

Bahamas Island: Tropical Life, Coral Reefs, White Sand & Caribbean Rocks

Academic Session: Spring 2021

May 2 – May 13, 2021

*DATES SUBJECT TO CHANGE**

Itinerary

Pre-Departure:

Date	Activity	Comments
May 1	Orientation meeting, GSP safety briefing, sexual harassment briefing	Completed in Calgary

In-Field:

Date	Location	Logistical comments and connection to academic content
May 2	Calgary to Nassau	<ul style="list-style-type: none"> • Travel to Nassau, The Bahamas • Overnight in Nassau at Orange Hill Beach Inn
May 3	Nassau to San Salvador Island	<p>Morning</p> <ul style="list-style-type: none"> • Travel to San Salvador Island, The Bahamas • Orientation at Gerace Research Centre (GRC) ○ Review of GRC's rules and safety procedures <p>Afternoon</p> <ul style="list-style-type: none"> • On land excursion to examine modern beach and Holocene coastal rocks ○ <i>Exercise 1: Land to sea cross-section</i> <p>Evening</p> <ul style="list-style-type: none"> • Lecture on geological origin of Bahamas archipelago
May 4	San Salvador Island	<p>Morning</p> <ul style="list-style-type: none"> • Lecture on San Salvador's stratigraphy • Lecture on shelf biota • On land excursion to see Holocene aeolian dunes ○ <i>Exercise 2: Sand dune cross-section</i> <p>Afternoon</p> <ul style="list-style-type: none"> • Review of underwater safety and emergency procedures • Underwater excursion to see shelf processes and biota (algae, sea grass, corals, starfish, etc.) ○ <i>Exercise 3: Grab samples of shelf sediment</i> <p>Evening</p> <ul style="list-style-type: none"> • Sieving and grains assessment of grab samples
May 5	San Salvador Island	<p>Morning</p> <ul style="list-style-type: none"> • Lecture on San Salvador's hydrology and karsting processes • On land excursion to see inland saline lakes and surface karst and karren ○ <i>Exercise 4: Sea to lake cross-section with diagenetic zones</i> <p>Afternoon</p> <ul style="list-style-type: none"> • Visit of underground cave • Visit of lighthouse tower with overview of the island • Excursion in hypersaline lake with living stromatolites



		<ul style="list-style-type: none"> ○ Exercise 5: Description and sketch of one stromatolite <p>Evening</p> <ul style="list-style-type: none"> • Completion of daily exercises
May 6	San Salvador Island	<p>Morning</p> <ul style="list-style-type: none"> • Lecture on Caribbean reef processes and anthropogenic stress • On land excursion to see Cockburn Town Pleistocene reef ○ Exercise 6: Foreshore to reef cross-section along wharf <p>LUNCH</p> <ul style="list-style-type: none"> • Story telling: New World Discovery, Germs, Slavery and Genocide <p>Afternoon</p> <ul style="list-style-type: none"> • Underwater excursion to see a severely stressed modern reef • Underwater excursion to see vertical shelf-edge drop off <p>Evening</p> <ul style="list-style-type: none"> • Completion of daily exercises
May 7	San Salvador Island	<p>Morning</p> <ul style="list-style-type: none"> • Lecture on Atlantic oceanography, hurricanes and oceanic pollution • Lecture on paleosol formation • On land excursion to see infrastructure damage and storm deposits left in wake of Hurricane Joachim in 2016 ○ Exercise 7: Sea to land cross-section across storm scar • On land excursion to see Holocene paleosols ○ Exercise 8: Cross-section through Holocene paleosol profile <p>LUNCH</p> <ul style="list-style-type: none"> • Story telling: The devastation caused by Hurricane Dorian in 2019 <p>Afternoon</p> <ul style="list-style-type: none"> • Underwater excursion in tidal inlet and lagoon ○ Exercise 9: Grab samples of lagoon sediment • Onland stop to observe plastic debris brought by Atlantic gyre • Onland stop examine coastal lake and discuss its storm-transported biota <p>Evening</p> <ul style="list-style-type: none"> • Sieving and grains assessment of grab samples
May 8	San Salvador Island	<p>Morning</p> <ul style="list-style-type: none"> • Lecture on identifications of corals and reef-dwelling biota • On land excursion to see differences between Holocene and Pleistocene beach deposits <p>LUNCH</p> <ul style="list-style-type: none"> • Group discussion: Comparisons between north and south outcrops along Grotto Beach <p>Afternoon</p> <ul style="list-style-type: none"> • Underwater excursion to see healthy patch reefs ○ Exercise 10: Underwater mapping of one patch reef <p>Evening</p> <ul style="list-style-type: none"> • Completion of daily exercises



May 9	San Salvador Island	<p>Morning</p> <ul style="list-style-type: none"> • Lecture on beach processes and origin of beach rock, bioclasts and ooids • On land stop to view Watling's Blue Hole from observation tower • On land stop to look at ooids in aeolianites in roadcut • On land excursion to see cut through superimposed aeolian sand dunes <ul style="list-style-type: none"> ○ Exercise 11: <i>Cross-section through superimposed Holocene sand dunes, with internal unconformities and paleosols</i> • On land stop to visit ruins of Watling's Castle • Story telling: The ill-fated Watling's plantation and shameful history of slavery on San Salvador Island <p>Afternoon</p> <ul style="list-style-type: none"> • On land excursion to examine modern beach rock • On land excursion to observe Holocene caves and paleo talus in coastal bluff <ul style="list-style-type: none"> ○ Exercise 12: <i>Cross-section through coastal bluff with description of sequence of events that led to talus formation</i> • Underwater excursion to observe biota and shelf processes on open high energy Atlantic side of the island <p>Evening</p> <ul style="list-style-type: none"> • Completion of daily exercises
May 10	San Salvador Island	<p>Morning</p> <ul style="list-style-type: none"> • Lecture on ancient carbonate rocks in Western Canada • Mapping of Cockburn Town Pleistocene Reef <ul style="list-style-type: none"> ○ Mapping Project: <i>Students work in group of four and map a segment of the reef in detail</i> <p>Afternoon</p> <ul style="list-style-type: none"> • Mapping of Cockburn Town Pleistocene Reef (continued) <p>Evening</p> <ul style="list-style-type: none"> • Completion of maps
May 11	San Salvador Island	<p>Morning</p> <ul style="list-style-type: none"> • Mapping of Cockburn Town Pleistocene Reef <ul style="list-style-type: none"> ○ Optional for students who need to go back to Cockburn Town to complete mapping project • Completion of exercises <p>Afternoon</p> <ul style="list-style-type: none"> • Exit interviews ○ Students hand their exercise booklet and note-books ○ Students show their reef map to instructors and TA and answer questions that relate to both their map and other concepts taught throughout the field school <p>Evening</p> <ul style="list-style-type: none"> • Socializing
May 12	Nassau	<ul style="list-style-type: none"> • Travel to Nassau, The Bahamas • Overnight in Nassau at Orange Hill Beach Inn
May 13	Toronto	<ul style="list-style-type: none"> • Travel to Calgary



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Contact Information

For more information regarding the 2021 Modern Carbonate Sedimentology in the Bahamas, please contact Benoit Beauchamp at bbeauch@ucalgary.ca or the Group Study Programs office at group.study@ucalgary.ca.