UPPER CRETACEOUS MARINE AND BRACKISH WATER STRATA AT GRAND STAIRCASE-ESCALANTE NATIONAL MONUMENT, UTAH
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INTRODUCTION

Mid-Cretaceous strata in southwestern Utah (figures 1 and 2) are transitional from shelf to nonmarine rocks in the foreland basin along the tectonically active western margin of the Western Interior basin. Predominantly nonmarine western sequences (Beaver Dam Mountains near Gunlock, Utah; Cedar Canyon near Cedar City, Utah; and at Parowan Gap near Parowan, Utah) are difficult to correlate with other rocks because they lack a representative suite of marine megafauna. Rocks in Grand Staircase-Escalante National Monument, are mostly marine, but have not been thoroughly sampled for datable fossils; thus correlations within the marine sequence are generally imprecise. Furthermore, correlations with key reference sections in the central part of the Western Interior basin are not well defined. Better correlations will help in establishing the timing of transgressive and regressive depositional events throughout the basin.

This field trip will familiarize geologists and non-geologists alike with the mid-Cretaceous sequence in Grand Staircase-Escalante National Monument, with emphasis on the fossiliferous marine units. We discuss the physical stratigraphy of key rock units, biostratigraphic correlations, and general environments of deposition. Characterization of the regional timing of transgressive and regressive stages of the Tropic sea will be made using new fossil collections of Cobban and others (2000) and Dyman and others (2000). We also include general explanations of other Mesozoic stratigraphic units along the field trip route. The field trip was designed as a one-day event in order to reduce participant costs and accommodate tight schedules. We have examined excellent marine sections farther to the east in the Monument, but have selected our stops as the best within existing logistical limitations.

Mid-Cretaceous strata in the Monument include the Cenomanian Dakota Formation, the Cenomanian to Turonian Tropic Shale, and the Turonian lower part of the Straight Cliffs Formation. At Tropic, Utah, and Cottonwood Wash, along the route of the trip, marine rocks associated with the Tropic transgression extend from near the upper part of the Dakota Formation through the Tibbet Canyon Member of the Straight Cliffs Formation (figure 2).