

Basin Analysis and Sequence Stratigraphy (BASS) Technical Division

The Guinness Book of Sedimentology: your guide to the world's largest EVER sedimentary features

Presenter; Jon Noad

Affiliation: Stantec Consulting; Sedimental Services; University of Adelaide

Location: geoLOGIC Classroom (2nd Floor), Aquitaine Tower, 150, 540 – 5th Avenue SW, Calgary, Alberta

Format: Hybrid talk

Date: Tuesday, March 14, 2023

Time: 12:00 pm MST

ABSTRACT

Sedimentary deposits from throughout Earth's geological history have been scoured with a fine toothcomb to find the biggest, the tallest, the deepest and steepest sedimentary structures and landforms. Depositional environments ranging from fluvio-lacustrine and aeolian, tidal and deltaic and a range of marine settings have been studied to identify the record breaking ripples, dunes, bars, channels, deltas, fans, sheet sandbodies and more. Each "giant in its field" is then compared to the largest modern examples to get a sense for just how different ancient environments were when stacked up against their recent counterparts.

There is obviously something special about the largest bedforms and landforms ever to grace our planet, but there are also some practical aspects. The results will provide a reality check when you try to interpret unusually sizeable structures in the field. The chance, and degree, of preservation of sedimentary structures and features in each category should be evaluated. Each identified sedimentary behemoth will also be mapped against supercontinent cycles, plate tectonic setting, global sea level and temperature curves to see whether they cluster at certain time intervals. Do certain cyclic events favour the deposition of particular extreme landforms? This data also provides a predictive tool to search for further examples of the world's "greatest" sedimentary features.

We will even visit other planets in the Solar System to see how they compare to our planet, before finally revealing the world's largest EVER sedimentary feature, and the winner of the ultimate sedimentary competition - whether there are more ancient or modern giants.



BIOGRAPHY

Jon Noad graduated in 1985 and started working as a mining geologist in South Africa. He returned to the UK to work in marine cable laying and completed a Masters in Sedimentology at evening classes. This led to a full time PhD, working in eastern Borneo, after which he joined Shell International working Middle East exploration and in several production roles. He moved to Shell Canada in Calgary in 2006, followed by senior geoscience roles at Murphy, Husky and Gran Tierra (Colombia). Jon started a consultancy in 2017 and ran numerous field trips and courses for industry as well as teaching at several universities. He joined Stantec in 2022 as Senior Palaeontologist and undertakes site monitoring for new pipelines and construction projects.



DIVISION INFORMATION

The Division's mandate is to provide a CSPG forum for members who are interested in seeing the "wood" when they are looking at the "trees". Most of us deal with small areas in our daily work. A good understanding of the big geologic picture in which our areas are located will facilitate better geological interpretations and predictions, which will translate into higher drilling success rates. The aim of the Basin Analysis and Sequence Stratigraphy Division is to be innovative, inspiring and practical. We will try to introduce new concepts and methodologies of basin analysis and sequence stratigraphy to our group. We would also like to share inspiring interpretations of historical Canadian data. In particular, we encourage speakers to offer learnings that we can take home and apply in our daily work. The Division is also interested in running field trips or joint talks with other Divisions in the future.

BASS wishes to thank its sponsors: geoLOGIC for sponsoring the technical divisions; AGAT Laboratories for providing refreshments; and Chinook Consulting Services for providing speaker gifts.