

APPENDIX A

Color Figures

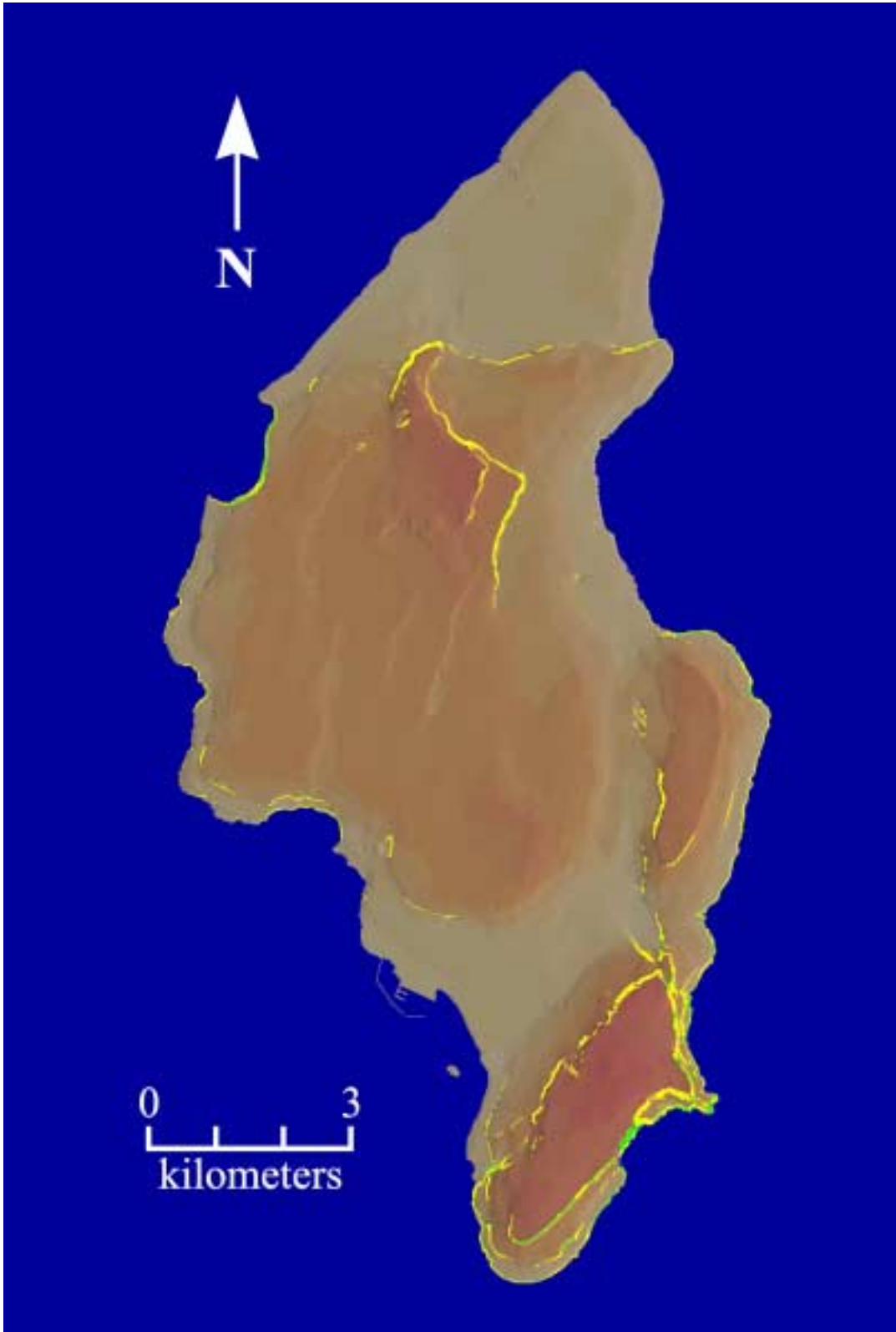


Figure 19: Inland and coastal scarps on Tinian.

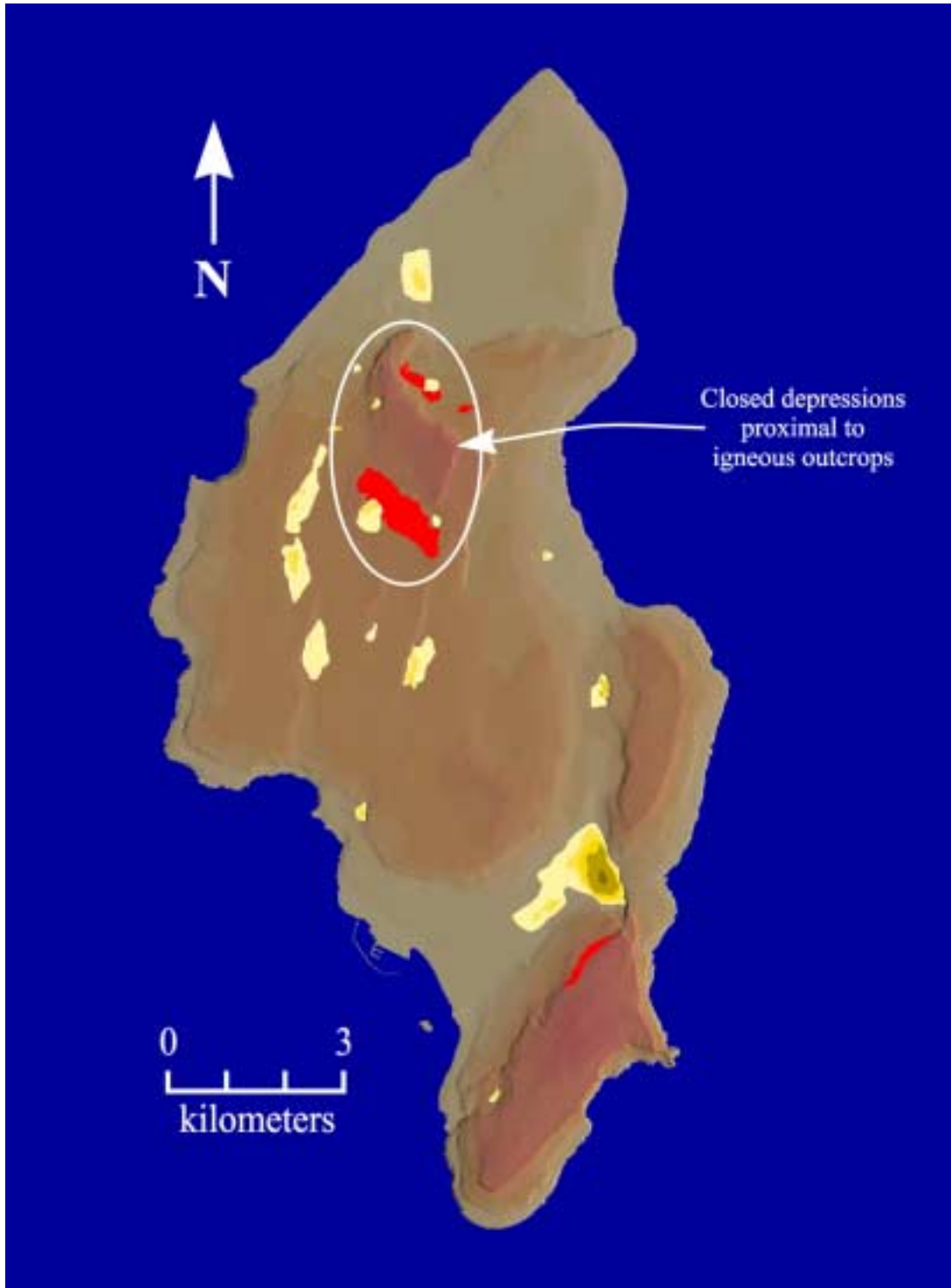


Figure 20: Areas of potential allogenic recharge based on non-carbonate rock outcrops (shown in red) and closed depressions (shown in yellow with darker shades of yellow representing greater depth).

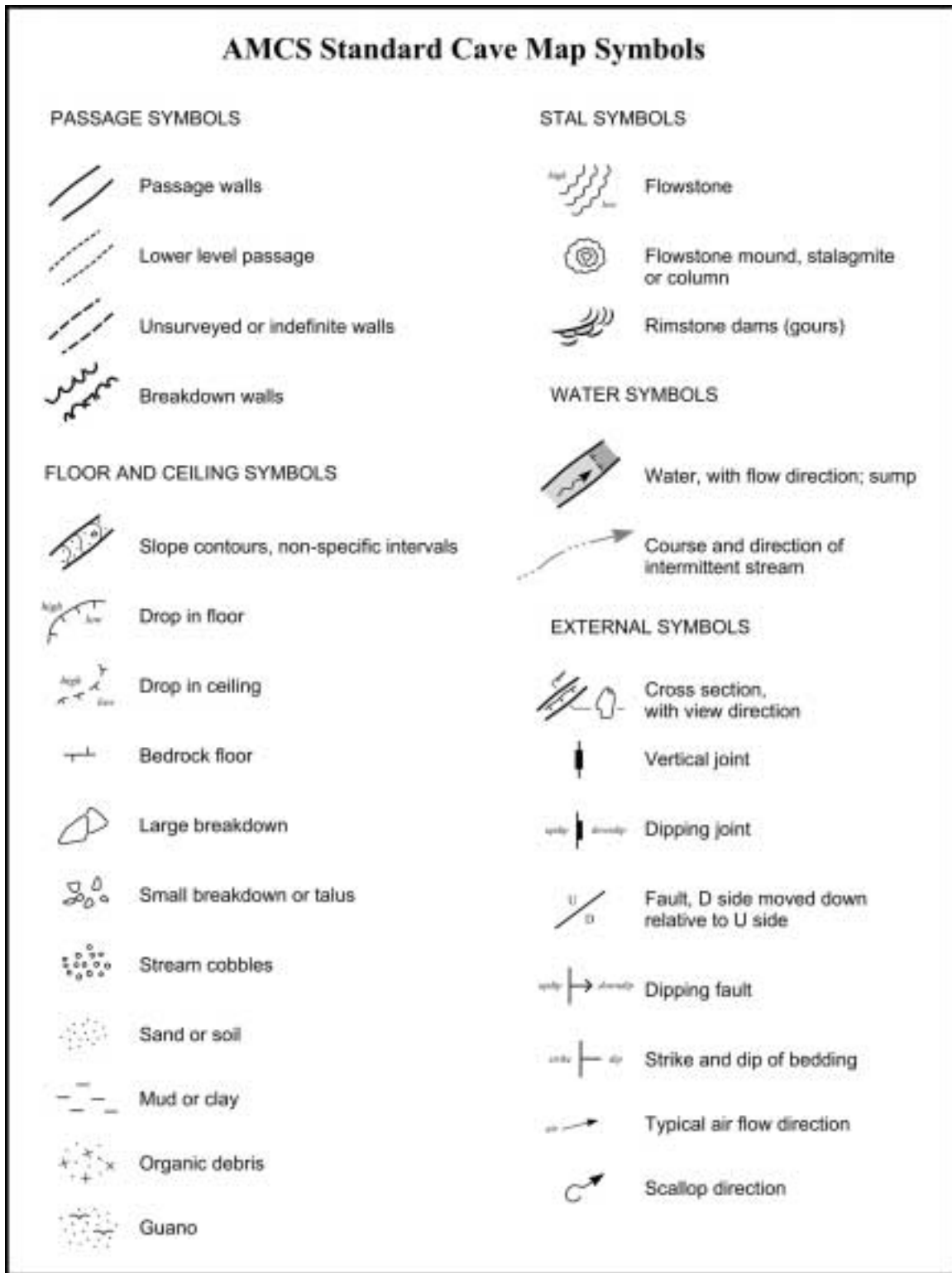


Figure 21: AMCS standard cave symbology (Sprouse, 1991).

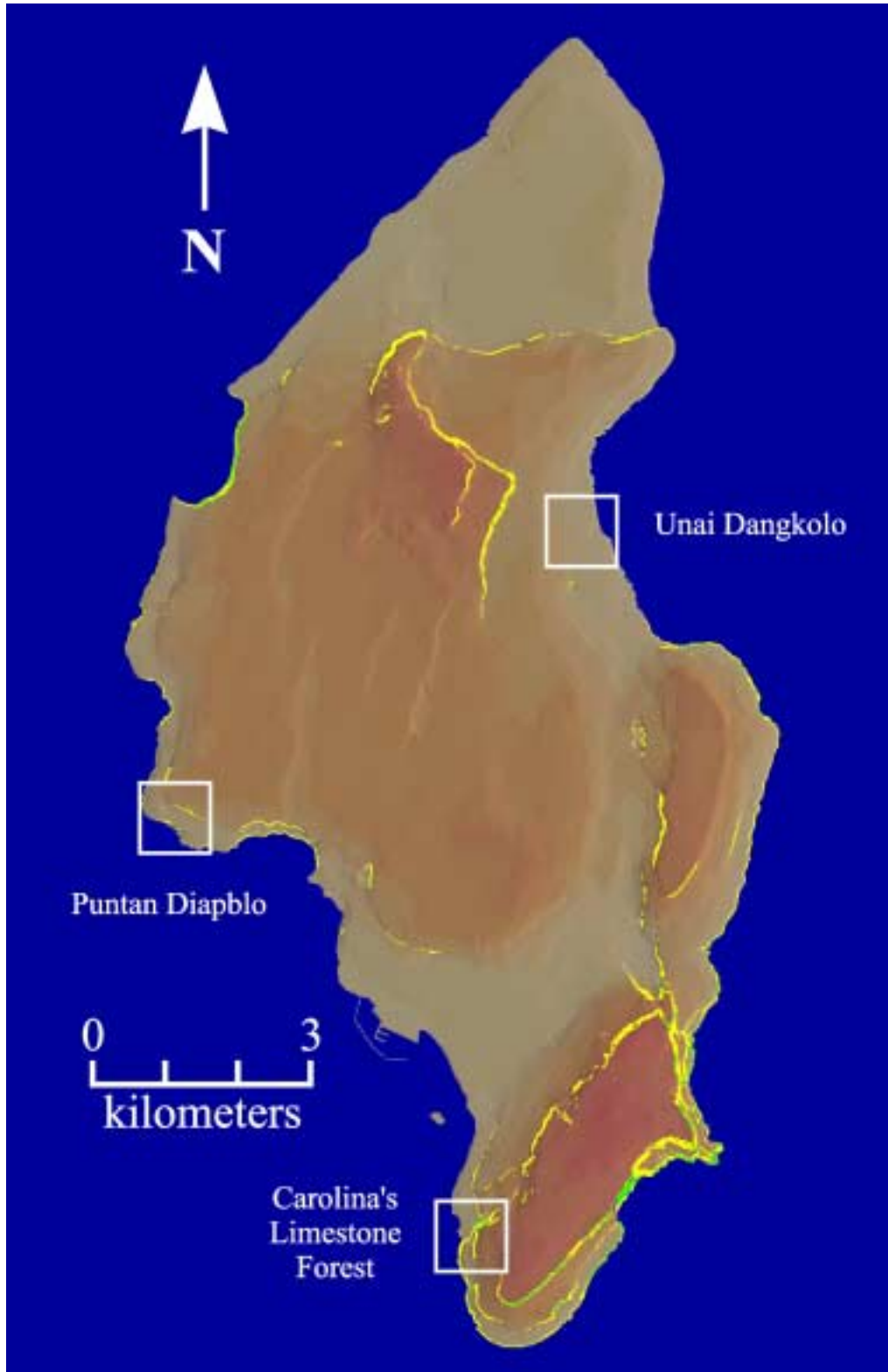


Figure 22: Location of test site areas.

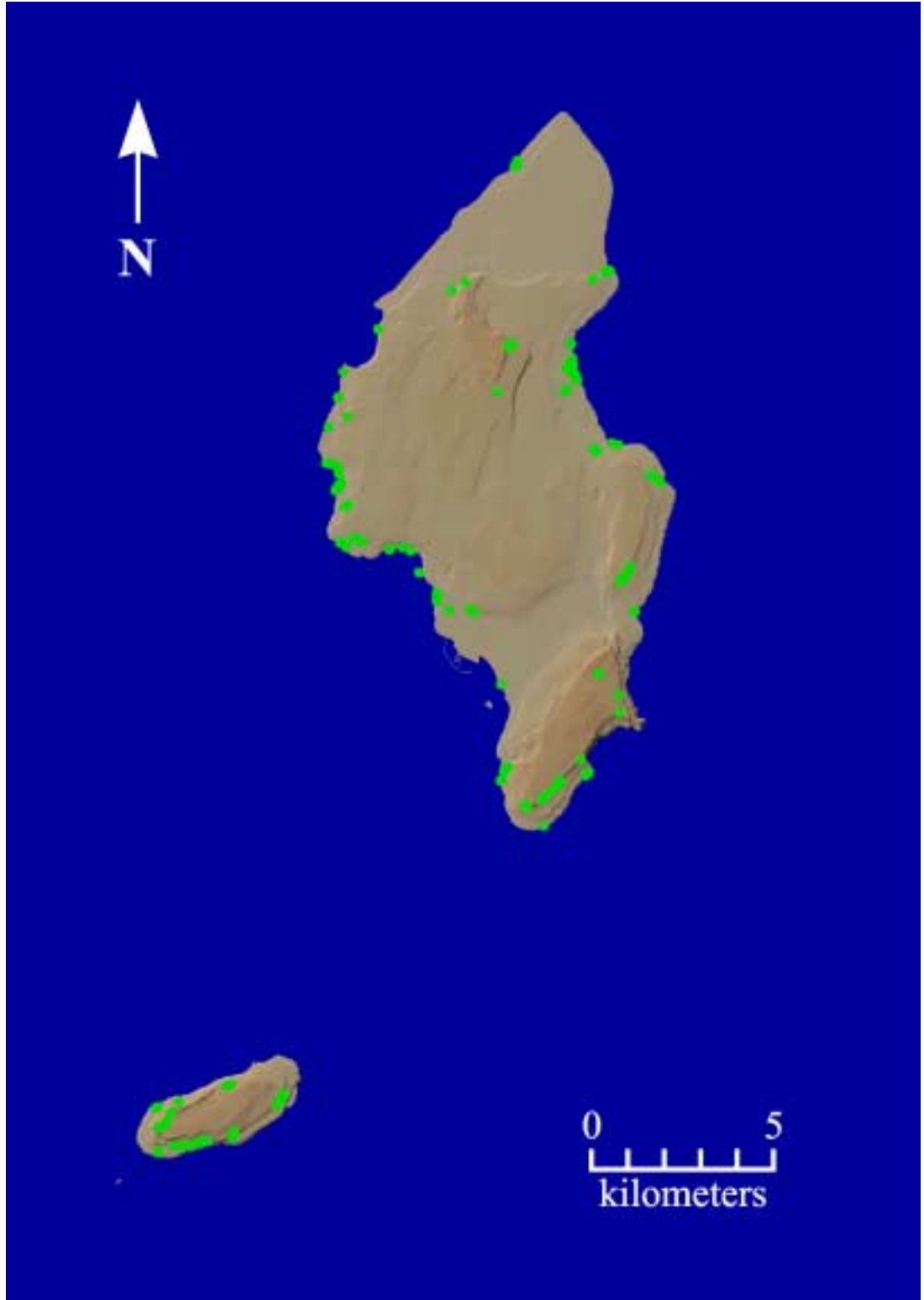


Figure 23: Green areas represent the location of cave and karst features surveyed on Aguijan and Tinian.

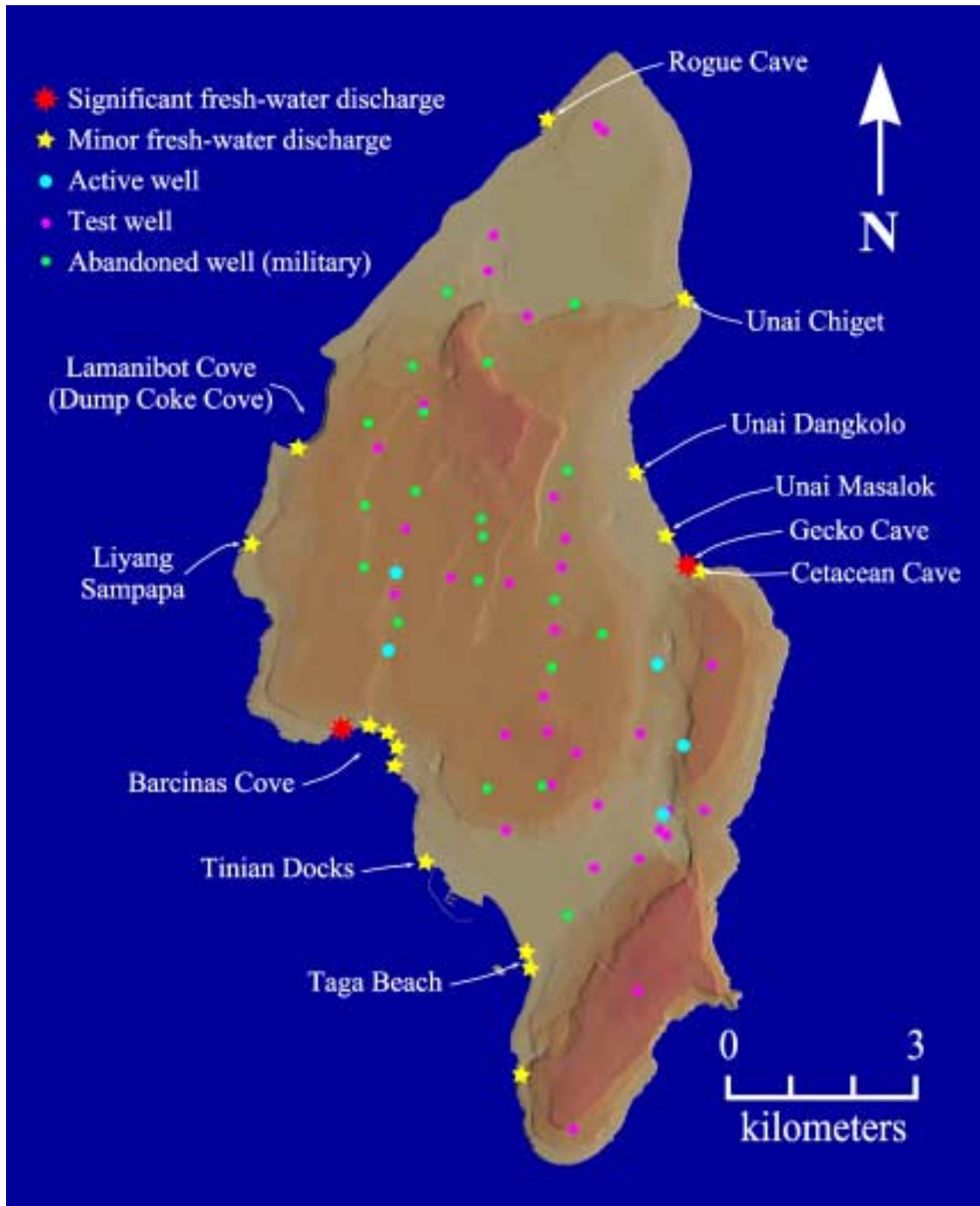


Figure 24: Fresh-water discharge sites located on Tinian



Figure 25: Bamboo growing in the North Lemmai Recharge Feature, with vines coating the scarp that forms the non-carbonate / carbonate contact.



Figure 26: Ponded water in the South Lemmai Recharge.



Figure 27: Location of closed depressions on Tinian.



Figure 28: Active quarry on Tinian.



Figure 29: Fresh-water at the land surface (~2 meters above mean sea level) at Hagoi in the Northern Lowland.

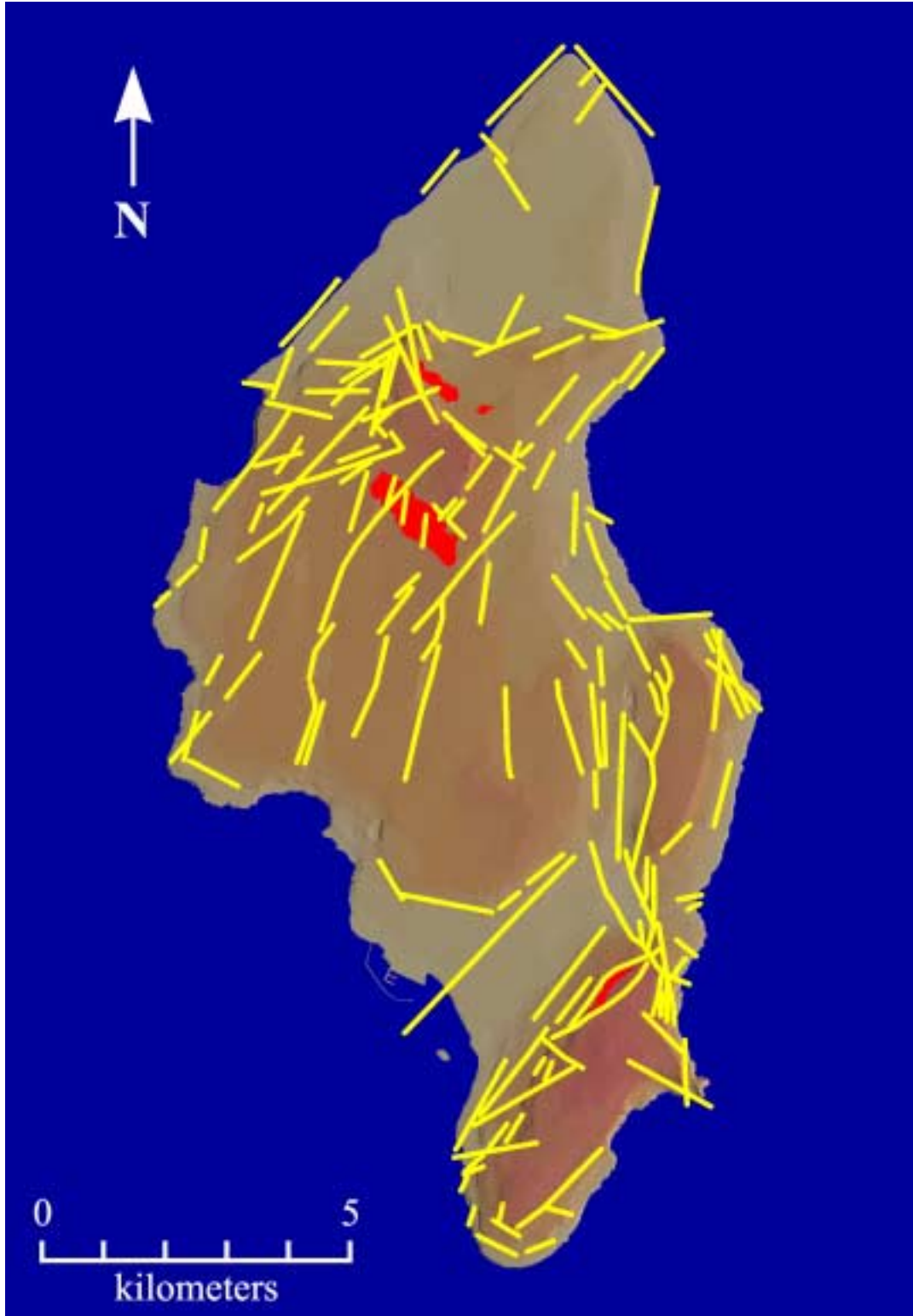


Figure 30: Faults (yellow) and non-carbonate rock outcrops (red) reported by Doan and coworkers (1960).



Figure 31: South Unai Dangkolo represents a typical cove that has formed from collapse and coastal erosion of a large flank margin cave.



Figure 32: Hidden Beach Cave demonstrates well the transition from flank margin cave to cove resulting from coastal erosion.



Figure 33: Typical flank margin cave morphology in one of the passages extending from the main chamber in Unai Dangkolo.



Figure 34: Horizons of flank margin cave development show previous fresh-water lens positions as seen at Suicide Cliffs, Tinian.



Figure 35: Fissure caves form narrow, linear passages that appear to be developed along zones of brittle failure as seen in Carolina's Fracture Cave.



Figure 36: Flowstone deposits on ceilings and walls prevent observation of offsetting of rocks by faulting if it exists (Plunder Cave, Tinian).



Figure 37: Insect Bat Cave on Aguijan represents a paleo-discharge feature.



Figure 38: Scallops on the ceiling and walls of Liyang Atkiya, Aguijan.

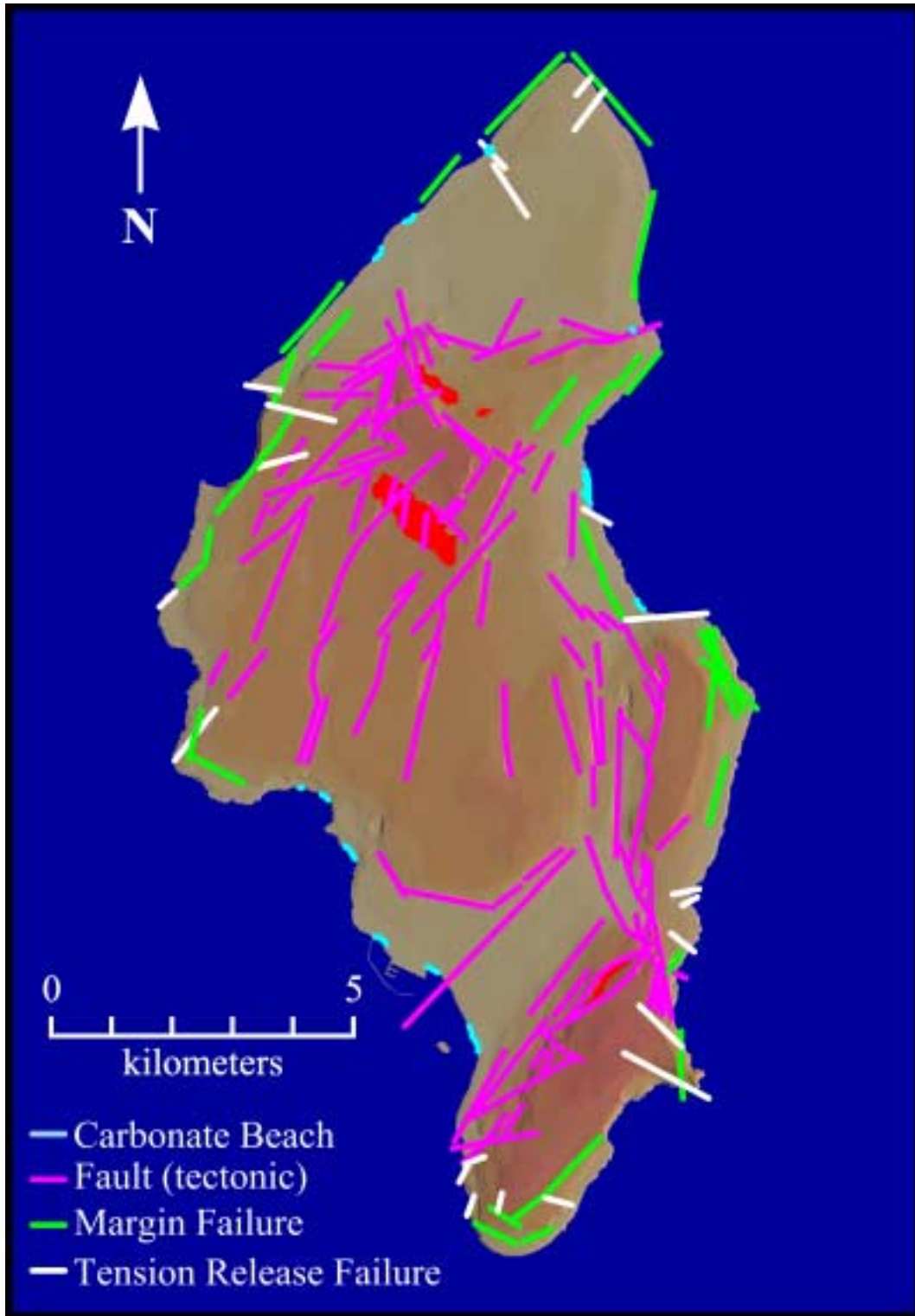


Figure 39: Diagram showing the location of modern carbonate beach deposits (light blue) and primary brittle failure types: tectonic faults (purple), margin failures (green) and tension release failures (white) (adapted from Doan et al., 1960).