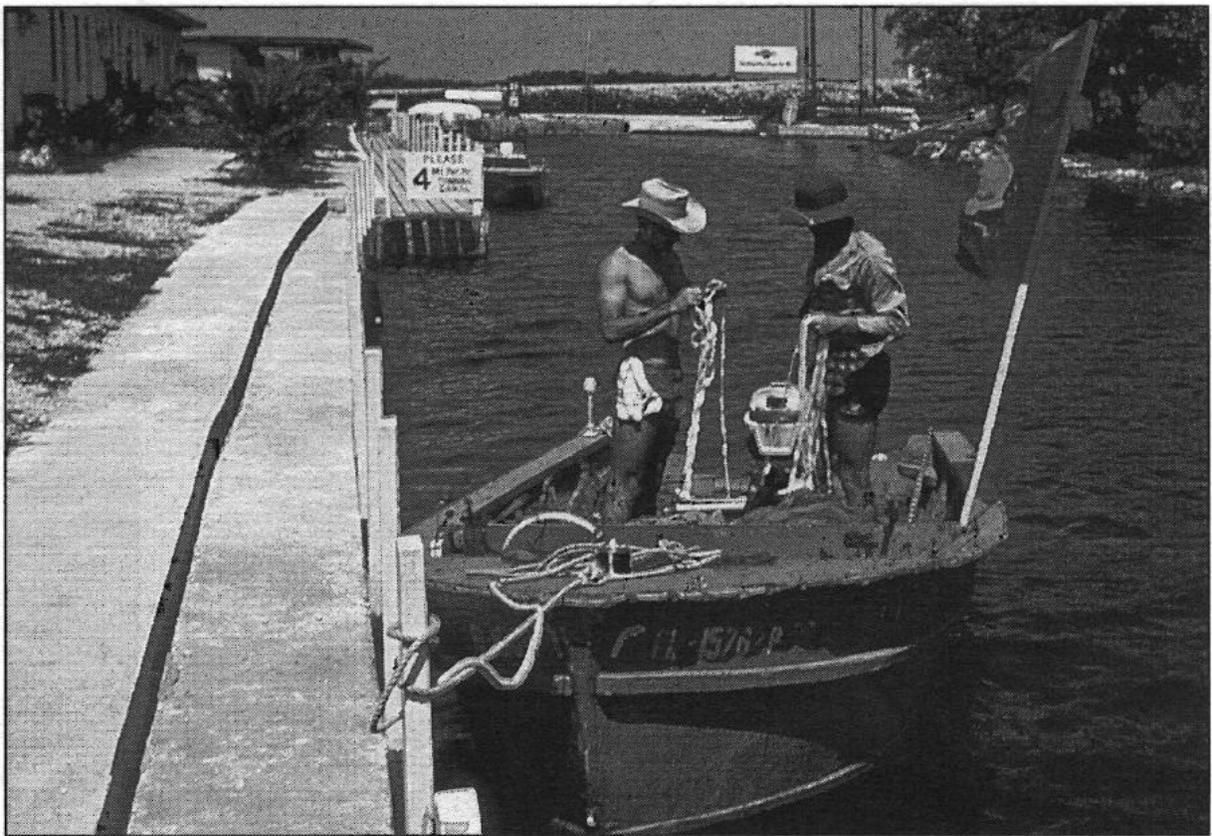


A brief history of course G575

Geology of Tropical Marine Environments, which has been taught a total of 16 times in the Florida Keys and the Bahamas, had its origin in a 1964 request to Don Hattin by then-doctoral student Don L. Kissling (PhD '67), who wished to complete his biology minor by conducting a study of living corals. His request was granted, and, in company of Jerry Lineback (PhD '64), Don Kissling headed to the Florida Keys. Equipped with a tent, a small boat (the "Hunky Dory"), a small outboard motor, and an apparatus for measuring environmental parameters, Don Kissling and Jerry set up camp at the Big Pine Key Fishing Lodge and proceeded to explore the adjacent coral-rich habitats. Selecting a several-meters-square area of coral-encrusted rock, Don Kissling made observations and gathered data that were the basis for a paper published in the *Bulletin of Marine Science* (Kissling, 1965). In order to monitor progress on this research, Don Hattin traveled to the Keys, and after one underwater look at the impressive modern carbonate environments, he decided at once to develop and teach a course in the reef tract.



Geology students in the Big Pine Key, 1965

During the 1964-1965 academic year, Hattin offered a seminar on tropical marine environments, and the student participants (Kissling, Jim Howard, Bob Nicol, and Larry Balthaser) worked on assembling equipment for a G420 (then known as Regional Stratigraphy Field Trip) expedition to the Keys. The intent was to map a large-patch reef and associated sediments situated off the Newfound Harbor Keys, and on the first "field" day, using a

dilapidated rented boat, we set up a plane table and alidade at the reef center. Initially, good progress was made. We mapped the size, shape, position and identity of numerous large coral heads and collected many samples of adjacent sediment. On the second day, a higher tide and higher wind sent waves across the plane table, necessitating change to a secondary project!

Spring break trips to the Keys were repeated in 1966 (accompanied by John Droste), 1967 (Hattin and Dodd), and 1968, by which time Bob and Don had finalized plans for a five-week summer course titled Geology of Shallow Marine Environments (G575). During the summer of 1968, a class of eight students headed to the Keys in two carryalls to inaugurate the new course. Our first encampment was at the venerable Briny Breeze Motel on Key Largo, from which we explored such spectacular sites of carbonate sedimentation as Rodriguez Key, White Bank, and Molasses Reef, the last five miles offshore at the seaward edge of the Florida Platform. An additional day included a circuit through the "lakes" and mud banks of Florida Bay. These two days acquainted students with the Portuguese Man 'O War, barracudas, phinques (current scours filled with soupy mud), sea-grass meadows, and loggerhead sponge gardens.

Our main base was Big Pine Key Fishing Lodge, where we rented all six motel units. We rented three boats at Vaca Key, some 15 miles to the east. While piloting these boats to Big Pine, we were hit by a ferocious squall, which drove rain almost horizontally and would have filled our boats save for constant bailing! From Big Pine Key, our group studied near-shore patch reefs, a far offshore barrier reef, rocky shorelines, sand beaches, lagoons, sand bars, mud banks, marine meadows, and sand flats, conducting both individual and team-mapping projects. An extensive array of field and laboratory equipment, as well as an extensive library of reprints, was at hand for all to use. A couple evenings a week were devoted to seminars, but most evenings were devoted to analysis of data, mapmaking, and report writing. This general format was followed in subsequent years including 1969 (Dodd and Siemers), 1970 and 1971 (Dodd and Hattin), 1972 (Hattin and Siemers), and 1973 (Siemers and Kues). Altogether, some 48 students participated in this five-week, five-credit field course, and several papers were published as a result of research by students or faculty members.

During these years the group experienced several mishaps, including severe stinging by a bristle worm and a Portuguese Man 'O War, a case of poisonwood contact, and two shark bites. From 1974 through 1980, waning interest in the Keys and other commitments for Bob and Don resulted in temporary suspension of G575 offerings.

Early in 1975, Haydn Murray suggested to Don Hattin that the Fairleigh Dickinson marine laboratory on the Caribbean island of St. Croix looked promising as an alternative to the Florida Keys as a base for teaching G575. In February of that year, Don and Marge flew to St. Croix, where they were hosted for a week by Lee C. Gerhard, director the Fairleigh Dickinson operation. Despite excellent facilities and a plethora of carbonate-producing environments, the total cost of getting to the island and utilizing the facilities would have been more than double the costs for the Florida-based course, so the plan was dropped from consideration.

Early in 1981, a friend apprised Hattin of a teaching facility on San Salvador Island, Bahamas, and a few days later Don was contacted by Don Kissling, who had taken students to that base. Kissling was able to give a detailed account of its suitability for offering a course on geology of carbonate-producing environments. Kissling informed Don Gerace, director of the Bahamian field station, of Hattin's interest, and Gerace telephoned to make arrangements for an on-site visit. In February 1981, Don and Marge Hattin drove to Ft. Lauderdale, met Don Gerace

at the airport, and boarded a WWII DC-3 aircraft ("Gooney Bird") for the charter flight to San Salvador Island. For an entire week, Don Gerace and his wife, Cathy, escorted the Hattins on field trips to all major geologic and marine sites on the island, including quarries, sinkholes, blue holes, sand dunes, fossil reefs, and a stunning variety of modern carbonate-producing environments – fringing, patch and bank reefs; sand flats, sea-grass meadows, hypersaline lakes, lagoons, etc. Most importantly, the cost of offering a course there would be unbelievably reasonable – less than \$600 for 15 days, including charter airfare from Ft. Lauderdale; and food, lodging, lab space, and transportation while on the island. Before leaving the island, Hattin assured Dr. Gerace that I.U. would be represented during the summer of 1981.

Upon returning to Bloomington, Don made immediate plans to enroll students for the Bahamas course, and soon had a roster of six graduate and two undergraduate students, including Art Liebold III, Gary Yoder, Dave Bredon, Jayne Sieverding, Martin Farley, Doug Montgomery, Dianne Symber, and Phil Odell. Students arranged their own transport to Ft. Lauderdale, and on the appointed day we loaded an old DC-3 with all our gear, flew to the island, and spent two weeks in intensive study of the many modern and ancient sedimentary deposits which make San Sal such a fascinating natural laboratory. Being mid-summer the heat and humidity were fierce, the sun blistering, and the no-see-ums legion. Despite lack of air conditioning, little ice for beverages, and long hours in the lab each evening, spirits remained high, and a genuine camaraderie developed. On the final day, however, as we headed toward the airport, Doug said, "Let's get out of this hell hole." Upon arrival in Ft. Lauderdale, we headed to a restaurant featuring whole crabs, and had a final repast together. Before parting for the night, one of the students (Doug?) suggested that we have a reunion on San Salvador in five years. In 1986, we did just that!

A bit here about the field station. During the early 1970's an abandoned U.S. Navy base on San Salvador Island was made available for educational purposes, and a consortium of small colleges in upstate New York accepted the challenge. Geologist Don Gerace of Alfred College was selected to bring the base back to life, and within a few years he had succeeded admirably. To do so he had to become a plumber, electrician, water-supply technician, mechanic, painter, "doctor" and entrepreneur, along the way also becoming a trawler captain, airplane pilot, scuba diver, preacher, and Boy Scout leader.

The hallmarks of island transportation were mostly old flatbed trucks which Don had hauled from abandoned U.S. Navy and Coast Guard dumps, repaired to useful service by Don Gerace, and painted deep sky blue. Wheeling these large vehicles on the left side of the potholed or gravel circum-island road (the Queens Highway) was the least of challenges faced by the first I.U. class.

In 1982, our class included 6 grad students and 1 undergraduate student. At the Ft. Lauderdale airport Hattin did not see a DC-3 on the ramp, and asked for directions to our plane. The office manager pointed to an impossibly small twin-engine Piper aircraft, and assured us that our group of nine plus the pilot could, indeed, be accommodated. Packing our gear into nose, tail, and engine nacelle compartments, as well as under seats and behind the last two seats, we seemingly exceeded the plane's lift capacity – but we were wrong, and took off safely for San Salvador. To avoid low storm clouds the pilot climbed to 11,000 feet, causing Mike Miller to have a severe earache, which was later rectified by Don Gerace and his trusty ear syringe. That year, one of our team projects involved mapping a fossil patch reef. In 1983, our third class created a transect from offshore patch reef to modern beach for use for comparison with the

fossil reef. This study was later published in the journal “Coral Reefs” by Hattin and Vicki Warren. The third-year class mapped another fossil reef, and published the results in *The Compass* of S.G.E. Three San Salvador members did their M.S. research on the island, and 1982 class member Joy Beier published in *Sedimentology*.

In 1985, a large Columbian three-masted square-rigged training vessel anchored off the island after a trans-Atlantic voyage. After dinner that evening Don, Marge, and Alan Curran (Smith College) drove to the Cockburntown dock to view this beautiful ship. A jolly boat came ashore and the bos’n asked if we would like to visit the ship. Of course, we said yes, and eventually found ourselves on the main deck in the midst of a major welcoming reception. Among the dignitaries were the Colombian ambassador, representatives of the Bahamian government, and, of course, the ship’s captain in full dress uniform. Tuxedoed crew members served rum cocktails, and the three of us were introduced to all of these gentlemen. Hattin, standing at military attention during the ceremonies, was still attired in salt-encrusted swim attire (long pants and torn long-sleeved shirt), and had had no time to comb his matted hair! The dignitaries graciously overlooked Hattin’s shipwrecked appearance.

On the following day, our class was mapping fossil reef, back reef, and beach facies in a Cockburntown quarry, and at noon asked if they could visit the ships. Hattin said, “No, we’ve got work to do.” Marge called him aside and asked how he would feel under such circumstances. Of course, the students got to make their visit to the ship, coming back to shore soaking wet because of the wind and waves. The last guest to leave the ship that day was class member Jennifer Swift (Bowling Green State University), whose parting gift from the captain was a genuine gold-chain-mounted Colombian emerald!!

In San Salvador waters we saw many more sharks than in the Florida Keys area but had no trouble because of the clearer Bahamian waters. One student (Rick Jolley, 1987) slipped on a beach rock boulder and lacerated his shin, and Marge Hattin (1988) was stung severely by so-called sea wasps in waters off Cockburntown. Other than that we had a few mishaps while on San Salvador Island.

A total of 59 students (54 from I.U., 3 from Kansas State, and one from Bowling Green State University) participated in the 9 classes taught by Hattin on San Salvador, the last being in 1992.



Returning from exercise on North Gavlin Reef, San Salvador Island, Bahams. Left to right: Kate Freeman, Steve Roth (K. State), Jim Kwolek (Chevron), Bernie Storr (boatman, entrepreneur, airport attendant, leader of “Rake and Scrape Band”), Don Petzold, Glen Heishema, Ross Vandrey (lower right corner).

The Bahamian Field Station has since been renamed *The Gerace Research Center*, Don Gerace has retired from the directorship but is still Chairman of the Board of Directors, and two of our former class members, Dan Suchi and Vince Vogeli (both former Kansas State University students), have since served as directors of the field station. The station is now under aegis of the Bahamian government.



Jim Kwolek, a member of the 1983 class on San Salvador Island, graduated with an M.S. degree in 1985, was hired by Exxon, and has since been involved in exploration in many parts of the world. With great generosity, he donated money to the department which was to be used to support students wishing to participate in course G575. Other graduates contributed to this fund, and upon Don Hattin's retirement in 1995 the residue of these donations became basis for the Don and Marge Hattin Special Field Course Fund. In recent years, proceeds from the endowment have been used to fund Bob Wintsch's offerings of G420 (Regional Geology Field Trips), including the 2009 trip to Scotland. Contributions to the fund continue to be made by Don's former students, friends and family members. All donations are greatly appreciated, and are acknowledged, in writing, by Don Hattin.

Donald E. Hattin