Importance

Historical aerial film images are a valuable record of the past, and are useful as a baseline for change detection and landcover analysis.

Problem

The images must be oriented to a spatial reference system to be used in GIS analysis. This is challenging as images are often missing flight and camera information. Processing techniques exist to overcome these challenges, but they require specialized knowledge, time, and expense to complete. Because of this many image collections remain unprocessed.

Solution

This project developed a workflow to quickly standardize the photos, spatially orient them, correct them for distortion effects, and extract a digital surface model from the overlapping image series using Pix4D Professional to automate calibration and image triangulation.

History

During the Great Depression food prices fell due to low demand. In the 1930s, the United States Department of Agriculture compensated farmers to reduce production and requisitioned large aerial photography surveys over much of the United States to monitor the program.

In 1938, Pop Laval (shown below) was awarded a contract with the USDA to acquire aerial photography over much of Riverside County, California, now stored at the library of the University of California, Riverside.