



FT-A1 Salt tectonics along a late Paleozoic transform fault, Nova Scotia

Date and time: May 12th-14th (2.5 days)

Leader: John Waldron

Proponent: Canadian Society of Petroleum Geologists

Registration cost: \$432.00

What's included: Transportation, accommodation (single occupancy, dormitory), lunch x 2

Maximum participants: 24

Description:

This two-and-a-half day trip will visit spectacular coastal sites in Carboniferous rocks of the Maritimes Basin that were deposited and deformed in a transform-fault setting during the assembly of Pangea, with the exciting extra dimension provided by salt tectonics. The trip will be of interest to structural, sedimentary, and resource geoscientists working in tectonically active sedimentary basins. It will visit distinctive features of Nova Scotia geoheritage, including the Joggins Fossil Centre, the Cliffs of Fundy Geopark, and the Pictou Coalfield.





FT-A2 Geology, Groundwater and Wines of the Annapolis Valley, Nova Scotia

Date: May 15th

Leaders: Denise Brushett, David Brown, Gavin Kennedy, Barrett Kurylyk, Mitch Maracle

Proponent: International Association of Hydrogeologists – Canadian National Committee (IAH-CNC)

Registration cost: \$207.00

What's included: Transportation, wine tastings, lunch

Maximum participants: 40

Description:

Exploration of the local geology, soil characteristics, groundwater influences and of course the wines of the southern Nova Scotia terroir of the eastern Annapolis Valley, one of Canada's emerging wine regions! Here distinctive Nova Scotian mesoclimates, proximity to the moderating influences of the Bay of Fundy and Atlantic Ocean, and landscapes and soils shaped by multiple ice ages together generate a complex interplay of climate, soil, geology, and groundwater that influence the character and quality of grapes, thus creating a unique terroir. We will also explore the importance of groundwater resources to the vitality of the Town of Wolfville and Fundy area and the vulnerability of these resources to the effects of climate change.





FT-A3 3-D Virtual Book Cliffs Tour, Coal Creek and Deadman Canyons, Utah; Sequence Stratigraphy and Sedimentology of Coastal plain, Shoreface and Offshore Successions of the late Cretaceous Castlegate, Blackhawk and Mancos Shale Formations.

Date and time: *Online* Friday, May 13th 10:00 am to 1:00 pm AT

Leaders: Rudy Strobl, Wes Sutherland

Registration cost: \$125 Professional; \$90 Student

Proponent: Canadian Society of Petroleum Geologists

Maximum participants: 60

Description:

During the late-Cretaceous, the Western Interior Seaway extended from the current USA Gulf Coast to Canada's Arctic regions, when eustatic sea levels were approximately 250 m higher than today. Outcrops along Utah's Book Cliffs area provide continuous and nearly vertical exposures of the Campanian-aged Castlegate, Blackhawk and Mancos Shale successions, ideal for studying fluvial, near-shore and off-shore marine deposits along the western edge of this extensive seaway. Utilizing data acquired from Unmanned Aerial Vehicles (UAVs), we examine up to 400 m of vertical section along the front face and side-canyons, correlating laterally over several kms. In this tour, we observe stacked parasequences and detailed sedimentological features without the dangers of climbing precipitous slopes. UAVs have changed the way we both examine and interpret geology. Recent advances in geological software and photography allow us to confidently map individual successions on a regional scale, and characterize sedimentology using the 3-d models generated from thousands of aerial photos. We are no longer limited to 2-dimensional understanding or distorted, long-distance photographs created by the "looking up" angles of conventional photography. Guided by knowledgeable, qualified tour guides, we can now navigate kilometers of photorealistic, true-to-scale outcrops with the



swipe of a mouse in real time. You are invited to experience this live session for yourself. The tour includes a comprehensive summary document and a virtual field trip video recording for participants.





FT-A5 Volcanism of the Late Silurian Eastport Formation of the Coastal Volcanic Belt, Passamaquoddy Bay, New Brunswick

Date and time: May 12th-15th (4 days)

Leaders: Nancy Van Wagoner, Les Fyffe, Dave Lentz

Proponent: Geological Association of Canada - Volcanology and Petrology Division

Registration cost: \$738.00

What's included: Transportation, accommodation (based on double occupancy), meals except for 2 lunches and 1 dinner.

Maximum participants: 16

Description:

This field trip is an excursion through the exquisite, nearly pristine exposures of a Late Silurian, bimodal volcanic and sedimentary sequence exposed in the Passamaquoddy Bay area of southwestern, New Brunswick (Eastport Formation). These rocks are part of the extensive Coastal Volcanic Belt/Magmatic Province that extends from southwestern New Brunswick to the southern coast of Maine. The Passamaquoddy Bay sequence is 4 km thick and comprises four cycles of mafic-felsic volcanism with mafic volcanism typically at the beginning of each cycle, and volcanism separated by periods of volcanic quiescence when peritidal to subaerial sediments were deposited. During this field trip we will examine key exposures illustrating the depositional products of a spectrum of eruptive processes (effusive to phreatomagmatic, and interactions between mafic and felsic melts), and emplacement processes (flows, mafic and felsic peperitic breccias, and airfall deposits to pyroclastic density currents), and their diagnostic features observed in outcrop, simultaneously with textures visible in microphotographs, and their geochemical characteristics. The constraints that the volumes, modes and environments of eruption and deposition place on tectonic models may provide for some interesting discussion along the way. This field trip is also an opportunity to experience the spectacularly beautiful Bay of Fundy coastline. Accommodation will be at the Huntsman Marine Science Centre in St. Andrews by the Sea, and this field trip includes a tour of the Huntsman Aquarium.





Bedded and cross bedded felsic lithic-crystal-tuff and lapilli tuff of cycle 2 interpreted to be surge, flow and minor airfall deposits, distal to source. Photo by K. Dadd





FT-B1 Geological comparisons and correlations among crustal blocks of eastern North America, northwest Africa, and western Europe

Date and time: May 19th-23rd (5 days)

Leaders: Sandra Barr, Yvette Kuiper, Deanne Van Rooyen, Chris White

Proponent: Geological Association of Canada - Canadian Tectonics Group & IGCP683

Registration cost: \$850

What's included: Transportation, accommodation (based on double occupancy), breakfast and lunch

Maximum participants: 28

Description:

The purpose of this 5-day field tip is to bring together geoscientists working in eastern North America, northwest Africa, and Europe to discuss potentially correlative crustal blocks with northwest African origin that are now dispersed across the three continents. Fragments of at least three of these blocks occur in Nova Scotia, and hence it is an obvious focus for the field trip. Other areas (NL, southern NB, and SE New England) will be highlighted during evening "virtual" field trips. This field trip is part of International Geoscience Programme (IGCP) project IGCP 683 (<https://igcp683.org/>) led by Faouziya Haissen (Hassan II University – Casablanca, Morocco), Yvette Kuiper (Colorado School of Mines, USA), Pilar Montero (University of Granada, Spain), and Sandra Barr (Acadia University, Canada). IGCP 683 will also organize a special session or symposium during the conference.





FT-B2 Stratigraphy and tectonic setting of the Bathurst Mining Camp

Date and time: May 18th-21st (4 days)

Leaders: Jim Walker, Aaron Bustard, Dustin Dahn

Proponent: New Brunswick Department of Natural Resources and Energy Development

Registration cost: \$732

What's included: Transportation, accommodation (based on double occupancy), breakfast and lunch

Maximum participants: 10

Description:

This field trip will examine the stratigraphic and structural setting of the volcanogenic massive sulphide (VMS) deposits of the Bathurst Mining Camp. Day one will focus on the Tetagouche Group including the Brunswick Horizon and its associated deposits: Austin Brook Brunswick No. 6 and Key Anacon. The second day will focus on the California Lake Group and a few of its associated deposits: Caribou, Murray Brook and Restigouche. Day 3 will look at more Tetagouche Group rocks.

This field trip starts and ends in Halifax, Nova Scotia. The transport will depart from the Halifax Convention center on the last day of the conference, Wednesday, May 18th following the last sessions, for the five-hour drive to Bathurst. We will stop for a quick supper en-route. There will be two-and-one-half days in the field, after which the vans will be returning to Halifax in the evening of Saturday May 21st.





FT-B3 Telling the story of the Cliffs of Fundy UNESCO Global Geopark, Nova Scotia: linking geoheritage, indigenous heritage and culture

Date and time: May 19th-21st (3 days)

Leader: Caleb Grant, John Calder, David Piper, Georgia Pe-Piper, Louise Leslie

Proponent: Cliffs of Fundy Geopark

Registration cost: \$529 Professional; \$329 Student

What's included: Transportation, accommodation (based on double occupancy), all meals

Maximum participants: 30

Description:

The three-day field trip will demonstrate the interpretive storyline of internationally significant geological features and expose participants to the many aspects of local indigenous and colonial heritage. We will visit some of the readily accessible geosites, demonstrating the history of the Minas Fault Zone at West Advocate, East Bay and Clarke Head and the Mesozoic sedimentation and magmatism at Cape d'Or and Partridge Island. Both Cape D'Or and Partridge Island hold even greater significance as sites of Mi'kmaw heritage and archeology. The Geopark endorses the concept of "Two Eyed Seeing" where indigenous understanding and western scientific practice coexist with equal respect. The tour will show how the landscapes and seascapes evolved and how they influenced the cultural, shipbuilding, mining and agricultural heritage of the area. We will discuss the challenges of interpreting the complex geological history of the Geopark and designing accessible material for public education. We will also consider the UNESCO educational objectives, in terms of sustainable development of mineral and energy resources and the geohazards created by climate change and rising sea level.





FT-B4 Paleozoic Petroleum, CO₂, and Geothermal Systems of the Maritimes Basins

Date and time: May 19th-20th (2 days)

Leaders: Grant Wach, Dave Keighley, Carla Skinner, Trevor Kelly, Ricardo L. Silva

Proponent: Canadian Society of Petroleum Geologists

Registration cost: \$415

What's included: Transportation, accommodation (based on single occupancy), breakfast and 1 lunch

Maximum participants: 20

Description:

The proposed field trip will provide an overview of the petroleum, CO₂ and Geothermal systems of the Paleozoic Maritimes Basin of Atlantic Canada. We will begin in the Cumberland Basin examining fluvial sediments of the Cumberland Basin, a salt withdrawal basin where rates of accommodation were so rapid that trees of the Carboniferous forest were preserved upright. Syndepositional collapse structures, channel bodies and coal deposits of the Carboniferous section will be viewed along the cliffs of the Joggins UNESCO World Heritage site.





FT-B5 The Geological Setting of Romer's Gap: in memoriam of Jenny Clack

Date and time: May 18th-20th (2.5 days)

Leaders: Adrian Park, Steven Hinds, Matt Stimson, Olivia King

Proponent: New Brunswick Department of Natural Resources and Energy Development

Registration cost: \$615

What's included: Transportation, accommodation (based on single occupancy), breakfast and 2 lunches

Maximum participants: 20

Description:

A visit to classical locations in the Tournaisian and Viséan rocks of New Brunswick and Nova Scotia illustrating the geological context of Romer's Gap and some of the environments where tetrapod evolution occurred during and after this interval. This trip will explore Carboniferous, Mississippian, and Pennsylvanian stratigraphy and major tetrapod fossil localities (bones and footprints) in both NB and NS. Locations to be visited include the Lower Tournaisian lacustrine deposits of the Horton Group (Bloomfield to Sussex, NB and Horton Bluff, NS), the semi-arid playa lake deposits of the Upper Tournaisian (Stilesville, NB) and sections of the Windsor and Mabou groups of Hillsborough and Hopewell rocks NB. Pennsylvanian aged localities will include the Joggins UNESCO World Heritage site and the late Pennsylvanian trackway exhibits at the Tatamagouche Creamery Square Heritage Centre.





FT-B6 Gold Deposits

Date and time: May 19th-23rd (5 days)

Leaders: Rick Horne, Dan Kontak, Mitch Kerr

Registration cost: \$1000

What's included: Transportation, accommodation (based on double occupancy), meals excluding dinner

Maximum participants: 24

Description:

Slate-belt hosted orogenic gold deposits form an important class of gold deposits globally and the Meguma Gold Deposits (MGD) are a classic example. For example, the analogous Fosterville deposit in the Victoria area of Australia is currently one of the highest-grade producers being mined. The Meguma Supergroup hosts numerous “saddle-reef” gold deposits that have a protracted history of mining going back to 1861. Recent exploration and development of MGD is at an all-time peak, driven principally by the phenomenally successful development of the Moose River mine (Touquoy), positive feasibility studies at three additional open pit projects (Beaver Dam, Fifteen Mile Stream, Cochrane Hill) and current evaluation of several underground projects (e.g. Aureus East, previously Dufferin) and hybrid (open pit and underground) projects (Goldboro). This trip will address various aspects of MGD, including their general setting, structure, vein relationships, wall rock alteration, relative and absolute age of vein formation, and conditions of vein emplacement (e.g., isotopic chemistry, fluid inclusions) through field stops and vigorous discussion during the day and evening. In addition to our significant understanding of MGD, there are an equal number of unresolved issues, and each stop will provide for discussion.

In addition to Meguma Gold deposits we will visit recently discovered epithermal gold project in the Antigonish Highlands. Targeted participants would include academics and government scientists interested in gold systems and many industry representatives interested in understanding gold deposits. In addition, we hope to attract several student participants.



CNC - SNC



CANADIAN INSTITUTE OF PETROLEUM GEOSCIENCES



ATLANTIC GEOSCIENCE SOCIETY
GÉOSCIENCES DE L'ATLANTIQUE



FT-B7 Telling the story of the Cliffs of Fundy UNESCO Global Geopark, Nova Scotia: linking geoheritage, indigenous heritage and culture - Field Trip for Teachers

Date and time: May 21st (1 day)

Leaders: Louise Leslie, Denise Brushett, Tracy Webb, Alicia Hennessey

Proponent: GeoLearns

Registration cost: \$40 (Teachers only)

What's included: Transportation, lunch

Maximum participants: 40

Description:

This one day field trip will showcase the interpretive storyline of a few significant geological features and aspects of local indigenous heritage. We will visit a number of accessible geosites, including East Bay, Partridge Island and the lighthouse at Five Islands. Partridge Island holds significance as a site of Mi'kmaw heritage and archeology. The Geopark endorses the concept of "Two Eyed Seeing" where indigenous understanding and western scientific practice coexist with equal respect.

