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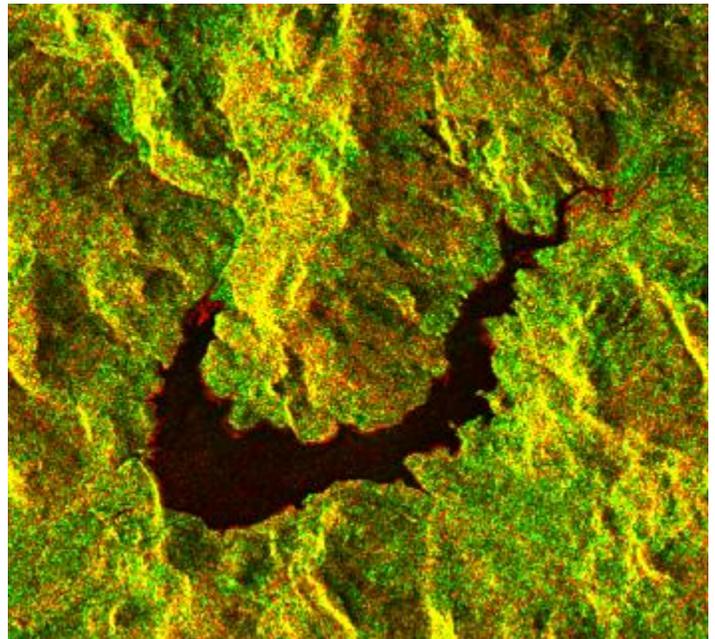
- Radar sensors show great potential for delineating lineaments in tropical settings where land use and land cover are heavily influenced by humans. The Alaska Satellite Facility (ASF) is a great place to get started learning about Radar satellite sensors. I have summarized my findings from ASF and elsewhere in this presentation— [Click here for a presentation about RADARSAT-1 \(SAR.ppt\)](#).
- One of the most challenging parts of my research was figuring out how to combine lineament observations from multiple interpretations. I developed an approach to not only synthesize interpretations, but also generate a product (called the coincidence raster) from which a final lineament map can be drawn with confidence. [Click here for the GIS steps to generate a coincidence raster \(GIS_Methods.doc\)](#).

Below are some examples of image processing techniques I've explored while doing my master's research. Some of the techniques I am using to exploit linear features in imageries as part of my research, while other examples are just for fun. Enjoy!

RADAR Change Detection:

This image was created by stacking two RADARSAT-1 Synthetic Aperture Radar scenes of a reservoir near Boaco, Nicaragua. One scene was obtained during the wet season (displayed in green), while the other scene was obtained during the dry season (displayed in red).

The stacked image enables us to see the coast line during the dry season (displayed as red) at a lower elevation. Notice how the coast line of the reservoir has a red fringe.



The power of multi-sensor stacks:

This image is a stack of three separate images:

- Landsat 7 band 4 (near infrared, displayed as shades of red)
- RADARSAT-1 C-band from the dry season (displayed as shades of green)
- RADARSAT-1 C-band from the wet season (displayed as shade of blue)

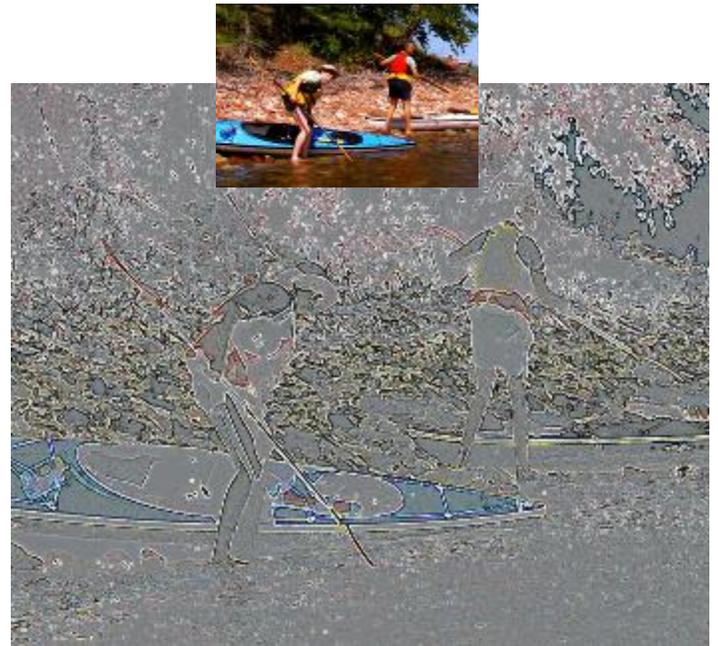
The black area at the bottom of the image is Lake Nicaragua, with Río Tipitapa draining into it from the lower left. The image clearly shows differences in field activity throughout the year, making this combination of imagery a powerful tool for agricultural monitoring.



Texture Enhancement:

I ran a texture enhancement using ERDAS IMAGINE software on a digital photo of Hans and I with our kayaks.

Notice how object edges are enhanced.



More to come...