Utu
(Su'a fa'aoti le utu a le faimea.)

Sāmoan Archaeology and
Cultural Heritage Database
for the Independent State of Samoa
Utu – Time Line

2014 : Planning / Research
Archaeological Publications
Anthropological Publications
MESC (Ministry for Education, Sports & Culture)
Historical Documents

2015 : Funding Sought
AFCP (Ambassadors' Fund for Cultural Preservation)

2016 ---- : Implementation -
Data Collection, Research, and Data Entry
Utu – Present System

Software:
QGIS 3.20.2

Hardware:
Intel i7 - x4
64GB Ram
GTX 1060 8GB Video Card
Dual 28” Monitors
8TB Shared Hard Drive
Shared Drive

Data available to all
Basic Layout
Map Shape Files

- Roads – Rivers - Villages
- Forestry - 1954
- Geology Shape - 1961
- Land Tenure
- Island Outline
- Soil – Agricultural Use
- Soil Type
- Forest 1989
- Land Use
Maps: Aerial Photos

1954

2015
Maps: Topographic
Survey Maps – Historic & Recent

1966

Map Legend

- Village
- Fortification
- Causeway
- Stone Wall
- Mound
- Star Mound
- Miscellaneous
- Roadway

2018

Map Legend

- All_Archaeology_Points
  - Star Mound
  - Platform
  - Umu ele'ele
  - Hollow,

- Line_Features_All
  - Ditch
  - Wall
  - Walkway

Samuau
Maps: Shape files & Overlays

1954 - Forestry

Map Legend

1961 - Land Classification

Map Legend
Maps: Historic

Apia 1900

Upolu 1921
## Archaeological Data

### Utu data by GIS Data Type

<table>
<thead>
<tr>
<th>GIS Data Type</th>
<th>GIS Points</th>
<th>GIS Lines</th>
<th>GIS Polygons</th>
<th>Map Overlays</th>
<th>Media</th>
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</thead>
<tbody>
<tr>
<td>Total Sites in Utu</td>
<td>10299</td>
<td>6951</td>
<td>3579</td>
<td>101</td>
<td>6272</td>
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<tr>
<td>New Sites 2016-2020</td>
<td>8976</td>
<td>4929</td>
<td>1966</td>
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<td>Non CSS Site in Utu</td>
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<td>Green &amp; Davidson 1969-1974</td>
<td>327</td>
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<td>Jennings 1970s</td>
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<td>319</td>
<td>395</td>
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<tr>
<td>Jackmond 1970s</td>
<td>976</td>
<td>1708</td>
<td>1218</td>
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<td>Sand 2013</td>
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<td>2</td>
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<tr>
<td>Quintus 2018</td>
<td></td>
<td>1545</td>
<td>431</td>
<td></td>
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<tr>
<td>(Pattern recognition)¹</td>
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## Attribute Tables – SQLite DBs

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<th>SMLS <em>GPX</em> : features total: 113, filtered: 113, selected 0</th>
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<tr>
<td><strong><em>nam</em></strong></td>
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</table>
Data Display

Digitized Historic Survey

Enhanced Utu Information
Archaeological Sites
Archaeological Sites
(close up)
Data Analysis - Adze Data

Attributes – Identify Feature

- Adze
  - StoneAdzes_Data [2595]
  - Publication Only [1343]
  - Web Link Only [119]
  - Publication & Web Link [793]
  - Publication & Illustration [128]
  - None [212]

- Adze Count-Village
  - 0
  - 1-10
  - 11-50
  - 51-150
  - >150

- Adze Count-Geo
  - 0
  - 1-10
  - 11-50
  - 51-100
  - 101-200
  - >200

Adze by Location

Adze Count by Village

Adze Count by Geology
Data Analysis
Arch Data
Platforms
Data Analysis - Discovery

Simple Aerial View

LiDAR View

LiDAR w/ Contour

Shape File Overlay

3d – LiDAR

3d – LiDAR - Contour w/ Shape File Overlay
Already Contains \( \frac{1}{2} \) Terabyte of data (500,000,000,000 bytes)

That is equivalent to: (choose 1)

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>![Camera]</td>
<td>155,000</td>
<td>Cell Phone “selfies”</td>
</tr>
<tr>
<td>![Book]</td>
<td>250,000,000</td>
<td>Double Spaced Typed Pages of Text [210,000 copies of the Bible]</td>
</tr>
<tr>
<td>![Music]</td>
<td>8500 [354]</td>
<td>Hours Music [Days]</td>
</tr>
<tr>
<td>![Cat]</td>
<td>500 [20]</td>
<td>Hours of Youtube “Cat” videos [Days]</td>
</tr>
<tr>
<td>![Movie]</td>
<td>250 [125]</td>
<td>Hours of Movies [ 2 Hour Movies]</td>
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QGIS Additions

Centre for Samoan Studies -- Map Server

Introduction

What is the CSS LiDAR Map Server?

It is the publicly viewable Centre for Samoan Studies/National University of Samoa (CSS/NUS), collection of LiDAR and aerial photos of the Independent State of Samoa (Upolu, Manono, Apolima, Savaii).

- LiDAR stands for Light Distance And Ranging. Please see an Introduction to LiDAR for a brief (14 page - mostly pictures) explanation of LiDAR.

- LiDAR allows us to see “around/through” vegetation seeing the “hidden” archaeological features beneath (see example on the right). A more indepth explanation and examples are given on the LiDAR Info page of this web site (also see the map above).

- This web page has been made possible through the generous assistance of and our collaborative efforts with the Samoan Ministry for Natural Resources and the Environment (MNRE) who furnished the raw LiDAR data and aerial photos for this page.

Why was it created?

The Map Server is an effort to make Samoa’s Hidden Cultural Heritage available for everyone to see, scholars and the public alike.

It is hoped that allowing everyone to view the extent of this previously underreported cultural treasure will build interest in Samoa’s cultural heritage and encourage the Samoan Government to pass meaningful cultural heritage protective legislation.
Centre for Samoan Studies
Map Server
Palauli, Savaii LiDAR

Legend
- Platform
- Star Mound
- Wall
- Walled Walkway
- Elevated Walkway
- Channel
- Umu ele'ele
Centre for Samoan Studies
Map Server
Palauli, Savaii LiDAR

Online Map Server - Aerial
Crowd Sourcing

samoanstudies.ws/ACH

Recorded Sites
Crowd Sourcing

samoanstudies.ws/ACH

Site Detected & Vectored
Sāmoan Archaeology and Cultural Heritage Database for the Independent State of Samoa