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Purpose of the Dive

The objective of this second deep dive, from ~2100-1800 m, on the central part of the West Florida Escarpment in an overlapping but shallower depth range than Dive 13, was to complement that dive in quest to characterize deep-water coral habitats. The dive was nominated by Brian Kinlan and Peter Etnoyer (NOAA).

Description of the Dive:

The vehicles landed at a water depth of 2096 m. The landing site was a bench of massive carbonate outcrops covered with patches of soft, rippled sediment. There were also meandering crevices/drainage pathways filled with unconsolidated material. There was also evidence for bedding planes of varying thicknesses failing by gravity along visible ~vertical joints.

The vehicles transited to the inner edge of the bench at 2082 m, then began up a steep slope with vertical intervals. This slope was composed of a series of steps formed by massive carbonate layers broken by small benches formed by bedding planes. Debris and soft sediment often accumulated on these benches.

On one cross-section of a layer, what looked like a stromatoporoid cross-section, was observed at a depth of 1919 m. The top of the wall/slope occurred at 1887 m. The ensuing broad bench was formed for the most part by a series of ~flat-lying stacked bedding planes. Some were the tops of massive layers, characterized by fossil burrows, algal mats and drainage channels. Other layers appeared more friable, and were filled with (fossil?) burrows. Some soft sediment, slightly rippled and occasionally formed into ribbons (by currents?), also occurred. One layer, at 1839 m, appeared to be composed of flaser/lenticular beds (suggesting a tidal environment) in cross-section. The crest of the bench was reached at 1824 m.

Just before the vehicles left the seafloor, some mollusk casts were seen in a large piece of debris, at 1827 m.

At least 23 species of coral were seen throughout the dive including many recruits which suggests a healthy ecosystem that is ideal area for recruitment. There was also an increase in coral abundance at about 1970 m. There were areas where rigidity decreased and the corals and other fauna disappeared at the end of the dive (likely related to unsuitable, flat, sedimented hard bottom, in this area- every piece of float rock had fauna or recruits on it.)

The corals seen on this dive included: **Scleractinians**- *Solenosmilia* or *Enallopsammia* or *Madrepora*; *Desmophyllum* or other solitary cup coral; **Octocorals**- Primnoidae, *Swifita* sp.(rare), Paramuricea, *Iridogorgia splendens* (common) and *I. magnispiralis*, *Chrysogorgia*, *Metallogorgia* sp., *Sibogagorgia* (common to abundant, including many recruits), *Paragorgia* (white and pink morphs); **Bamboo corals**: *Lepidisis*- type (unbranched), *Keratoisis*, *Isidella*, at least two other branching species- including one rare candelabra shaped bamboo; **stoloniferous octocorals**- *Clavularia* (purple and yellow morphs), and *Anthomastus*; **Antipatharians**- *Stichopathes*, *Bathypathes*, *Stauropathes*, and *Parantipathes* sp.

Other Species sighted throughout the dive:

Sponges: **Hexactinellid**- unidentified fans, *Euplectella* sp. – type (few), *Hyalonema* sp. (common); **demosponges**- *Polymastia*? (r) and *Geodia*?; along with four rarely seen carnivorous sponges, 1-2 cm .

Fish: cusk- eel- *Luciobrotula* sp., skate- *Rajella*, and cutthroat eel- *Aldrovandia* sp.

Echinoderms: **Asteroids**: Brisingidae (rare), bat stars- Goniasteridae (rare); **crinoids**: Thalassometridae – new species? and *Pentametrocrinus atlanticus* (5 arm crinoid, never before seen in the Gulf), and 1 purple Holothurian.

Other rare sights: dandelion (benthic siphonophore), squat lobster- *Munidopsis* sp. (1), corallimorph or unidentified anemone, squat lobster, and white fan bryozoans.

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