

SURFACE WEATHERING OF LIMESTONE IN FLORIDA CAVERNS STATE PARK

Mary Elizabeth Lupo, Department of Physics, Astronomy, Geosciences, and Engineering Studies

Faculty Sponsor: Dr. Donald Thieme, Department of Physics, Astronomy, Geosciences and Engineering Studies

Florida Caverns State Park near Marianna is a system of interconnected cave passages developed into a tour cave by federal workers during the 1930's and 1940's. The surface of limestone outcrops throughout the park exhibits features resulting from physical and chemical weathering. Rectangular cracks, rillenkarren, and other features have been identified and are found at several scales. Field mapping and sampling are focused on two areas of the park: 1) China Cave vicinity, and 2) the bluffs between the Tour Cave entrance and the Chipola River. Fractures and features due to both mechanical and chemical weathering are being mapped on rectified photographs and assembled into photomosaics for each area. Samples of limestone are being collected from the exposures representing various stages of weathering beginning with relatively fresh rock. Approximately six (6) thin sections will be made from these samples for petrographic analyses, possibly to be followed up by chemical analyses.