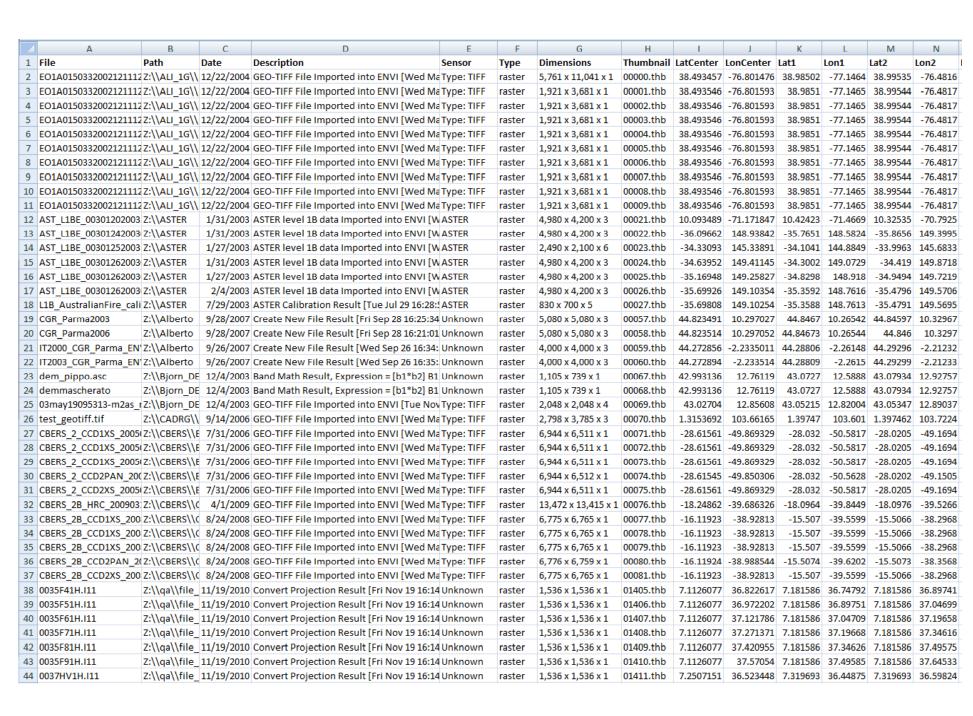
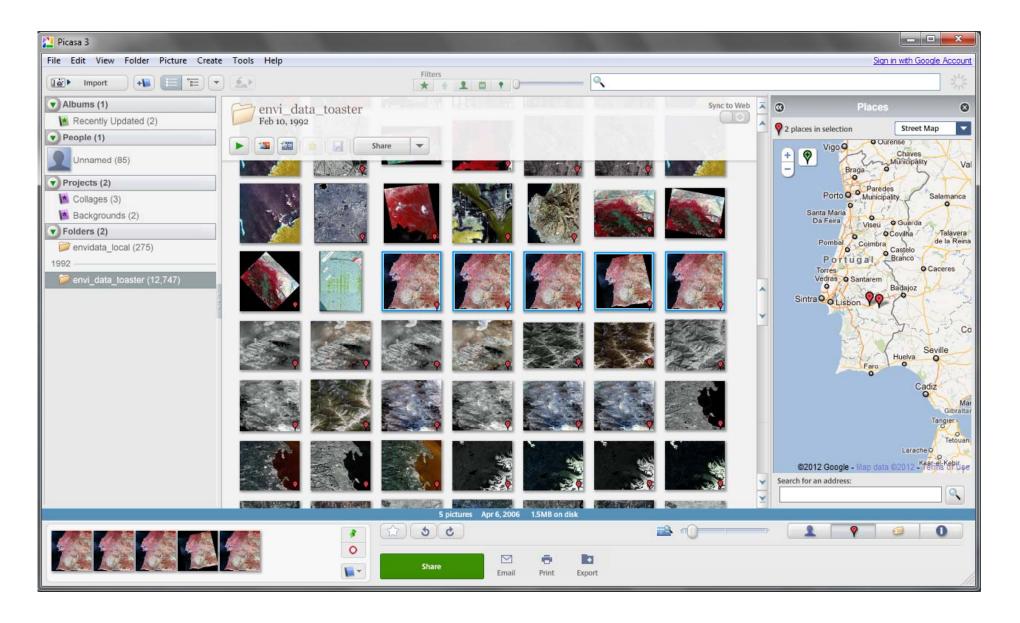


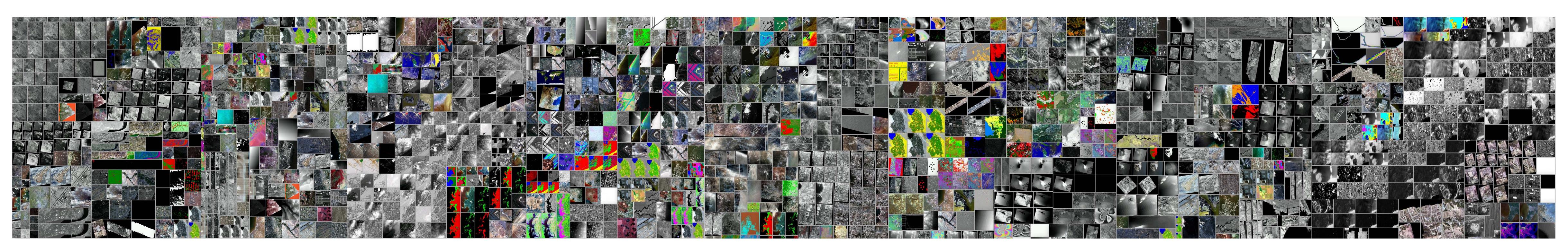
*Figure 1* Main view of the *Katalog* interface.



*Figure 2* Metadata extracted from imagery.



*Figure 3* Thumbnails in Google Picasa.





# Eduardo Iturrate, Amanda O'Connor, David Hulslander, Brian Farr

Exelis Visual Information Solutions, Boulder, Colorado

eduardo.iturrate@exelisvis.com

#### Developing software to crawl, organize, and manage satellite imagery.

#### Introduction

Remote sensing users face the challenge of managing hundreds, even thousands of satellite images. These scenes are normally stored as files organized in a folder structure. Unless there are clearly defined rules about the organization of the directories and file naming conventions, users inevitably find it very difficult to find particular images. *Katalog* is a software tool developed to solve this problem. It works as an free extension to the ENVI software platform from Exelis VIS.

## Methods

- Making use of ENVI's extensive satellite image format support, Katalog can crawl a particular folder structure in search of the satellite images, extracting metadata, footprints, and thumbnails.
- This information is stored in collection files, that can be shared among users.
- From these collection files, a number of different products can be generated: web reports (Fig. 4), spreadsheets (Fig. 2), footprints (Fig. 5 and 6), as well as simple text reports.
- Generated thumbnails and footprints are compatible with other applications like Google Earth (Fig. 5), Picasa (Fig. 3), and Esri ArcGIS (Fig. 6).
- The frontend of the application (Fig. 1) allows users to quickly search and discover imagery based on variables like filename, folder, sensor, file date, number of bands, and geographic location.
- It is also possible to find duplicates and other images of the same location by calculating the correlation between a target image and every single image in the collection.

# Results

The ability to search and discover satellite imagery in a more streamlined and efficient way has proven to be extremely beneficial. Questions like: "do we have any images of this particular location?" or "where are those classification results we produced two years ago?" can now be answered in a matter of seconds.

Using the footprints in ArcGIS (Fig. 6) is particularly interesting, allowing users to answer complex questions like "do we have any coastal images?" that require a GIS methodology (in this case, intersecting footprint and coastline polygons).

### **Future Work**

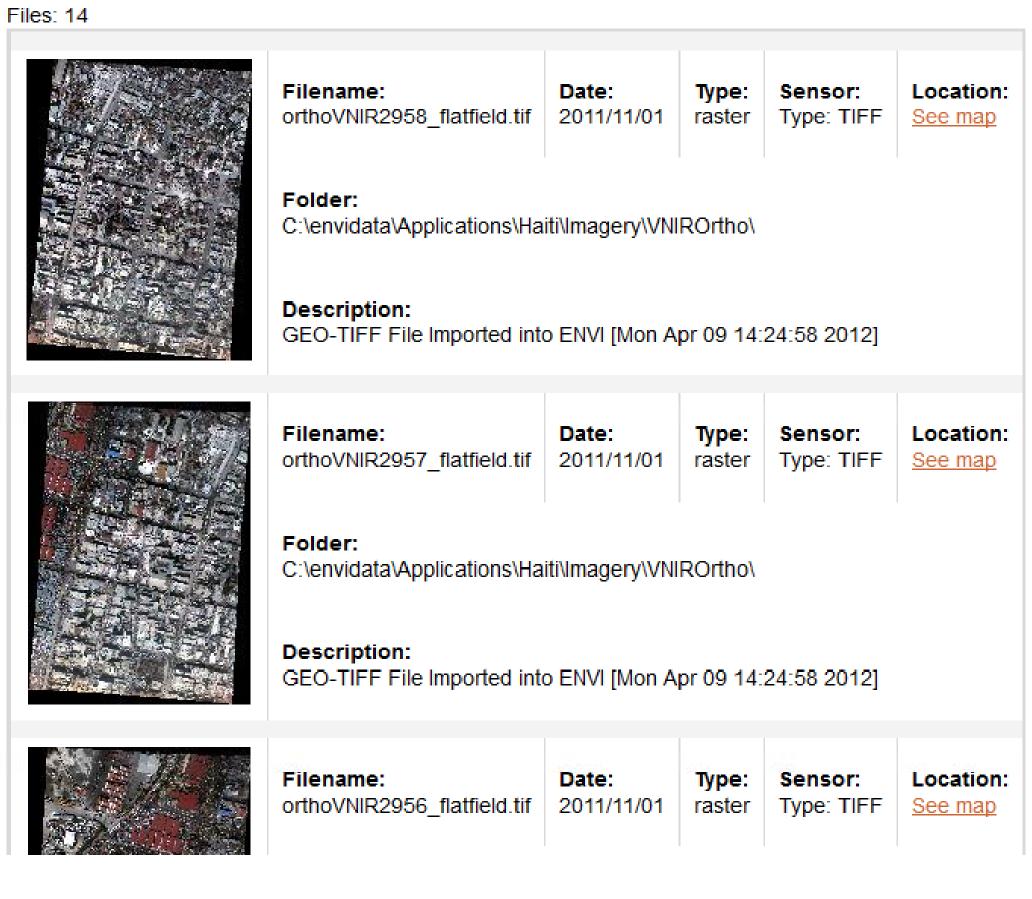
We plan for a future version of *Katalog* to support LiDAR datasets, so the same metadata can be extracted from data point files, and managed similarly.

*Figure 7* A snapshot of hundreds of catalogued scenes.

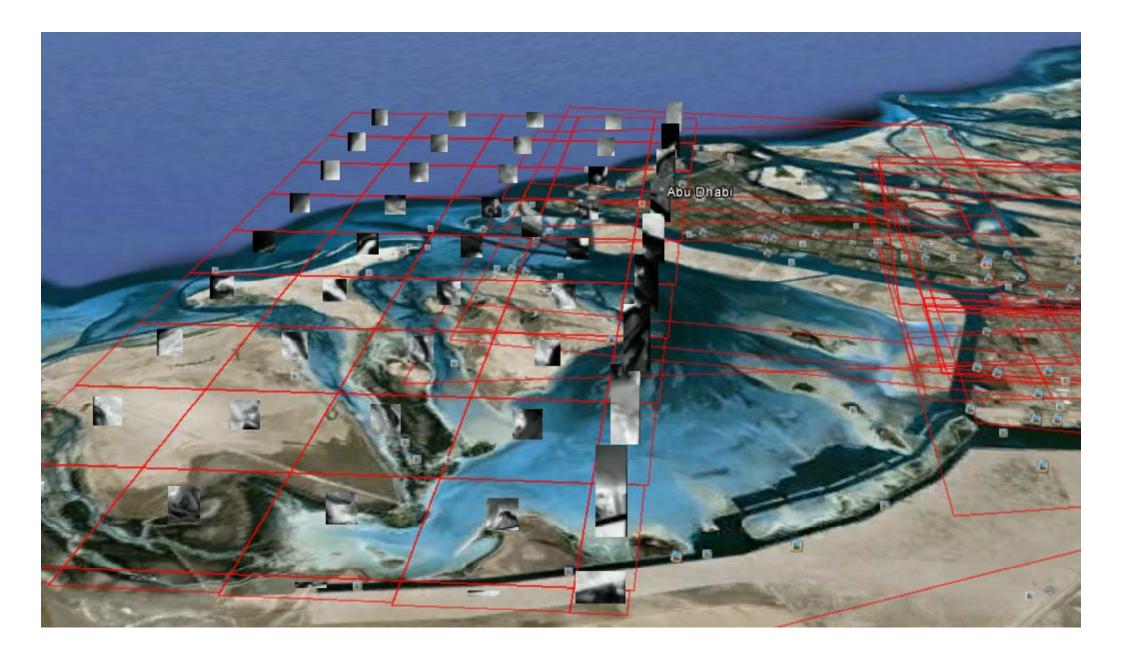


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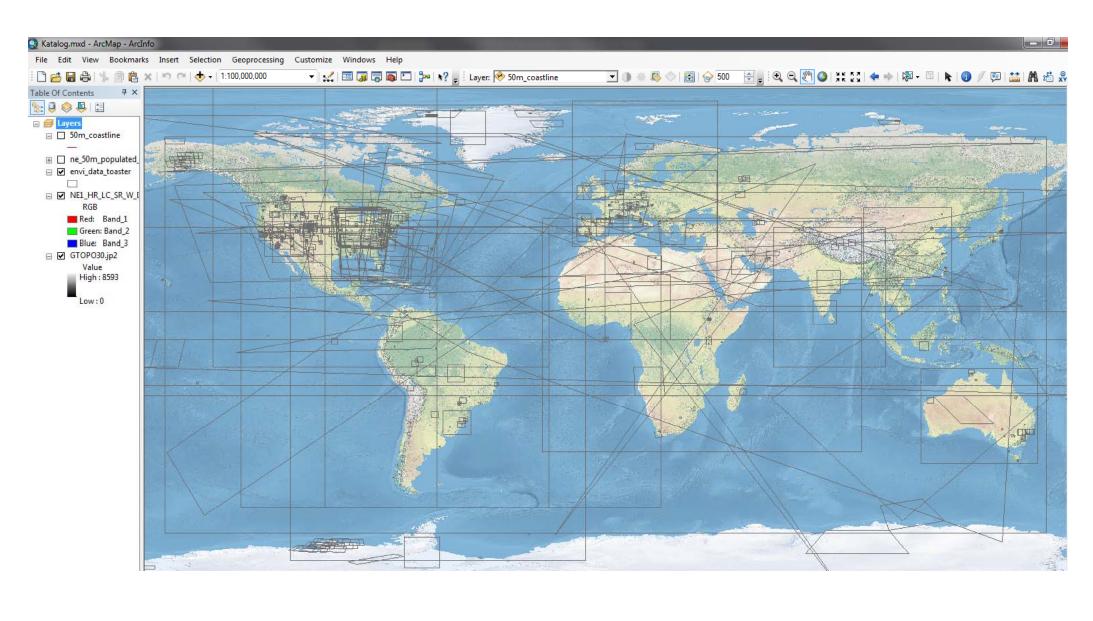
#### Katalog report: selected files



*Figure 4* Example of a web report.



*Figure 5* Footprints and thumbnails in Google Earth.



*Figure 6* Footprints in Esri ArcGIS.

