stimulated Luminescence (OSL) allow the authors redefining the age of this formation, previously interpreted as Miocene, in the upper Pleistocene. They also subdivide the formation into two units, separated by an expressive unconformity linked to sea level fall prior to Last Glacial Maximum: a tide-influenced Lower Unit with ages correlated to Penultimate Interglacial; and an Upper Unit correspondent to an incised braided fluvial system.

The second Quaternary study of this special supplement “Central Santa Catarina coastal dunefields chronology and their relation to relative sea level and climatic changes”, by Mendes et al., discuss the controls of the initiation and stabilization of south Brazil coastal dunefields. Remote sensing and OSL dating results allowed the discrimination and mapping of at least four generations of eolian dunefields, whose age distribution in relation to relative sea level variation curve along the last hundreds of thousands years suggest the formation of dunefields in contexts of relatively stable sea level. The authors also conclude that in a shorter time scale, the direct control by the climate becomes more evident, with initiation of dunefields being favored by periods of less humidity while their stabilization would occur preferably during the periods of rain intensification, connected to monsoon activity.

The theme of eolian sand sheet sedimentation, with which the supplement begins, appears again in the last article “Intermontane eolian sand sheet development, upper Tulum Valley, central-western Argentina”, authored by Giorgio Basilici and Patrick F.F. Dal Bó. This paper analyses the modern Tulum sand sheet based on the surface distribution of sedimentary features, which reflects the variation in sediment budget, water table level and periodic flooding. The construction of the sand sheet is attributed to deflation of the sand debris sourced by San Juan alluvial fan, mainly in drier fall-winter months. The accumulation of sedimentary bodies occurs in a stabilized eolian system where vegetation cover, thin mud veneers and surface cementation are the main preservation agents. The continuous creation of eolian accumulation space is enabled by the active tectonics of the basin.

This special issue is a small, but representative, sample of South American scientific production in the VI LACS, and we hope it will encourage more publications on the Geology of our continent in this journal. Finally, we thank the chief editor, Dr. Umberto G. Cordani, the associate editor, also president of the VI LACS, Dr. Claudio Riccomini, and the entire team editing of *Brazilian Journal of Geology* for the full support dispensed to us in all phases of the work that culminated in this publication.

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