

IAG 2009

Post-Conference Field Trip

Cape York Coast to Coast: Tropical Rivers and Coasts

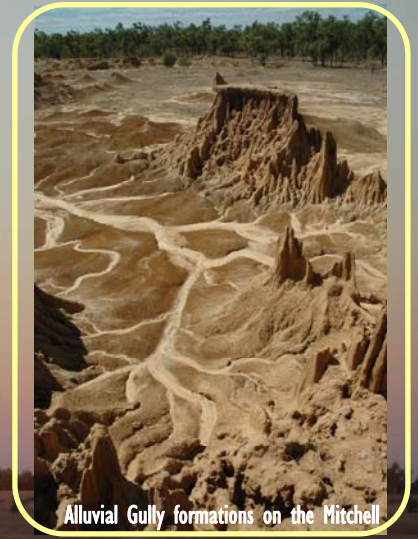
July 13th – 19th 2009

Trip Overview

Cape York is internationally renowned as one of the last great frontiers where extensive tracts of rainforest and savannah landscape remain in a state similar to that which the Traditional Owners have known it to be in for thousands of years. Participants in this trip will have a rare opportunity to gain a broad overview of this amazing landscape with its diverse geomorphology. The trip will encompass a complete traverse of the lower part of the Cape: from the World Heritage Rainforests of the Daintree to the delta of the Mitchell River – the largest tropical savannah river draining into the Gulf of Carpentaria. Commencing at Cairns (the international gateway to the Great Barrier Reef), the trip will start with an overview of the geomorphology of the coastal zone between Cairns and the Daintree River, including cyclone beach ridges (Nott & Hayne, 2001) and the complex floodplain and terrace sequences of the Daintree River. After the first night in the stunning Daintree Rainforest, we will then embark on a complete traverse of the Mitchell River from its headwaters to its delta – crossing Australia's largest fluvial megafan in between (Brooks et al., *subm.*). Along the way we will visit the Chillagoe caves; site of the best high resolution speleothem palaeo-climate record for northern Australia (Nott et al., 2007) - as well as being spectacular caves in their own right. We will observe numerous examples of the ubiquitous alluvial gullies that are a feature of the Mitchell megafan fluvial landscape and will hear about the latest insights into their causes and rates of activity (Brooks et al., *subm.*, 2007). Before heading for the Gulf Coast and meeting the traditional owners of the delta country - we will have an opportunity to experience the impressively dynamic 2km wide main stem channel of the Mitchell River and see close up the impacts of 600ha of net annual riparian forest turnover & 15Mm³ of annual bedload turnover (Brooks et al., *in press*).

Refs:

- Brooks, A.P., Shellberg, J.G., Knight, J., Spencer, J. (*subm.*) Alluvial gully erosion across the Mitchell fluvial megafan, Queensland Australia. *Earth Surface Processes and Landforms*.
- Brooks, A., Spencer, J., Knight, J., (2007). Alluvial gully erosion in Australia's tropical rivers: a conceptual model as a basis for a remote sensing mapping procedure. Proceedings of the 5th Australian Stream Management Conference Proceedings, Albury, NSW May 2007
- Brooks, A. P., Spencer, J. Shellberg, J.G., Knight, J. & Lymburner, L. (*in press*) Using remote sensing to quantify sediment budget components in a large tropical river - Mitchell River, Gulf of Carpentaria. *Sediment Dynamics in Changing Environments* (Proceedings of a symposium held in Christchurch, New Zealand, December 2008). IAHS Publ. 325.
- Nott, J., J. Haig, et al. (2007). "Greater Frequency Variability of Landfalling Tropical Cyclones at Centennial Compared to Seasonal and Decadal Scales." *Earth and Planetary Science Letters* 255(3-4): 367-372
- Nott, J. and Hayne, M., 2001. High frequency of 'super-cyclones' along the Great barrier Reef over the past 5,000 years. *Nature*, 413(4 October): 508-512.



Alluvial Gully formations on the Mitchell

Cost: AUD \$2124 Ex Cairns (limit of 20) NB - includes all expenses: food, 4WD transport, camping equipment & return scenic flight from Kowanyama to Cairns.



Trip Route

Further Info: contact Dr Andrew Brooks, Australian Rivers Institute, Griffith University
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Trip Highlights

- All meals catered for by renowned Noosa Restaurateur (& bush chef) Luc Turschwell
- Travel by individually chauffeured 4WDs across a hugely diverse array of tropical landscapes
- Trip commences on the east coast with a visit to the Daintree World Heritage rainforest
- Travel the entire length of Australia's largest and most dynamic tropical savannah river – the Mitchell River
- Visit a number of active research sites – with a focus on alluvial gully erosion, coastal cyclone deposits, speleothem deposits, Holocene floodplain evolution (Daintree & Mitchell Rivers), bedload transport and channel dynamics
- Visit the spectacular Chillagoe caves
- Meet the traditional owners of the Mitchell delta country and learn from them about this dynamic and productive landscape
- Try your hand at catching a barramundi
- A charter flight will return all participants to Cairns at the end of the trip. This will include a scenic low level flight around the Mitchell delta and Gulf coastal plain
- Trip limited to 20 participants so be quick

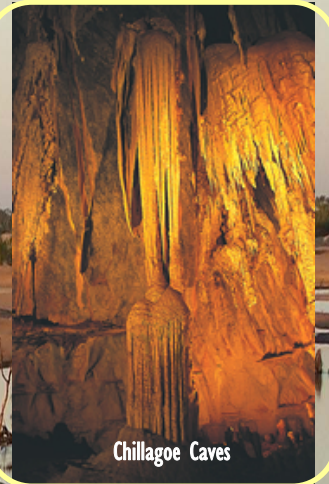
Your Trip Guides:

Dr Andrew Brooks & Jeff Shellberg – *Australian Rivers Institute, Griffith University*

Prof. Jon Nott & Sonia Leonard – *James Cook University*



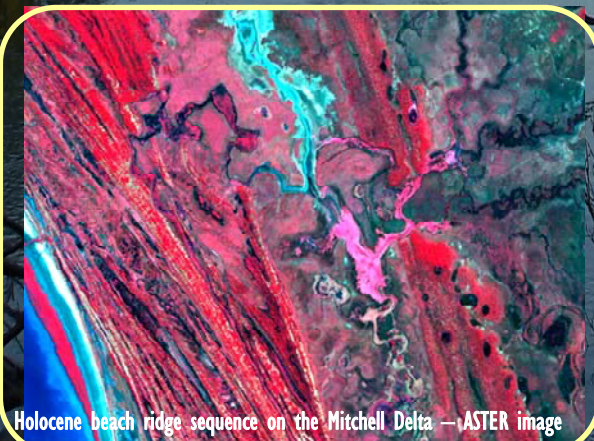
Mitchell River @ Dunbar



Chillagoe Caves

Note: The trip involves bush camping, and all participants will be required to pitch their own tents (supplied) at each stop. Otherwise, all meals will be catered for in bush gourmet style.

Participants will need to get themselves to Cairns by the 12th July & bring their own tropical weight sleeping bag + clothes. Everything else supplied



Holocene beach ridge sequence on the Mitchell Delta – ASTER image



Floodplain exposure Mitchell River @ Dunbar