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Term Project Proposal  
GIS for Water Resources  
September 28, 2011

Proposed Title:

The Madre de Dios watershed in Peru: Delineating the upper watershed and analyzing satellite imagery

Objective of Project:

The objective of this term project is to delineate the Madre de Dios upper watershed in southeastern Peru and to georeference Landsat Thematic Mapper imagery for the same region. The goal is to create a good basemap of the upper watershed and to analyze the changes to the fluvial geomorphology of the region through Landsat Thematic Mapper imagery over the past 25 years. Since the 1980's, the watershed has been impacted by gold mining, and in the past decade gold mining has substantially increased. Images from 1986, 1996, 2006 and 2011 will be georeferenced and analyzed to begin to discern changes in river morphology.

Data and Steps to complete project:

For my project, I will use Hydrosheds data derived from the Shuttle Radar Topography Mission for my study region in Peru (near -70, -13 decimal degrees). Drawing on the steps described in Exercise 4, I will delineate the watershed and stream network for my area of interest. I will also use images from the Landsat 4-5 Thematic Mapper from 1986, 1996, 2006 and 2011 (path, row: 3, 69). Applying the steps described in past exercises in GIS for Water Resources, I will analyze the images and classify them.