USING ORIGINAL SURVEYS TO SHOW HISTORICAL CHANGE IN OUR ENVIRONMENT AND SOCIETY

IDAHO

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UNITED STATES HISTORY OF SURVEYS

- 1785 Land Ordinance of 1785 was passed
- 1800 Tract Book System established by an Act of Congress
- 1908 Serial Register System was designed
- 1955 Congress Authorized the Land Status Records System

AGENCY HISTORY FOR PUBLIC LANDS IN THE UNITED STATES

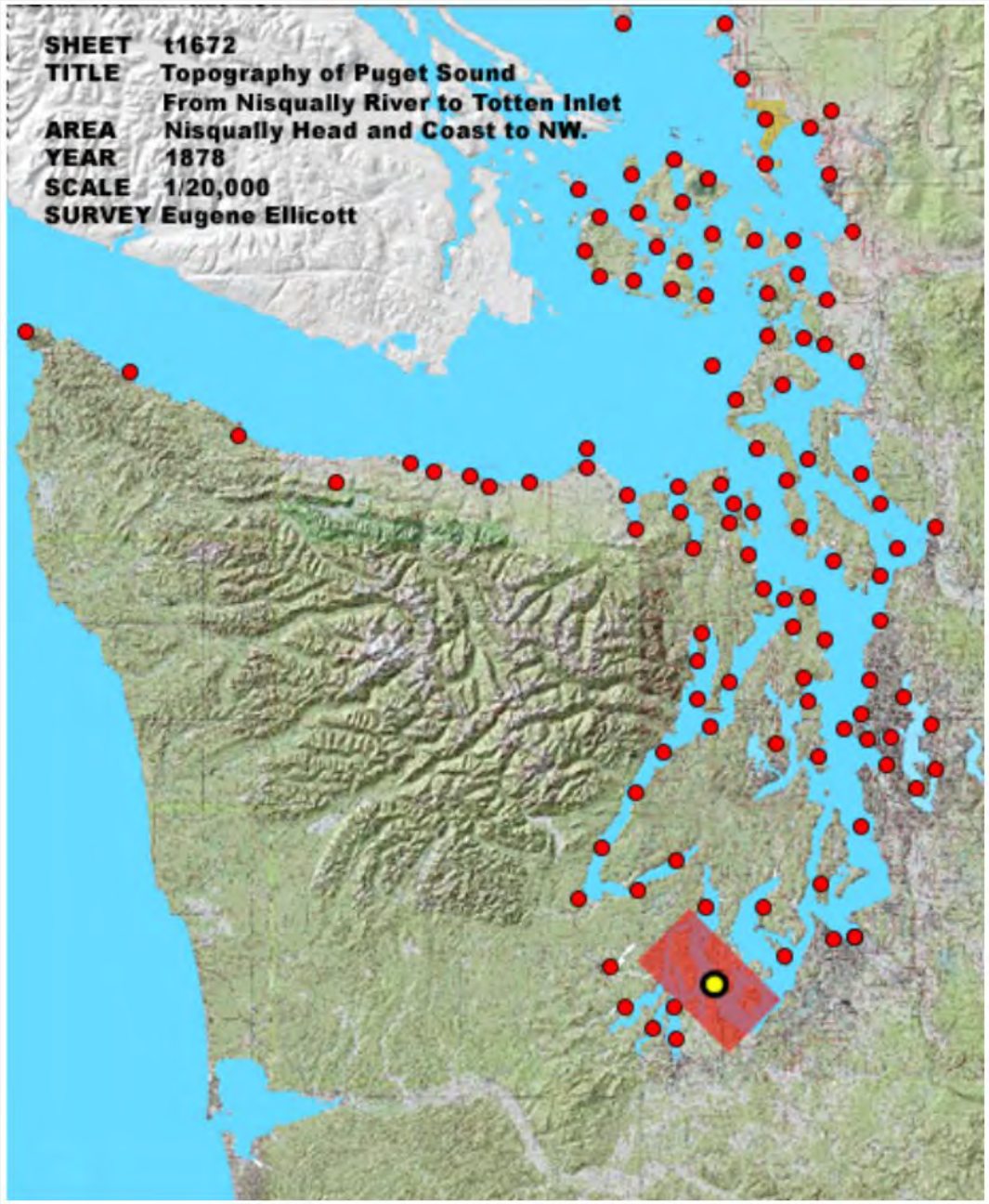
- Prior to 1812; Secretary of the Treasury - Directly handled public land sales, Department of War - Administered military land warrants, State Department - Administered land patents
- 1812 Congress created the General Land Office (GLO)
- 1849 Congress created Department of Interior (DOI)
- 1879 US Geological Survey established into the DOI
- 1934 Congress creates the Division of Grazing within the DOI
- 1946 July 16, GLO and US Grazing Service became the Bureau of Land Management

USING HISTORICAL SURVEYS AND THE WORLD AROUND US TO DIG DEEPER

- Archaeology and Cultural Resource Reviews
- Abandoned Mine Lands and Historic Areas
- Boundary Changes
- Education Outreach

USE CASE

- Puget Sound River History Project
- Use of surveys in digital form within the project along with other research tools



Zoom and Pan Image

Download Data (~23 mb)

UTM Zone 10 NAD83/HARN
UTM Zone 10 NAD 27
Original Scanned Image
HARN Metadata
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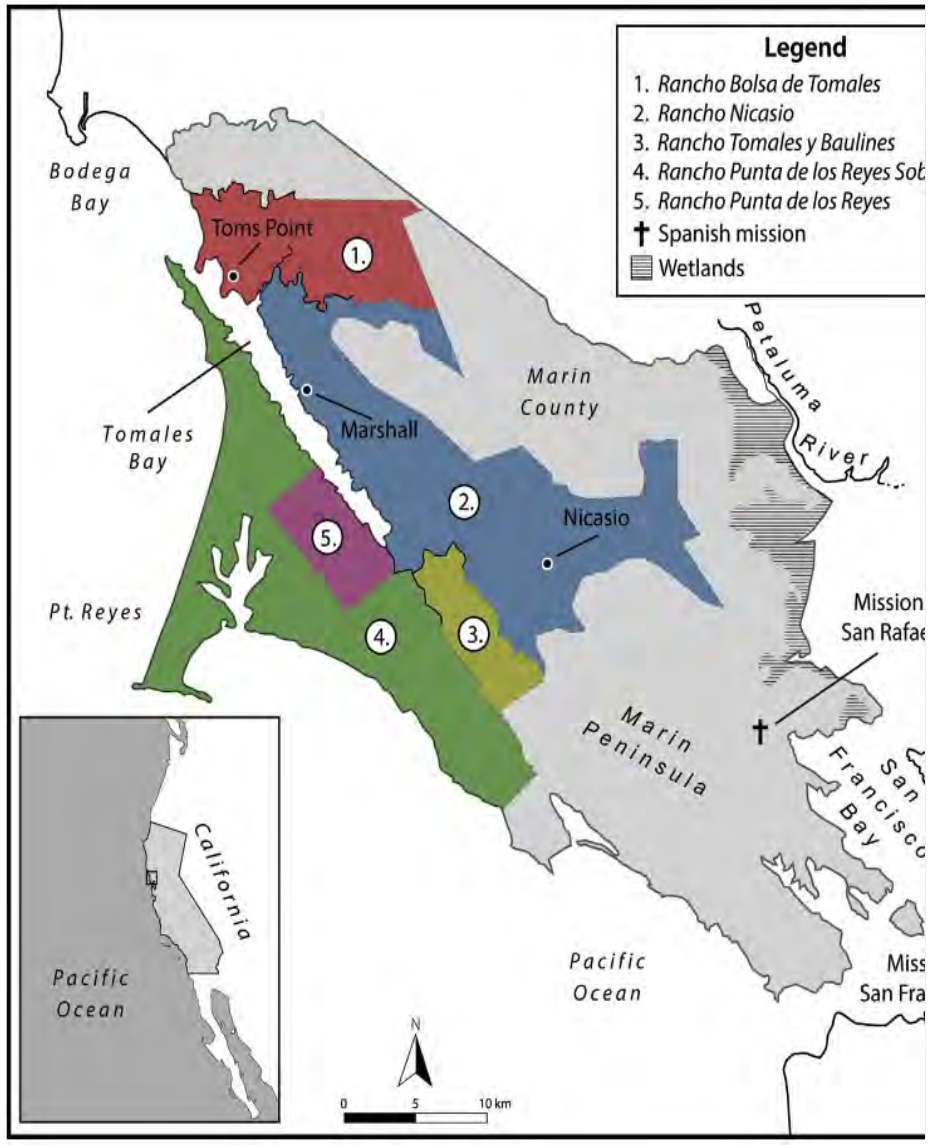
USE CASE

- Finding Mid-19th Century Native Settlements: Cartographic and Archaeological Evidence from Central California
- Observing surveys to influence locations to investigate



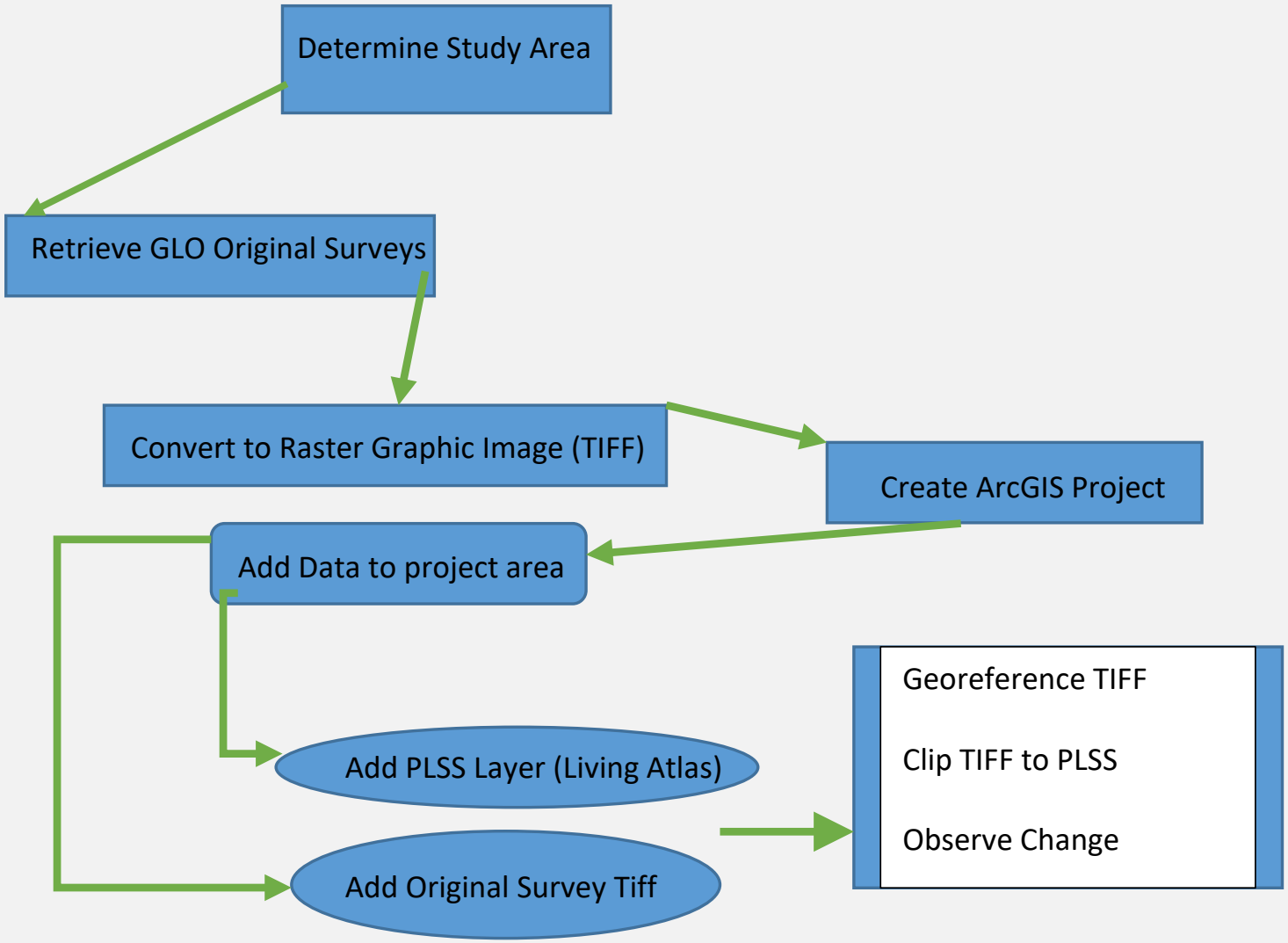
GOALS

- Display environmental and societal changes using historical surveys and GIS
- Allow users and stakeholders to quickly view these and other changes
- The problem is solved taking Original Surveys conducted in the late 1800's and georeference them to the current Public Lands Survey System in Idaho and allow them to be viewed in a mosaic
- Expand the methodology with tools and improved user experience

OBJECTIVE

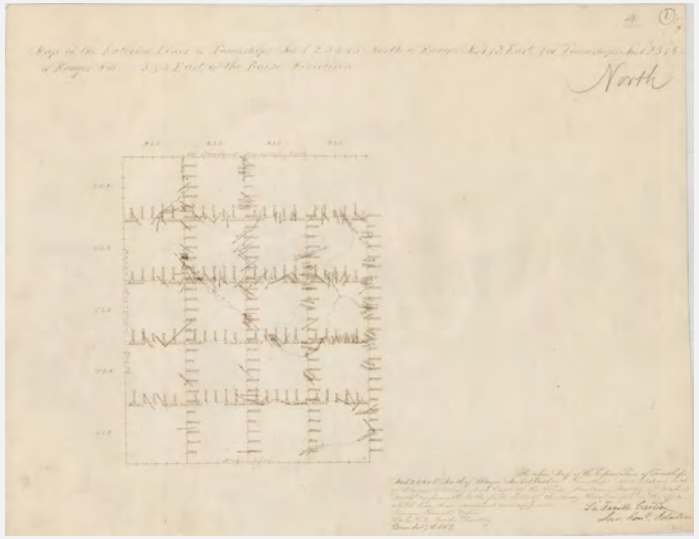
- The project is a capstone in the MGIS degree and within the given study area and with the research and work conducted it will demonstrate how Esri software helps students learn, discover, and employ the capabilities available. Presentation may be taken to high schools to engage with students on education and career paths. This work additionally fits into Government and Land Records as surveys create land boundaries and mark them for the first time for records which tell stories, educate and verify historical records.

Workflow

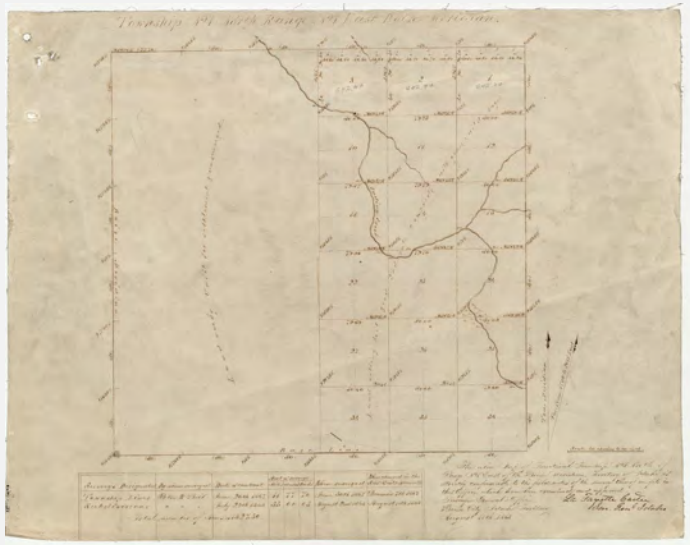

Determine Study Area
Retrieve GLO Original Surveys
Convert to Raster Graphic Image (TIFF)
Create ArcGIS Project
Add Data to project area
Add PLSS Layer (Living Atlas)
Add Original Survey Tiff
Georeference TIFF
Clip TIFF to PLSS
Observe Change

ORIGINAL SURVEYS

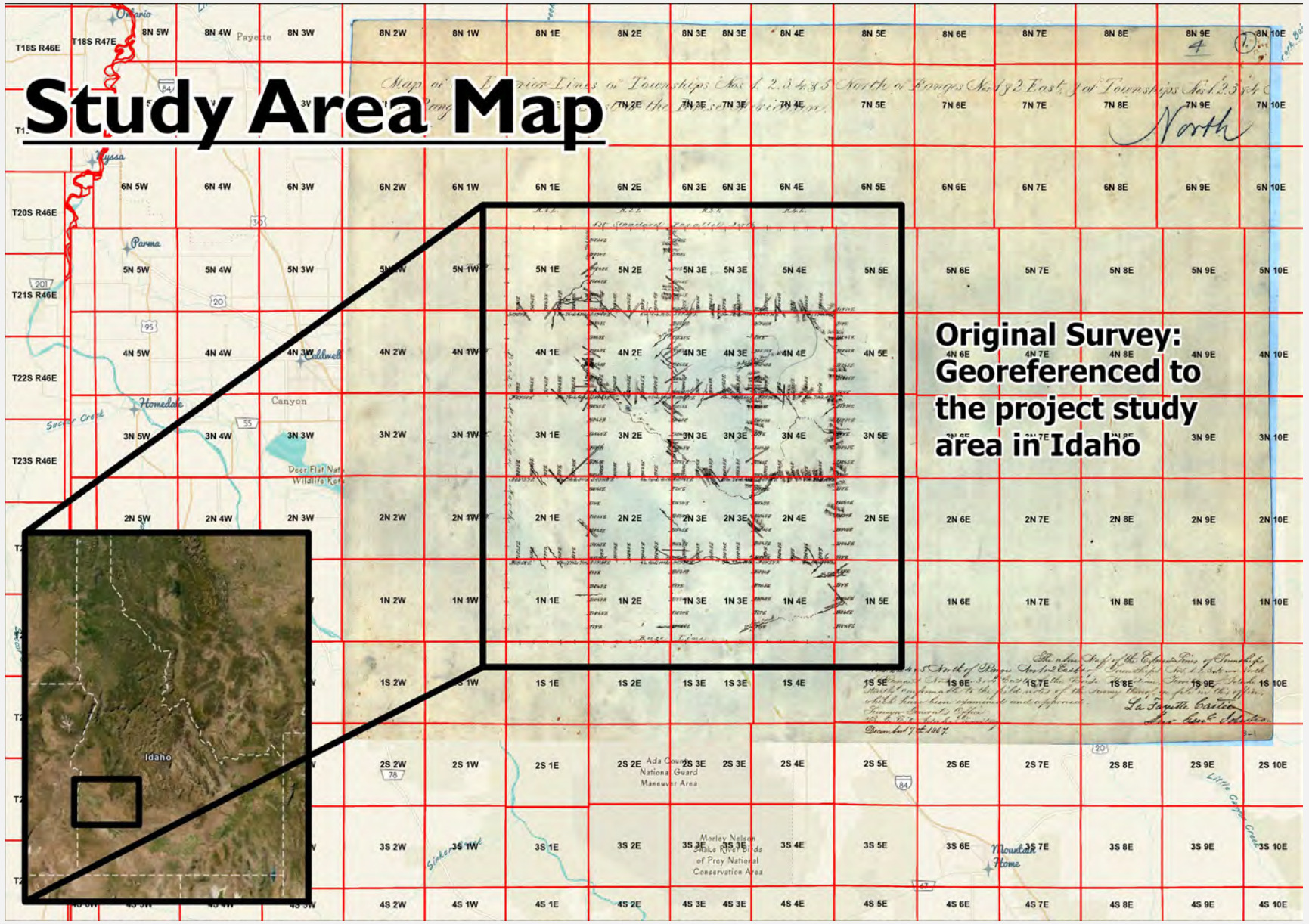
ORIGINAL AREA SURVEY



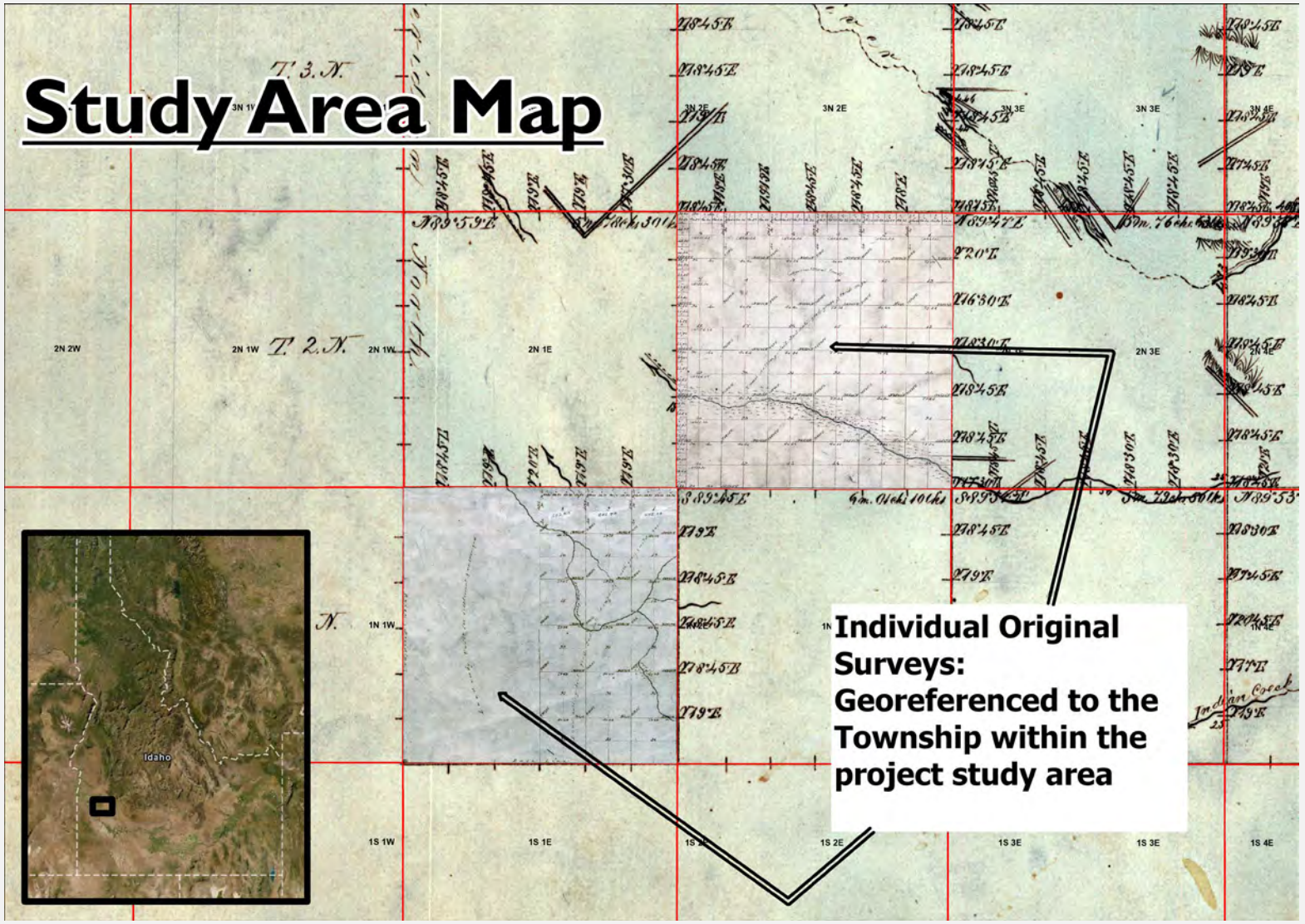
ORIGINAL INDIVIDUAL SURVEY



Study Area Map



Study Area Map



TOOLS AND TASKS

- Develop a workflow process that can be utilized by different users at different levels to participate in the experience.
  - Tasks to set up items as a workflow
  - Python to create a scripting workflow
- The process can be adopted by GIS Users to replicate this work in their environment to observe societal or environmental changes unique to their needs

TIMELINE SLIDE

- 596A Presentation 12/10/2021
- Create workflow options 01/2022 - 03/2022
- 596B Final Elements 03/2022 - 06/2022
- Presentation Esri User Conference 07/2022

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