

# INTRODUCTION TO THE KARTCHNER CAVERNS STATE PARK SYMPOSIUM

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Kartchner Caverns State Park is in the Whetstone Mountains, Cochise County, Arizona, USA, just south of Interstate 10 and west of State Highway 90, ~80 km southeast of Tucson and 13 km south of Benson (Fig. 1). The park site, at an average elevation of 1430 m (4700 ft), encompasses 220 ha (550 ac) along the San Pedro Valley. The arid climate of the park mostly supports Sonoran desert vegetation, with woody vegetation such as mesquite, hackberry, and acacia adjacent to intermittent streams. The mean monthly temperature at near-Benson, Arizona, is 17.1°C (62.8°F), and the average annual precipitation is 290 mm (11.4 in), over half of which falls during July and August. Past climates have been wetter than the present, and from 30-10 Ka (thousands years ago), lakes existed in the San Pedro Valley and fauna, such as Mammoths, inhabited the region.

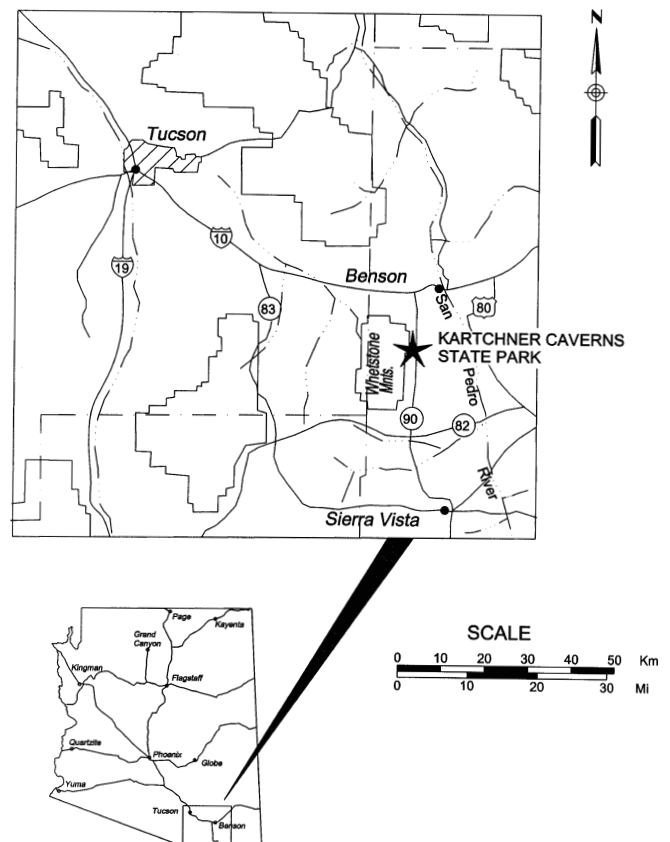
Geologically, Kartchner Caverns State Park is within the Basin and Range Province of the western United States, which is characterized by a series of horsts and grabens. The San Pedro Valley is in one such graben, just east of the park. A prominent fault block, called the Kartchner Block, has been downropped along the edge of the graben, and it is in this fault block of Mississippian Escabrosa Limestone that Kartchner Caverns developed. In the past, when the alluvium in the San Pedro River Valley was at a higher elevation, Kartchner Caverns formed along the level of the then-present water table. Guindani Wash and Saddle Wash drain the Whetstone Mountains to the west, and are the source of undersaturated water which still sporadically floods the cave.

Kartchner Caverns is the prime feature of Kartchner Caverns State Park. It is over 3 km (2 mi) long and contains spacious rooms, one is as long as a football field (100 m). The cave formed along one level at an elevation of ~1410 m (4625 ft). The park contains three species of bats, one of which (*Myotis velifer*) resides in the cave during the summer months. The cave is also home to other invertebrate species, some cave adapted, and to intermittent visitors such as ringtail cats. Beautiful, multicolored, cave formations (speleothems) are one of the main attractions of Kartchner Caverns, and the cave contains rare minerals and speleothems.

In order to prepare for the public opening of the cave in an environmentally sensitive manner, Arizona State Parks contracted for multi-disciplinary scientific studies to be done at Kartchner Caverns. This Symposium presents the results of these studies. The importance of these scientific endeavors should not be underestimated: Kartchner Caverns is one of the

most thoroughly studied caves in the world. As such, it has become the model of how a cave ought to be explored, researched, and commercialized. During the exploration and the scientific study of Kartchner, great care was taken to preserve the cave so that all subsequent visitors would be able to see it in the same pristine condition as Randy Tufts and Gary Tenen first experienced when they discovered it 25 years ago. It is hoped that future generations will continue to take great care of this exceptional cave.

*Kartchner Caverns State Park Symposium Organizers: Robert H. Buecher & Carol A. Hill*



**Figure 1. Location map of Kartchner Caverns State Park.**