Chapman Conference on the Evolution of the Monsoon, Biosphere and Mountain Building in Cenozoic Asia

Conveners

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Scientific Program

SUNDAY, 5 JANUARY

5:00 p.m.– 7:00 p.m.  **Ice Breaker**
*AGU Conference Center – Lobby Level*

MONDAY, 6 JANUARY

8:15 a.m.– 8:30 a.m.  **Introduction**
*AGU Conference Center – Lobby Level*

8:30 a.m.– 9:20 a.m.  **Keynote: Climate Dynamics**
Chairs: Stephen Gallagher, Sarah Feakins
*AGU Conference Center – Lobby Level*

Matt Huber | Mountains Mostly Move the Monsoon Rain Around

9:20 a.m.– 10:00 a.m.  **Climate Dynamics I**
Chairs: Stephen Gallagher, Sarah Feakins
*AGU Conference Center – Lobby Level*

9:20 a.m. –9:40 a.m.  **Michael R Gipp** | Hierarchy of Paleomonsoon Climate Dynamics Extracted from Geological Time Series

9:40 a.m. –10:00 a.m.  **Anta-Clarisse Sarr** | A modeling study of physical and biogeochemical changes occurring in the tropical Indian Ocean during Miocene times.

10:00 a.m.– 11:00 a.m.  **Poster Session and Coffee Break**
Chairs: Peter Clift, Christian France-Lanord, Ann Holbourn, Hongbo Zheng
*AGU Conference Center – Lower Level*
Board 4  **Ryo Yamaoka** | Kochi Core Center, the house of core samples from the Indian Ocean to the western Pacific

Board 5  **Simona Bordoni** | Northern Hemisphere Monsoon Response to Mid-Holocene Orbital Forcing and Greenhouse Gas-Induced Global Warming

Board 6  **Stephen J Gallagher** | East Asian Monsoon History and Paleoceanography of the Japan Sea Over the Last 460,000 Years

Board 7  **Christian Betzler** | The Neogene Indian Ocean Record of Asian Monsoon Driven Ocean Currents and Winds from the Maldives (IODP Exp. 359)

Board 8  **Ann Holbourn** | A 10 Myr record of Australian Monsoon variability

Board 9  **Gerald Auer** | Pacing the Miocene Monsoon System – Are there links to Indian Ocean circulation and migrating southern hemisphere climate belts?

Board 10  **Takuya Sagawa** | Orbital-scale thermocline variability in the western Pacific warm pool

Board 11  **Tomohisa Irino** | Temporal Variability of the Depth Distribution of Organic Carbon Burial in the Japan Sea During the Last 1.5 M.Y. Based on IODP Exp. 346 Sediment Cores

Board 12  **Katrina Nilsson-Kerr** | Location, location, location & proxies! Disentangling Indian Summer Monsoon dynamics across Marine Isotope Stage 5

Board 13  **Xiaoqing Liu** | Sea Surface Temperatures in the Western Pacific Warm Pool over the Past 10 Million Years

Board 14  **Kaustubh Thirumalai** | Deglacial-to-Holocene evolution of Indian monsoon rainfall

Board 15  **Gregor Paul Eberli** | Is the Simultaneous Onset of the Florida, East Australia, and Indian Ocean Currents Related to Himalayan tectonics?
Board 17  **Yasmin Bokhari Friberg** | Plio-Pleistocene Evolution of Indian Summer Monsoon Runoff and Productivity

Board 19  **Andrew C G Henderson** | Palaeoceanography of the Japan Sea since the late Miocene: exploring the links to regional tectonism and global climate change

Board 20  **Jeroen van der Lubbe** | Invigoration of Indian Ocean Walker Cell circulation drove Pleistocene eastern African aridification

Board 21  **Xiao-Ming Liu** | Are lithium isotopes good tracers of continental weathering over Cenozoic?

Board 22  **Petra Dekens** | Pliocene-Pleistocene Sea Surface Temperature records from the southern Bay of Bengal (IODP Exp 354)

Board 23  **Stephen C Phillips** | Consistency of weathering and productivity records in the Bay of Bengal and western Andaman Sea

Board 24  **Kara Cowan** | The Bay of Bengal through the Pliocene-Pleistocene cooling

Board 25  **Drew Alexander Lowdermilk** | Sea surface conditions in the Bay of Bengal since the early Pliocene


Board 27  **Joshua David Bridges** | Intensification of the East Asian Monsoon as Defined by Environmental Magnetism

Board 28  **Ivano W Aiello** | Climate, Sea Level and Tectonic Controls on Sediment Discharge from the Sepik River, Papua New Guinea during the Mid- to Late Pleistocene

Board 29  **Stéphanie Desprat** | Changes in vegetation and summer monsoon rainfall in eastern India over the last 70 000 years
Yani Najman | Lateral variations in vegetation in the Himalaya since the Miocene and implications for climate evolution

Zhaojie Yu | Sediment Transport to the Eastern Arabian Sea over the past 600 kyr

Zhaokai Xu | The role of Indian summer monsoon in controlling silicate erosion/weathering and sediment transport in the eastern Arabian Sea since 3.8 Ma

Volkhard Spiess | Reconstruction of sediment fluxes in channel-levee depositional settings - the impact of channel sinuosity on overspill deposition

Uri Ryb | Clumped Isotope Compositions of Detrital Carbonates in the Himalayan River System – 2) The Cenozoic River

Aswin Pradeep Tachambalath | Erosion, Alteration and Paleoweathering in Himalaya from IODP Exp. 354 in the Bengal Fan.

Christian France-Lanord | Bengal Fan Sediment Characteristics and Implications on the Erosion Regime in Himalaya

Samantha Carter | Clay fraction strontium and neodymium isotopes in the Indus Fan: implications for provenance and sediment transport

Yuting Li | Differential Signal Propagation of Muddy and Sandy Sediments in the Indus Submarine Canyon

Peter Dominic Clift | A Marine Record of Exhumation of the Western Himalaya since the Mid Miocene

Feng Cheng | Climate-driven erosion and sedimentation in Asia during the Late Cenozoic

Yani Najman | The Bengal Fan: a sediment record of Himalayan tectonics, climate, and/or autogenic processes?

Paul M Betka | Quantifying Stratigraphic Correlations and Provenance within the Ancestral Brahmaputra Delta, a
Record of Eastern Himalayan Exhumation and the Onset of the Indian Monsoon

Board 45  
**Camilo Ponton** | Clumped isotope compositions of detrital carbonates in the Himalayan River system – 1) The modern Ganga basin

Board 46  
**Ryan Sincavage** | Feeding the Bengal Fan: The Shallow Marine to Fluvial Transition of the Prograding Ancestral (Neogene) Brahmaputra Delta

Board 47  
**Trevor Williams** | Sediment provenance in the Bay of Bengal, IODP Site U1452, 0-200 ka

Board 48  
**Alexander Farnsworth** | The impact of increased spatial resolution on Cenozoic climates

Board 49  
**Ed Hathorne** | Persistent South Asian Monsoon induced erosion over the past 26 million years inferred from clay radiogenic isotopes of Bay of Bengal sediments

11:00 a.m.– 12:40 p.m.  
**Climate Dynamics II**

Chairs: Stephen Gallagher, Sarah Feakins

*AGU Conference Center – Lobby Level*

11:00 a.m. –11:20 a.m.  
**Jane Wilson Baldwin** | The Direct and Ocean-Mediated Influence of Asian Orography on Tropical Precipitation and Cyclones

11:20 a.m. –11:40 a.m.  
**Christoff Andermann** | Modern seasonal stable water isotope patterns in the Nepal Himalayas

11:40 a.m. –12:00 p.m.  
**Ana Paula Barros** | The Orographic Waterwheel

12:00 p.m. –12:20 p.m.  
**Delphine Tardif** | History of the Asian Monsoons Onset During the Cenozoic: Critical Features and Remaining Uncertainties

12:20 p.m. –12:40 p.m.  
Questions and Summary

12:40 p.m.– 2:00 p.m.  
**Lunch**

2:00 p.m.– 2:50 p.m.  
**Keynote: Palaeoceanography Records**
Chairs: Shiming Wan, Pallavi Anand
AGU Conference Center – Lobby Level

Steven C Clemens | Pleistocene Seawater δ¹⁸O reconstructions from the Indian and East Asian Monsoon Regions

2:50 p.m.– 3:30 p.m. Palaeoceanography Records I
Chairs: Shiming Wan, Pallavi Anand
AGU Conference Center – Lobby Level

2:50 p.m. –3:10 p.m. Clara T Bolton | Paleoceanographic evolution of the equatorial Indian Ocean during the late Miocene (9-5 Ma)

3:10 p.m. –3:30 p.m. Christopher William Kinsley | Westerly Jet-Asian Monsoon Coupling Reconstructed Using Radiogenic Neodymium Isotopes in Eolian Dust from Japan Sea Sediments

3:30 p.m.– 4:30 p.m. Poster Session and Coffee Break
Chairs: Peter Clift, Christian France-Lanord, Ann Holbourn, Hongbo Zheng
AGU Conference Center – Lower Level
See full list of poster presenters on pages 2-6.

4:30 p.m.– 6:15 p.m. Palaeoceanography Records II
Chairs: Shiming Wan, Pallavi Anand
AGU Conference Center – Lobby Level

4:30 p.m. –4:50 p.m. Samantha Claudia Bova | Orbital-scale variability in Western Pacific Warm Pool rainfall over the last 1.5 My

4:50 p.m. –5:10 p.m. Masanobu Yamamoto | Sedimentary soil organic matter records of the Indian Summer Monsoon variability during the last 1,460,000 years

5:10 p.m. –5:30 p.m. Wolfgang Kuhnt | Northeastern Indian Ocean paleoceanography and Indian monsoon variability reconstructed from Miocene sediment archives (IODP Expedition 353)
5:30 p.m. – 5:50 p.m.  **Stephan Steinke** | Middle Miocene freshening of the Eastern Arabian Sea

5:50 p.m. – 6:15 p.m.  Questions and Summary

**TUESDAY, 7 JANUARY**

8:30 a.m. – 9:20 a.m.  **Keynote: Continental Environments**
Chairs: Hongbo Zheng, Ann Holbourn  
*AGU Conference Center – Lobby Level*

Sarah J Feakins | Did monsoon precipitation drive C₄ expansion in the late Miocene?

9:20 a.m. – 10:00 a.m.  **Continental Environments I**
Chairs: Hongbo Zheng, Ann Holbourn  
*AGU Conference Center – Lobby Level*

Andreas Mulch | From Past Topography to Understanding the Evolution of Landscapes and Life

9:40 a.m. – 10:00 a.m.  Marissa M Tremblay | A Warm, Productive Environment at the India-Asia Suture Zone During a Warm, Productive Oligocene-Miocene World?

10:00 a.m. – 11:00 a.m.  **Poster Session and Coffee Break**
Chairs: Peter Clift, Christian France-Lanord, Ann Holbourn, Hongbo Zheng  
*AGU Conference Center – Lower Level*

See full list of poster presenters on pages 2-6.

11:00 a.m. – 12:40 p.m.  **Continental Environments II**
Chairs: Hongbo Zheng, Ann Holbourn  
*AGU Conference Center – Lobby Level*

Sarah Madeline McGrath | The Indian Summer Monsoon Over the Past 640,000 Years: Reconstructed from δD_{leafwax}
11:20 a.m.–11:40 a.m. **Bradley Opdyke** | Paleo-Lake George records, the Tectonics of New Guinea, and the subsequent Drying of the Southern Hemisphere in the Late Pleistocene

11:40 a.m.–12:00 p.m. **Guangsheng Zhuang** | Tibetan Plateau interrupted C4-grassland expansion

12:00 p.m.–12:20 p.m. **Hongbo Zheng** | From Desert to Monsoon in SE Tibetan Plateau: Orography-driven Climatic Transition at ~36 Ma

12:20 p.m.–12:40 p.m. Questions and Summary

12:40 p.m.–2:00 p.m. Lunch

2:00 p.m.–2:50 p.m. **Keynote: Records of Continental Erosion**

   Chairs: Takuya Sagawa, Christian France-Lanord

   *AGU Conference Center – Lobby Level*

   **Albert Galy** | New mineralogical and geochemical constrains on the erosion of the Himalayas during the Neogene inferred from IODP exp 354

2:50 p.m.–3:30 p.m. **Records of Continental Erosion I**

   Chairs: Takuya Sagawa, Christian France-Lanord

   *AGU Conference Center – Lobby Level*

2:50 p.m.–3:10 p.m. **Andrew Carter** | Implications for Forcing Mechanisms derived from Sediment Flux and Provenance Changes in the Nicobar Fan and their Relationships to the Bengal Fan

3:10 p.m.–3:30 p.m. **Liviu Giosan** | How Did the Mud Cross the Shelf? The Monsoon Erosional Pump at Orbital and Tectonic Timescales

3:30 p.m.–4:30 p.m. **Poster Session and Coffee Break**

   Chairs: Peter Clift, Christian France-Lanord, Ann Holbourn, Hongbo Zheng

   *AGU Conference Center – Lower Level*

   See full list of poster presenters on pages 2-6.
4:30 p.m.– 6:15 p.m. Records of Continental Erosion II
Chairs: Takuya Sagawa, Christian France-Lanord
AGU Conference Center – Lobby Level

4:30 p.m. – 4:50 p.m. Shiming Wan | Cenozoic Sedimentary Record in the
Northern South China Sea Indicates Long-term Evolution of
East Asian Monsoon

4:50 p.m. – 5:10 p.m. Fenna Bergmann | Himalayan Erosional Fluxes
Reconstructed from Core-Seismic Integration across the
lower Bengal Fan Drilling Transect (IODP Exp 354)

5:10 p.m. – 5:30 p.m. Pallavi Anand | Evolution of Indian Monsoon since the late
Miocene

5:30 p.m. – 5:50 p.m. Valier Galy | Organic Carbon Burial in the Bengal Fan over
the Last 20 Ma

5:50 p.m. – 6:15 p.m. Questions and Summary

WEDNESDAY, 8 JANUARY

8:30 a.m. – 9:20 a.m. Keynote: Modeling and Links to Continental
Tectonics
Chairs: Peter Clift, Yani Najman
AGU Conference Center – Lobby Level

Alexander Webb | The monsoon, biosphere, and
mountain-building across the mid-Cenozoic Himalaya
interpreted as a mantle-driven series of interactions

9:20 a.m. – 10:00 a.m. Modeling and Links to Continental Tectonics I
Chairs: Peter Clift, Yani Najman
AGU Conference Center – Lobby Level

9:20 a.m. – 9:40 a.m. Rasmus C Thiede | Middle Miocene rise of the Greater
Himalaya and the disruption of transverse drainage in
northwest India
9:40 a.m. – 10:00 a.m.  | Yongyun Hu | Evolution of the monsoon system over the past 250 million years

10:00 a.m. – 11:00 a.m.  | Poster Session and Coffee Break  
Chairs: Peter Clift, Christian France-Lanord, Ann Holbourn, Hongbo Zheng  
*AGU Conference Center – Lower Level*  
*See full list of poster presenters on pages 2-6.*

11:00 a.m. – 12:40 p.m.  | Modeling and Links to Continental Tectonics II  
Chairs: Peter Clift, Yani Najman  
*AGU Conference Center – Lobby Level*

11:00 a.m. – 11:20 a.m.  | Alexander Farnsworth | The Cenozoic Evolution of Tibetan Orography, Climate and Biodiversity

11:20 a.m. – 11:40 a.m.  | David B Rowley | Paleoaltimetry estimates of High Himalayan and Tibetan Plateau paleotopographic evolution since the Paleocene

11:40 a.m. – 12:00 p.m.  | Ellen A. Lamont | Pre-Quaternary frontal accretion and subsequent distributed deformation indicates structural control of exhumation of the Himalayan orogenic wedge

12:00 p.m. – 12:20 p.m.  | Alexander Farnsworth | Modelling the Interaction between Tibet and Climate and Biosphere during the Cenozoic

12:20 p.m. – 12:40 p.m.  | Questions and Summary

12:40 p.m. – 2:00 p.m.  | Lunch

2:00 p.m. – 3:30 p.m.  | Break-Out Groups: Identify key advances and identify areas of future research  
*AGU Conference Center – Lower Level*

3:30 p.m. – 4:30 p.m.  | Poster Session and Coffee Break  
Chairs: Peter Clift, Christian France-Lanord, Ann Holbourn, Hongbo Zheng  
*AGU Conference Center – Lower Level*
See full list of poster presenters on pages 2-6.

4:30 p.m.– 5:30 p.m.  Break-Out Groups: Identify key advances and identify areas of future research
                     AGU Conference Center – Lower Level

5:30 p.m.– 6:30 p.m.  Plenary Session: Presentation of sub-group results
                     AGU Conference Center – Lobby Level

THURSDAY, 9 JANUARY

8:30 a.m.– 10:00 a.m. Break-Out Groups: How the meeting has tested the hypotheses laid out at the start
                     AGU Conference Center – Lower Level

10:00 a.m.– 11:00 a.m. Poster Session and Coffee Break
                        Chairs: Peter Clift, Christian France-Lanord, Ann Holbourn, Hongbo Zheng
                        AGU Conference Center – Lower Level
                        See full list of poster presenters on pages 2-6.

11:00 a.m.– 12:30 p.m. Plenary Session: Discussion of how the recent coring campaign has advanced the understanding of climate-tectonic interactions in the global type area and what key issues remain
                     AGU Conference Center – Lobby Level