

2014 Bahamas Field Seminar

CSL – Center for
Carbonate Research

FACIES SUCCESSIONS ON GREAT BAHAMA BANK Implications for Exploration and Reservoir Characterization

June 2 – 7, 2014

Leaders: Gregor P. Eberli and Paul M. (Mitch) Harris

Location: Begins and ends in Miami, Florida. The first day is a seismic and core workshop in Miami, followed by five days on a chartered boat that will cross Great Bahama Bank with stops at all important facies belts.

Objectives:

1. **illustrate the depositional processes and dimensions of facies belts** on an isolated platform.
2. **improve the interpretation of subsurface data** of carbonate systems.
3. relate filling of **accommodation space and facies heterogeneities** to reservoir models.

Who Should Attend: Petroleum geologists, geophysicists and reservoir engineers who are working in carbonates and need to understand facies heterogeneities and porosity distribution at exploration and production scales.

Content: This seminar explores the vertical and lateral facies successions and heterogeneities of Great Bahama Bank. The seismic and core workshop on day 1 illustrates the architecture of the prograding western margin of Great Bahama Bank. Cores across the platform margin provide a unique opportunity to examine the sequence stratigraphic distribution of facies and diagenetic modification in

platform carbonate reservoirs. Log and laboratory data from these cores provide insights into porosity/velocity relationships and permeability distribution in platform carbonates.

As modern analogs, the facies belts on Great Bahama Bank display the depositional heterogeneities that may occur in ancient hydrocarbon reservoirs. We explore the spatial heterogeneity within a carbonate platform, a facies belt or individual facies bodies, while simultaneously exploring the fundamental controlling processes. In particular, sedimentary structures, dimensions and lateral variability of classic reservoir facies are examined during the seminar. Field stops include the leeward platform margin (Cat Cay Ooid Shoal), the platform interior, the tidal flats of Andros, the ooid shoals of Joulters Cay, patch reefs, and the Andros Island barrier reef. Pleistocene outcrops on Bahamian islands show how these facies are preserved in the ancient rock record.



In the water at Joulters Cay



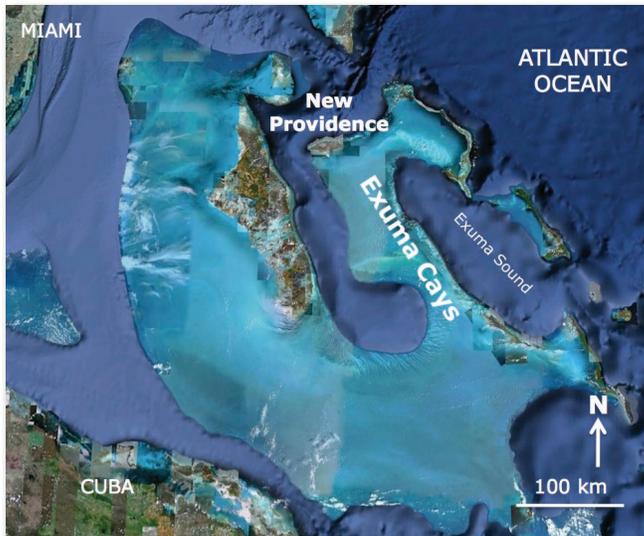
In an Andros Island tidal channel

Cost: \$4,600.-, Transportation to and from the Bahamas, all ground transportation, on-board boat accommodation in the Bahamas, meals, and course notes are included.

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Registration: As soon as possible but no later than April 25, 2014 by contacting: **Karen Neher**

See also: <http://www.cslmiami.info/learning/fieldSeminars>



**2014 Exumas
Field Seminar**
CSL – Center for
Carbonate Research

HETEROGENEITY OF BANK-MARGIN OOID SANDS Depositional Models and Reservoir Analogs Exumas, Bahamas

June 8 –13, 2014

Leaders: Gregor P. Eberli and Paul M. (Mitch) Harris

Location: The seminar begins and ends in **Nassau** on New Providence Island, **Bahamas**. Several field stops along the Exuma Cays are visited by boat to illustrate the facies relationships of a grainstone dominated, high-energy carbonate platform margin. A special focus will be given on the heterogeneity created by sea-level oscillations within the last interglacial highstand (MIS 5e). In addition, several stops will document the dynamic development of the grainstone bodies during the Holocene sea-level rise.

Objectives:

- 1) **illustrate the dimension of the large exploration-scale facies belts, and examine the smaller, reservoir-scale heterogeneity** within these windward margin grainstone facies.
- 2) **show the evidence for the stratigraphic record of sea-level oscillations** and the resultant heterogeneity.
- 3) **illustrate the dynamic evolution and accretion of grainstone facies during the Holocene sea-level rise** that cause reservoir-scale heterogeneity within these grainstone facies.

Who should attend: Exploration and production geoscientists and reservoir engineers working in grainstone reservoirs or on platform margin settings.

Seminar Content: The seminar will illustrate the exploration-scale facies relationships and dimensions as well as reservoir-scale features in a high-energy platform margin including how sea-level oscillations within sea-level highstands create stratigraphic heterogeneity.

This windward margin is a complicated arrangement of sediments surrounding the Pleistocene and Holocene islands. Cores through the Pleistocene strata document the vertical juxtaposition of bank-margin lithofacies that is controlled by oscillations of sea level within the latest highstand. The modern environment displays the sedimentary products that are produced by the physical and biological processes along the bank margin. In particular, we will focus on the various sub-environments with differing grain-composition and sedimentary structures. Karstified eolian islands and Pleistocene outcrops will illustrate the influence of meteoric diagenesis on the bank margin deposits. The islands will also serve as overview points for viewing the dimensions of the various environments. Corals and stromatolites in normal, open marine environments and tidal channels will be visited to illustrate the location and associated facies of these reef building organisms.



Shroud Cay tidal inlet between Pleistocene islands

Costs: \$4,100.-, Includes all ground transportation, lodging on boat, meals, and course notes with virtual field seminar CD.

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Registration: No later than May 1, 2014

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See also: <http://www.cslmiami.info/learning/fieldSeminars>