Creating A Historic Preservation GIS

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GIS 180 - Ecosystem Management

Problem Statement:
When a property is determined as historically significant, protective measures for the sites on the property are stipulated in a document called a preservation plan. The State Historic Preservation Division (SHPD) reviews these preservation plans and conducts follow-up site visits to check compliance with the measures outlined in the plan. To date, most of these properties have not received follow-up inspections. This project originated in 2013 as a simple spreadsheet to collect current landowner contact information, brief descriptions of sites, and preservation recommendations so that SHPD would be able to arrange informal inspections to check the condition of the sites. The project has since evolved into a geographic information system that stores and maps location data for historic properties on Maui. The preservation data in this GIS is based on published reports found in the SHPD library during the time of data collection. There are many more historic properties whose documentation must still be located and entered into this GIS.

Methods:
• July 2013 - Organize State Historic Preservation library according to Tax Map Key.
• August 2013 - Separate all preservation plans from other archaeological reports in the SHPD library.
• Jan. 2015 – present - Geoprocess preservation plan table by relating it to State GIS Tax Map Key shapefile. Create new feature class of TMKs for which preservation plans have been written. Add different basemaps to create varying contexts in which to analyze historic properties.

Abbreviations:
• GIS: Geographical Information System
• SHPD: State Historic Preservation Division
• TMK: Tax Map Key

Results & Discussion:
By joining the SHPD spreadsheet to State GIS data for Tax Map Keys, I was not only able to map the preservation areas, but also find values for various other fields simply by exercising the attribute tables and geoprocessing the feature classes in my geodatabase. The State data for TMK provides current landowner information; by adding an acre field and calculating geometry, I would be able to add the total acreage of each parcel to the site descriptions; the University of Hawaii data provided historic land divisions for each TMK; and finally, using current Landdata data to zoom in on parcels could yield information regarding damage to sites.

References:


Credits:
Maps for this project were created using ArcGIS software by Esri. ArcGIS® and ArcMap™ are the intellectual property of Esri and are used herein under license. Copyright © Esri. All rights reserved. For more information about Esri® software, please visit www.esri.com. I would like to thank Sarah McLane, GIS Education Specialist and Industry Coordinator (Maui); Howat Peter King, GIS Instructor (Kauai); Victor Rasgado GIS Instructor (Hawaii); Jenny Rickard, State Historic-Preservation Division Archaeologist (Maui); Theresa Entham, Archaeology Branch Chief – State Historic Preservation Division; Josephine Buck, University of Hawaii at Hilo; State of Hawaii Department of Land and Natural Resources; State of Hawaii GIS Program; University of Hawaii at Mānoa Library.