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Starting in 2008, the Lago Cachet Dos drainage has been transformed by multiple glacial lake outburst floods (GLOFs) (Dussaillant and others, 2010). Dramatic changes over 35 years were captured by satellite images of the Colonia Glacier and Lago Cachet Dos, locations within the Arco Valley (photo 2) that marks the maximum height and extent of the Colonia Glacier in about 1880 during the peak of the Little Ice Age (Harrison and Winchester, 2000). Similarly, at the northern end of the Cachet Valley, the lacustrine trimline (photo 3) connects with a moraine that dams Lago Cachet Uno (Escobar and others, 1992). Glacial lake outburst floods (GLOFs), and identify trimlines (lacustrine and glacial), moraines, and other geomorphic features.

Colonia Glacier upstream to the Cachet Uno Glacier, which was where Lago Cachet Uno is now. The resulting decrease in lake level was due to the oxygen isotope ratios in tree rings in the core plus an estimate of the time needed for trees to colonize in this area (29 years, according to Harrison and Winchester, 2000). Similarly, at the northern end of the Cachet Valley, the lacustrine trimline (photo 3) connects with a moraine that dams Lago Cachet Uno (Escobar and others, 1992). Glacial lake outburst floods (GLOFs), and identify trimlines (lacustrine and glacial), moraines, and other geomorphic features.

Cachet Dos dropped to its current full-pool level in about AD 1960 (table 1). Dendrochronological measurements require collecting cores below the lacustrine trimline (the previous full-pool level) and above the current full-pool lake shore is visible into a tree. The number of tree rings in the core plus an estimate of the time needed for trees to colonize in this area (29 years, according to Harrison and Winchester, 2000).

Periodic record for selected scientifically important sites. These two images capture the Cachet drainage before and after a GLOF that drained virtually all of the lake's water (about 200 million cubic meters) beneath and through the Colonia Glacier. Downstream settlements and agricultural land along the Río Colonia and Río Baker were flooded (Dussaillant and others, 2010). In addition, these results are especially useful in mapping and monitoring temporal changes at this location, which is one of the newest international sites in the USGS Global Fiducials Program (GFP).

Nearby Lago Colonia lies outside of the study area, and gives a sense of the land around Lago Cachet Uno. The GLOF that flooded the lake occurred in 1979 (Loriaux and Casassa, 2013). Rates of change in land cover during the period between these dates can be estimated from the two images selected to show the overall change in land cover in the Cachet drainage during the 29-year period immediately prior to the 2014 GLOF. The next image (April 6, 1979, Corona Image) shows the land cover just prior to the 1979 flood, while the image (January 11, 2014, WorldView 2 Image) shows the current land cover just after the flood.