# Image Processing Training

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ImageLinker Tutorial and Applications

ImageLinker

ImageLinker - is an application for viewing and processing remote sensing and Geographical Information System (GIS) data.
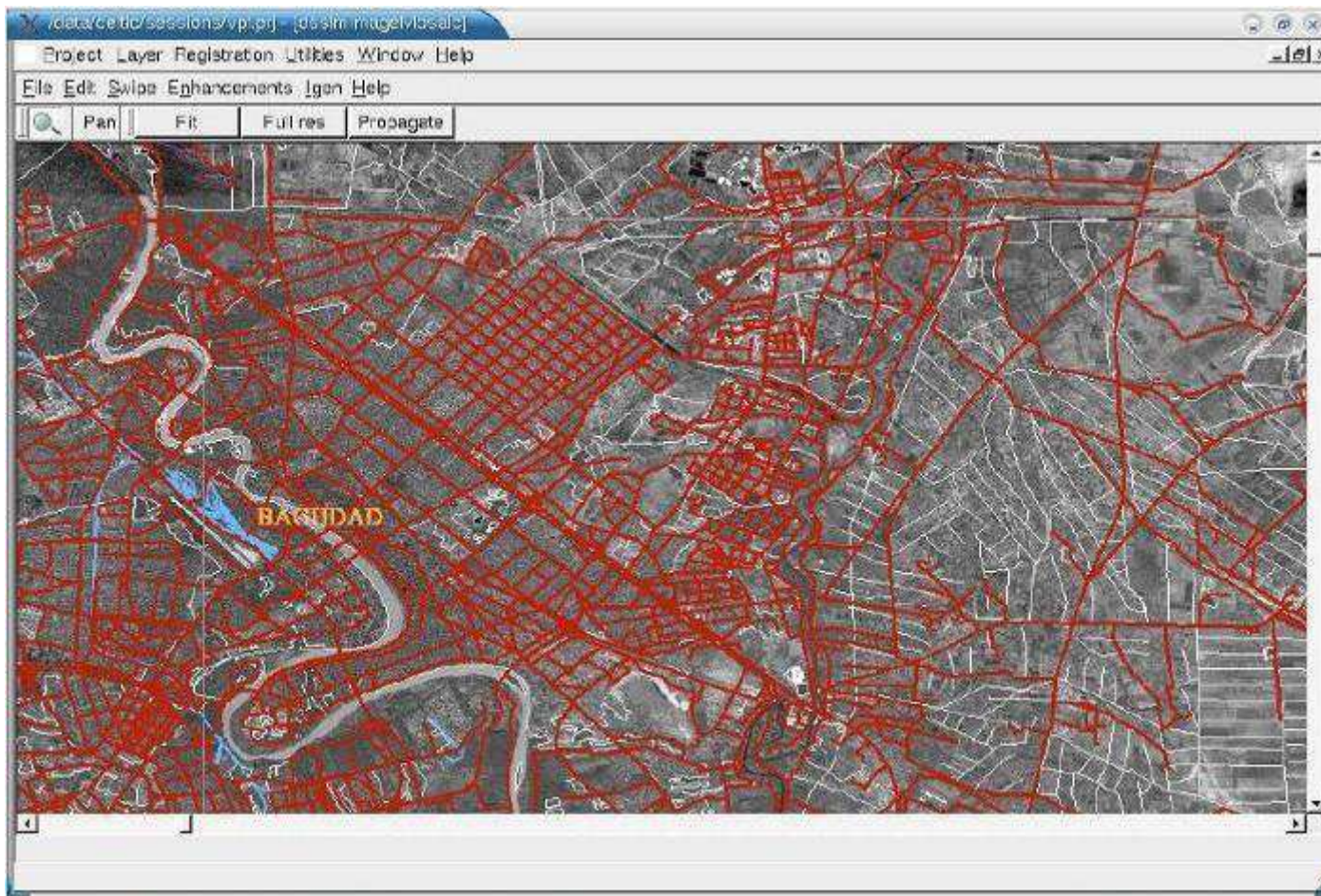
ImageLinker – Image Chains

- Dynamically Connectible Image Chains
- Precision terrain correction, ortho-rectification, very large cross-sensor mosaics and fusions
- Source > Models > Filters > Combiners > Output
- Parameter Based, Non-Destructive Processing
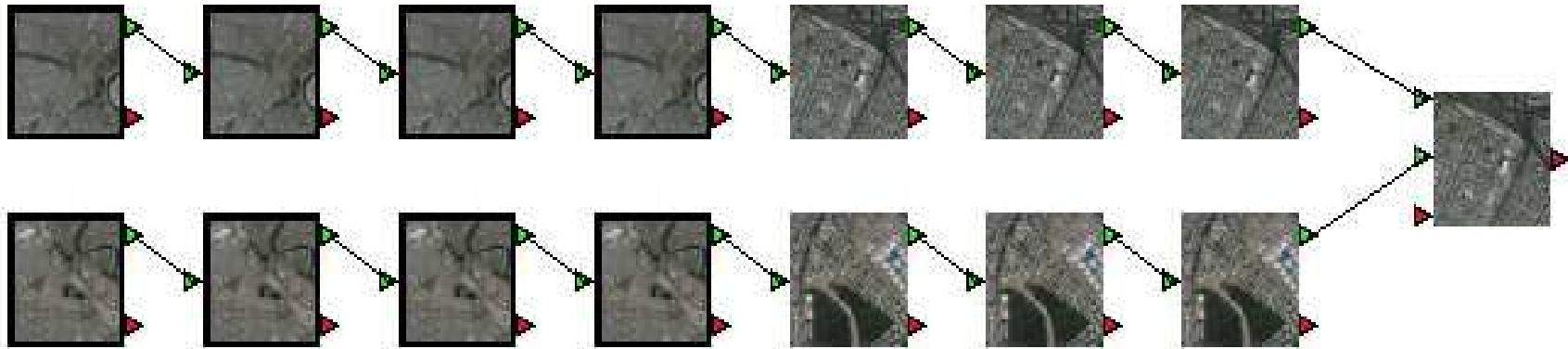
ImageLinker – Supported Data Types

TIFF

NITF 2.0, 2.1

TFRD 1.3, 4.3

Raster (BIP, BIL, BSQ)

JPEG

Landsat fast format

ADRG

ESRI General Raster

Doqq V1 and V2

DTED all levels

XML

Shapefiles

SRTM

Usgs_dem

CIB

CADRG

CCF

JPEG2000

MrSid

Imagine (HFA)

Arc Info Ascii Grid

Note – Files Output

Imagelinker and ossimplanet need to write out 3 files every time you open an image:
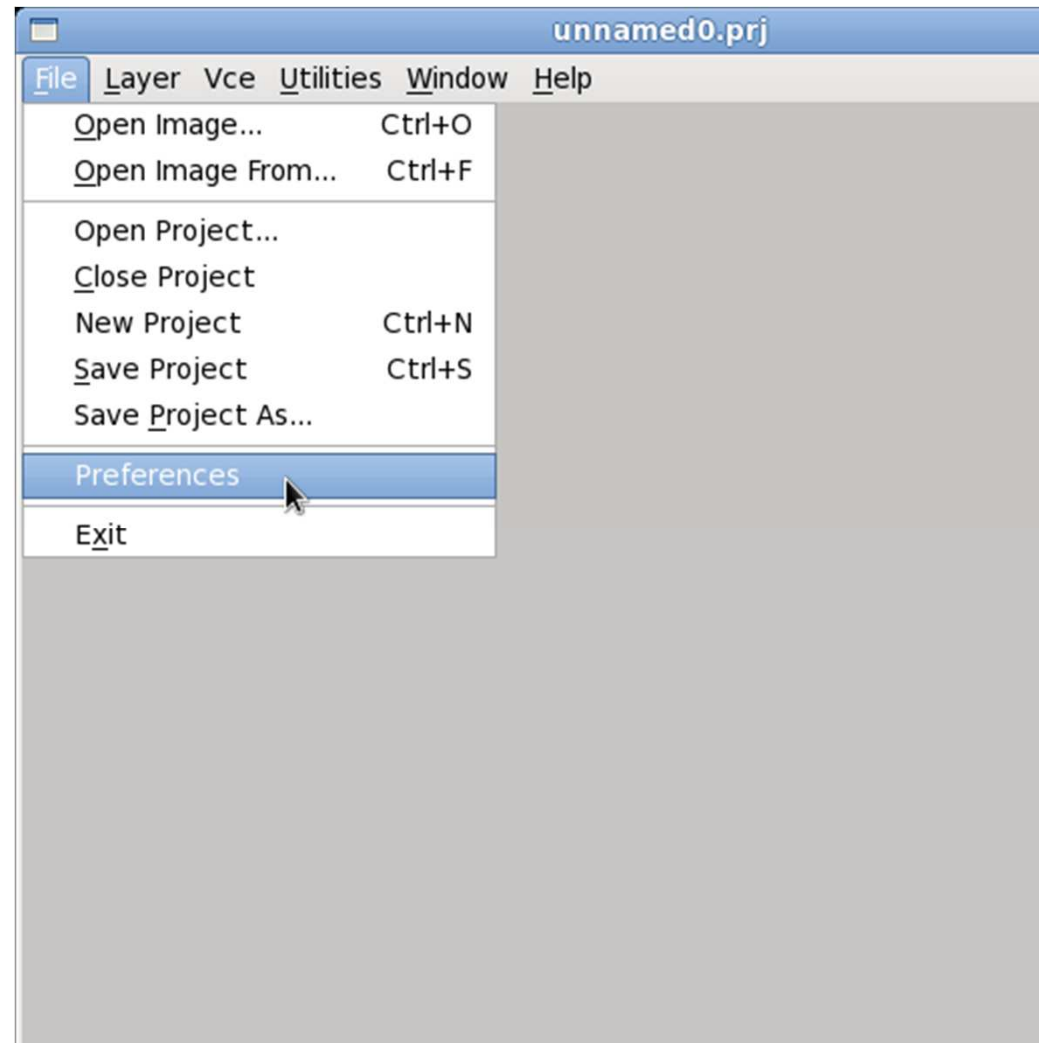
HIS – histogram of image

OVR – reduced resolution set or overview file (lets the image load fast in the future)

OMD – ossim metadata file

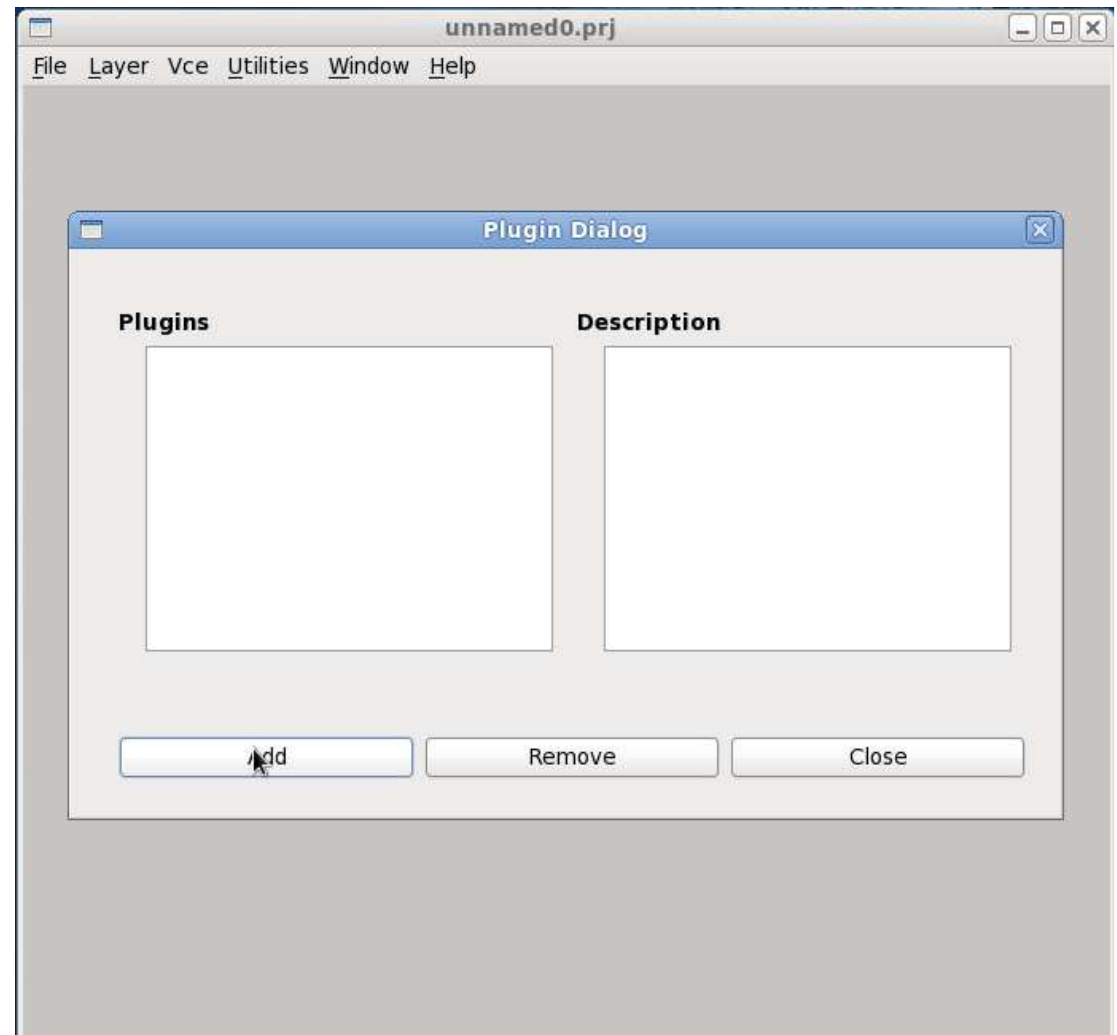*This makes it impossible to load an image from a CD, since you need to be able to write these images.*

ImageLinker – Adding Plugins

From the ImageLinker menu, select File->Preferences

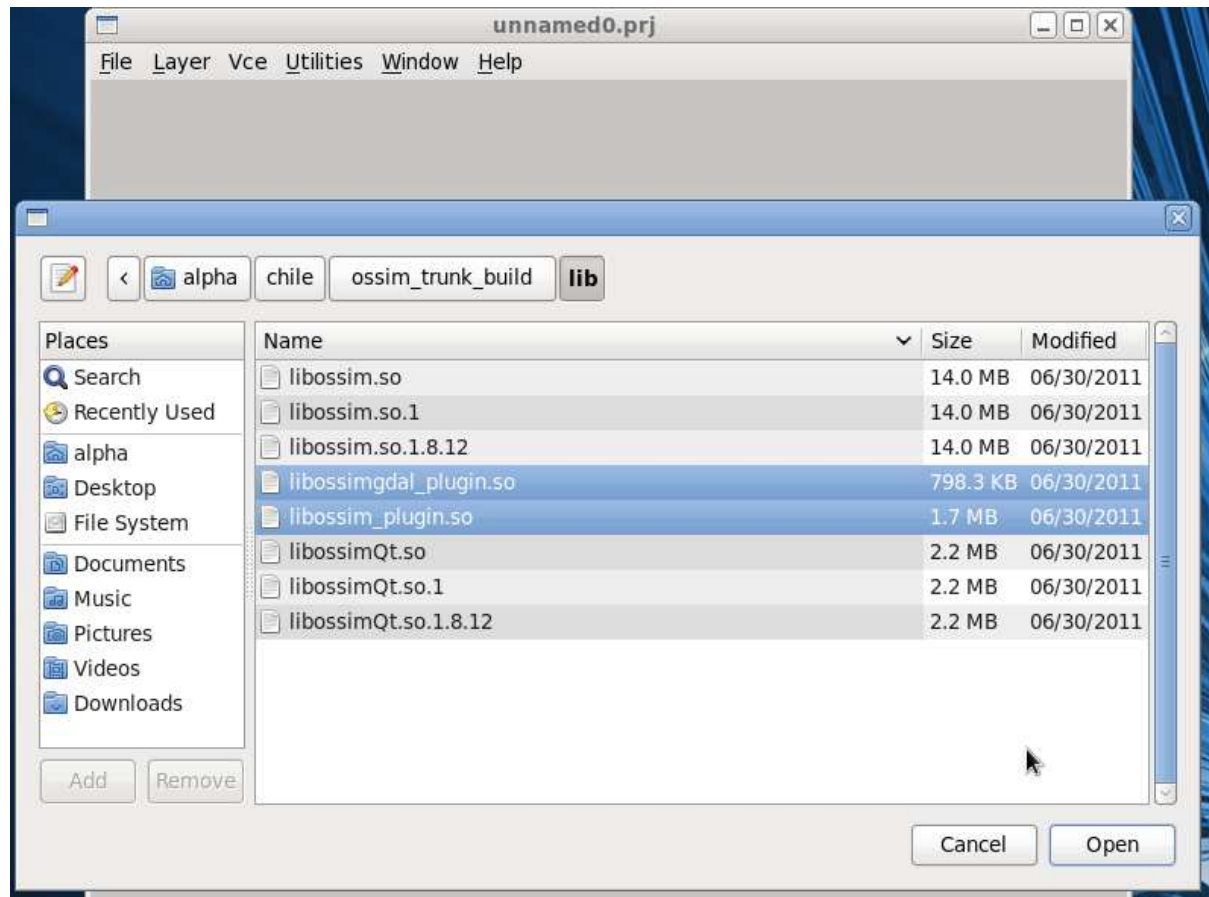# ImageLinker – Adding Plugins

You should see no plug-ins loaded.   Click Add

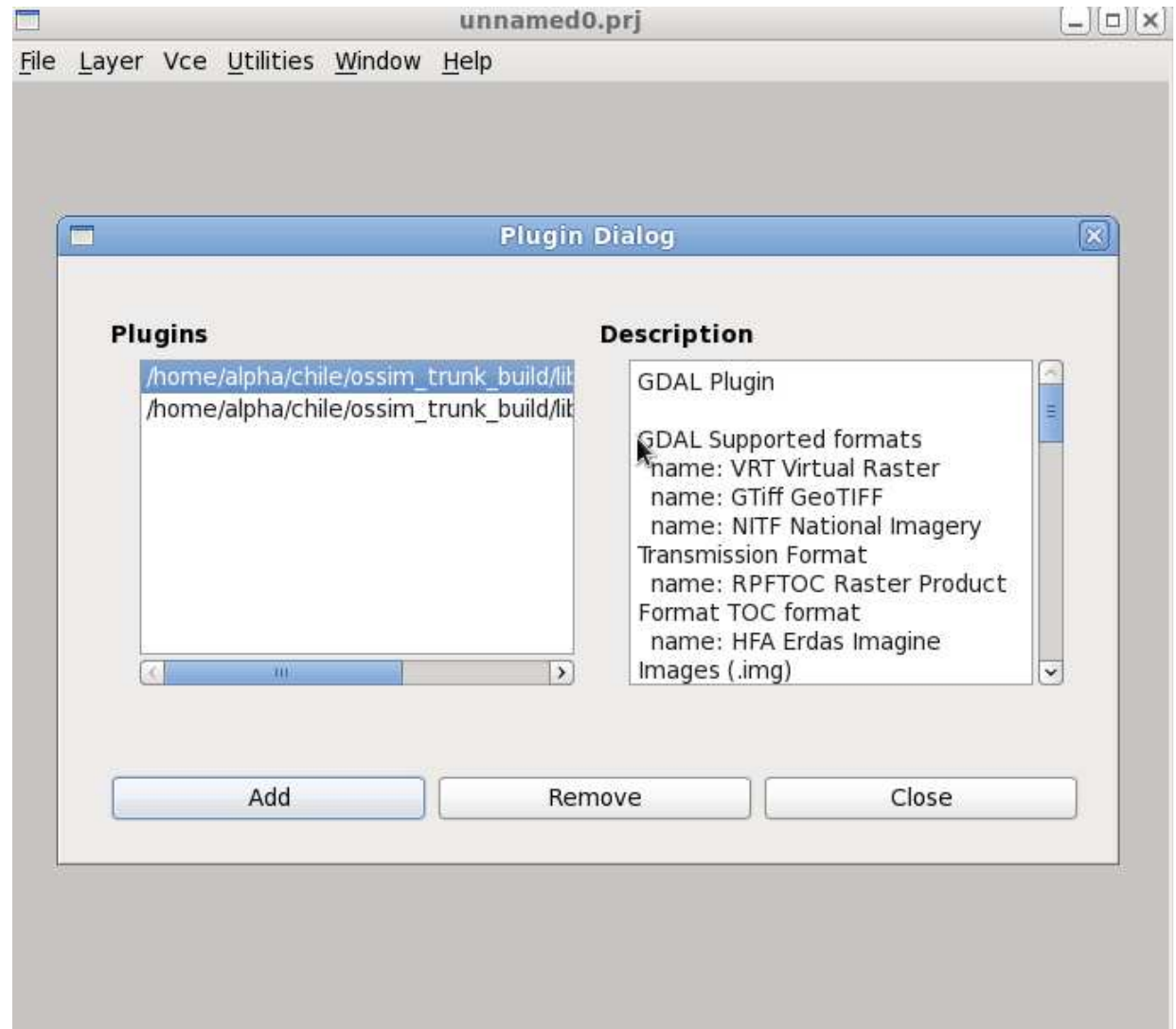# ImageLinker – Adding Plugins

Navigate to /opt/alpha/ossim/ossim_planet_build/lib
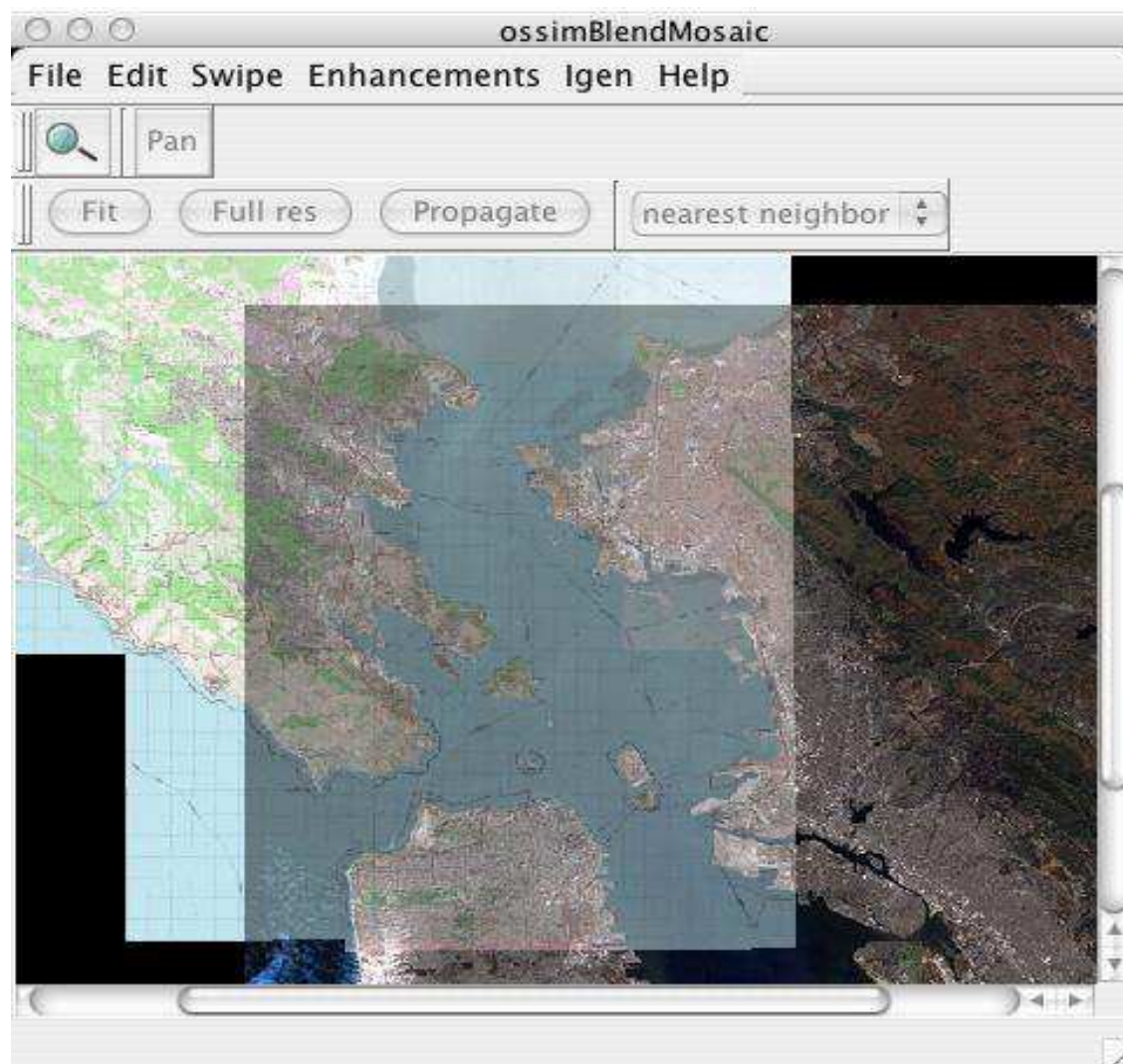
Add libossimgdal and libossim plugins

ImageLinker – Adding Plugins

You should now see both plugins that you loaded

ImageLinker – Combiners

ImageLinker – Combiners

- File → Open

- Download and open \Imagenes\San Francisco Example\ sanfran_map.tif and TerraColor_SanFrancisco_US_15m.tif

- Click YES when prompted

- Zoom to a location in one image and click Propagate

- You should be able to see the cross hairs on both images line up to corresponding locations
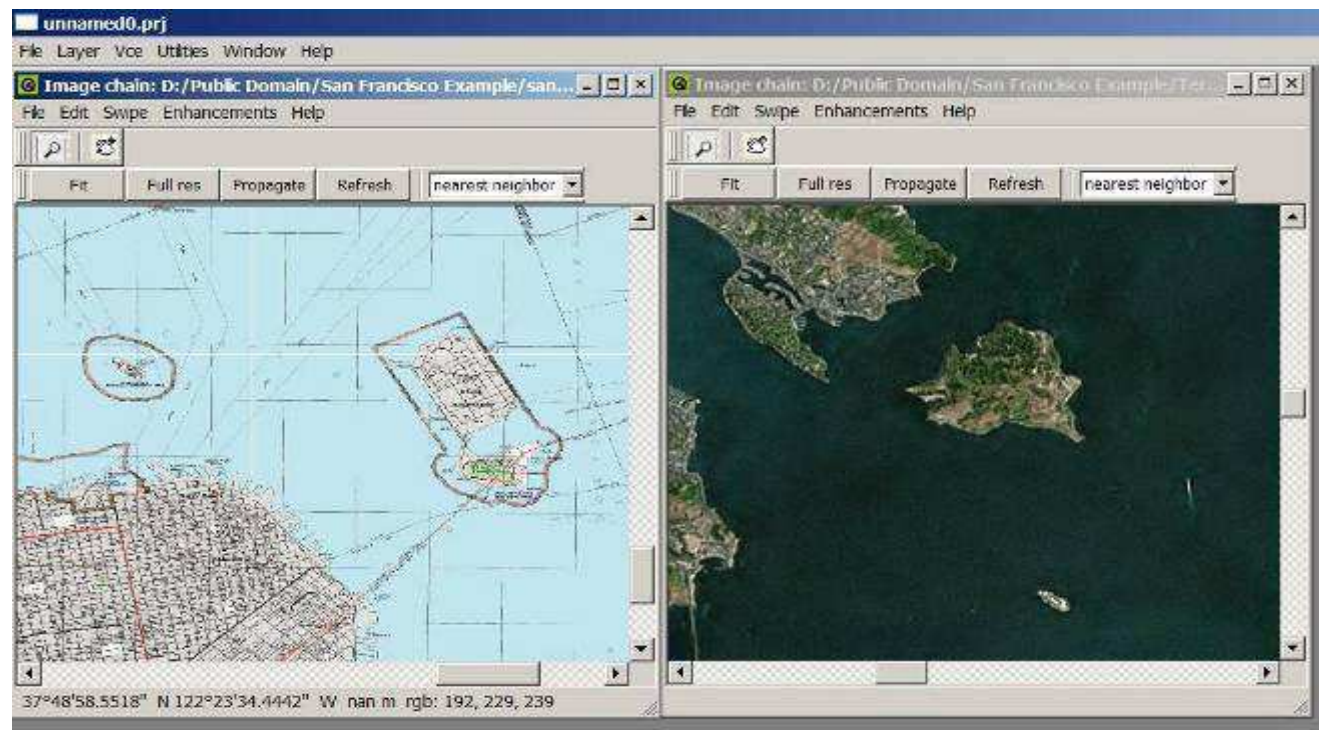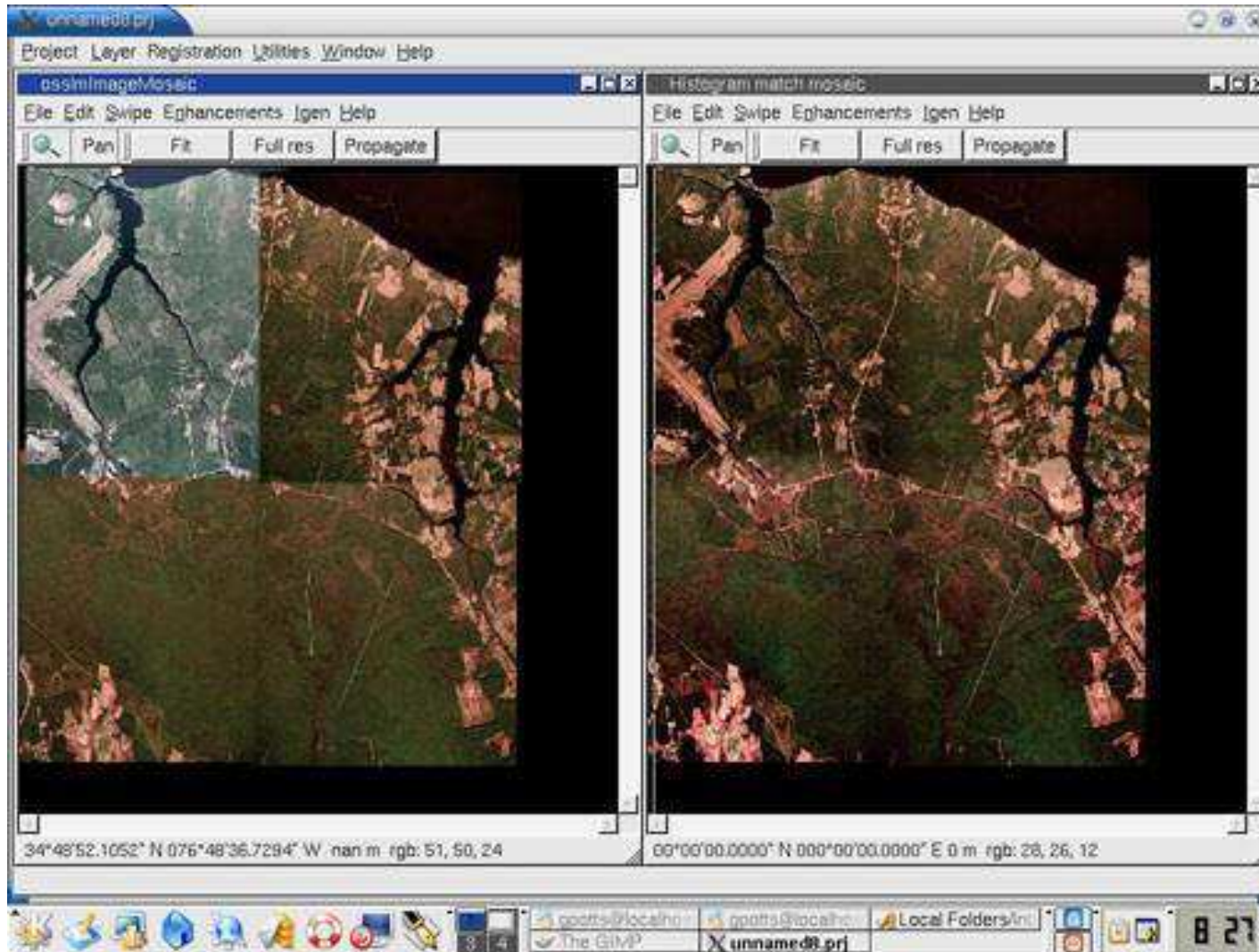
ImageLinker – Combiners

- Click Layer → Combine → Blend

- Select the two images and click APPLY

- Click Layer → Combine → Feather

- Select the two images and click APPLY

- Click Layer → Combine → Mosaic

- Select the two images and click APPLY

ImageLinker – Combiners

The difference between these three combiners is how it treats pixels in the overlap area. A mosaic simply chooses one source over the others, the blend averages the values of the pixels, and the feather changes the blend gradually as the distance from the seam increases.
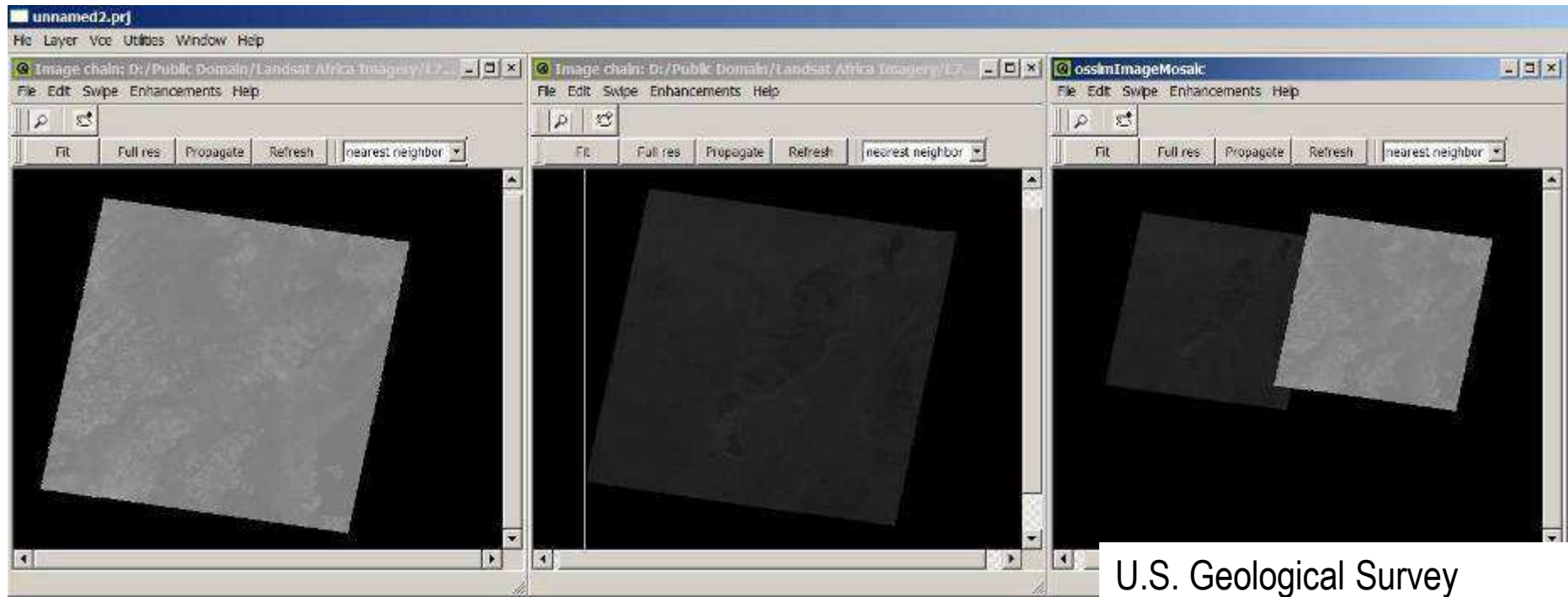
ImageLinker – Mosaics and Histogram Matching

ImageLinker – Mosaics and Histogram Matching

- File → Open

- \Landsat Africa Imagery\L71174066_06620000622_B20.TIF

- \Landsat Africa Imagery\L71173066_06620000530_B61.TIF

- Layer → Combine → Mosaic
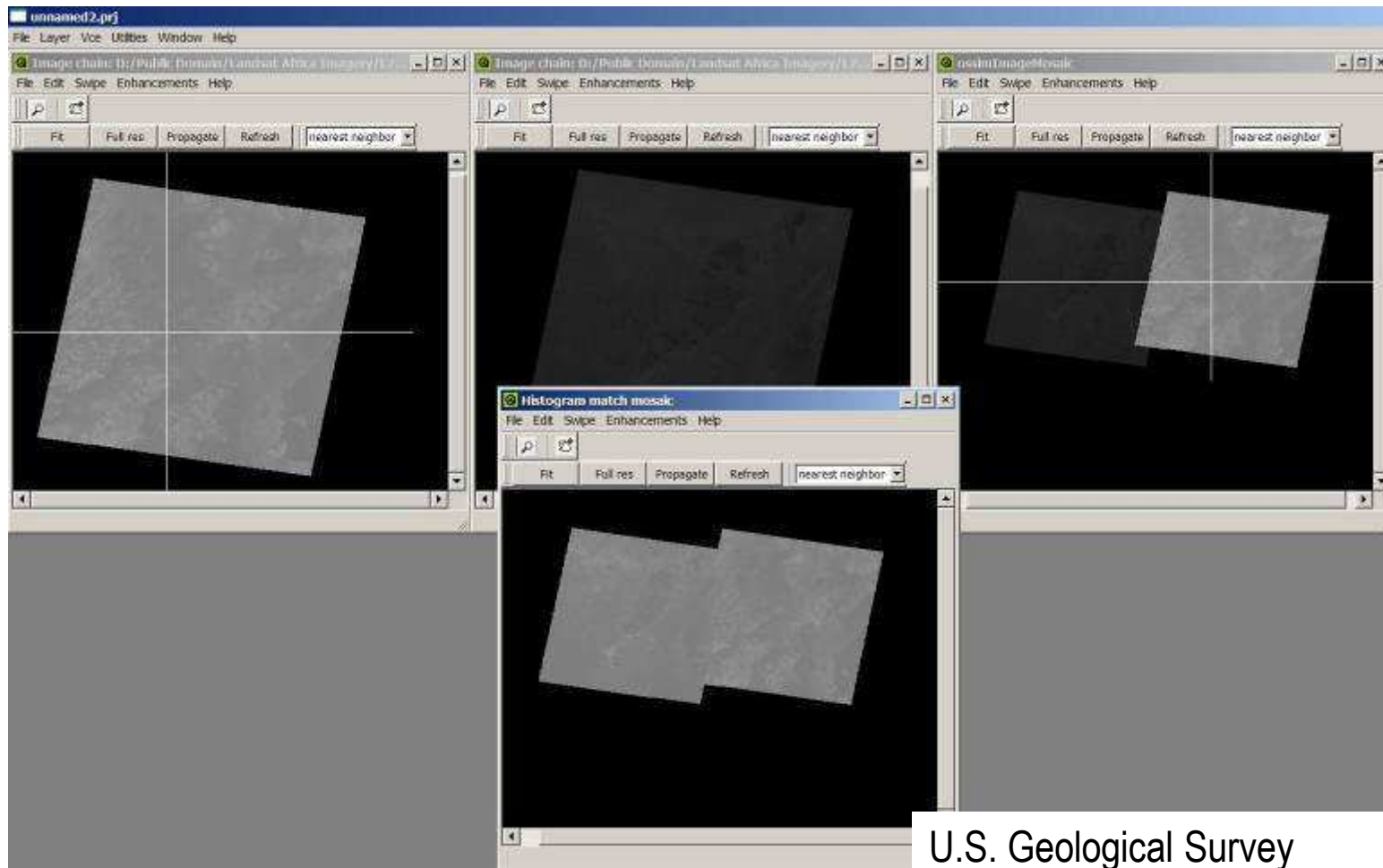
- Choose Full Res and then Fit

ImageLinker – Mosaics and Histogram Matching

U.S. Geological Survey

ImageLinker – Mosaics and Histogram Matching

- Layer → Histogram Match

U.S. Geological Survey

ImageLinker – Band Merging

- File → Open

- Open all of the \Landsat Africa Imagery\L71165037_03720090312_***.TIF

- Layer → Combine → Merge Bands

- Select all the images

ImageLinker – Band Merging

U.S. Geological Survey

ImageLinker – Band Selection

- Choose Enhancement → Band Selection on the color-merged image you just created

- Play around with the number of bands and order of bands

ImageLinker – Hill Shade

- File → Open Imagenes\SanFranExample\N37W123.hgt

- File → Open \San Francisco Example\sanfran_map.tif

- Click Layers->Elevation->Normals and select the elevation file.

- Click Layer->Elevation->Hillshade and select both images.

- On the map zoom to an area of interest and click propagate.
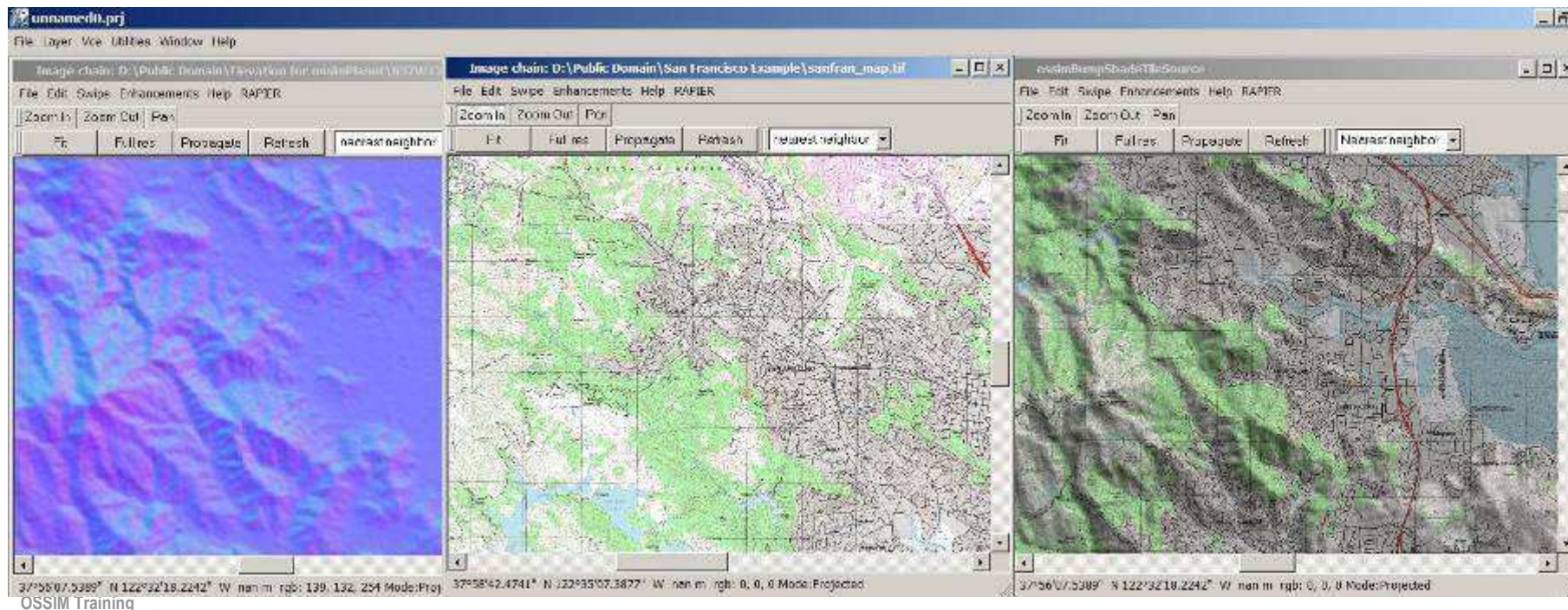
ImageLinker – Hill Shade

- Goto Edit-->Layers to get to the hillshade parameters.

- Change roughness to 0.4 and hit apply, and look at changes.

- Change azimuth to 130 and hit apply, and look at the changes.
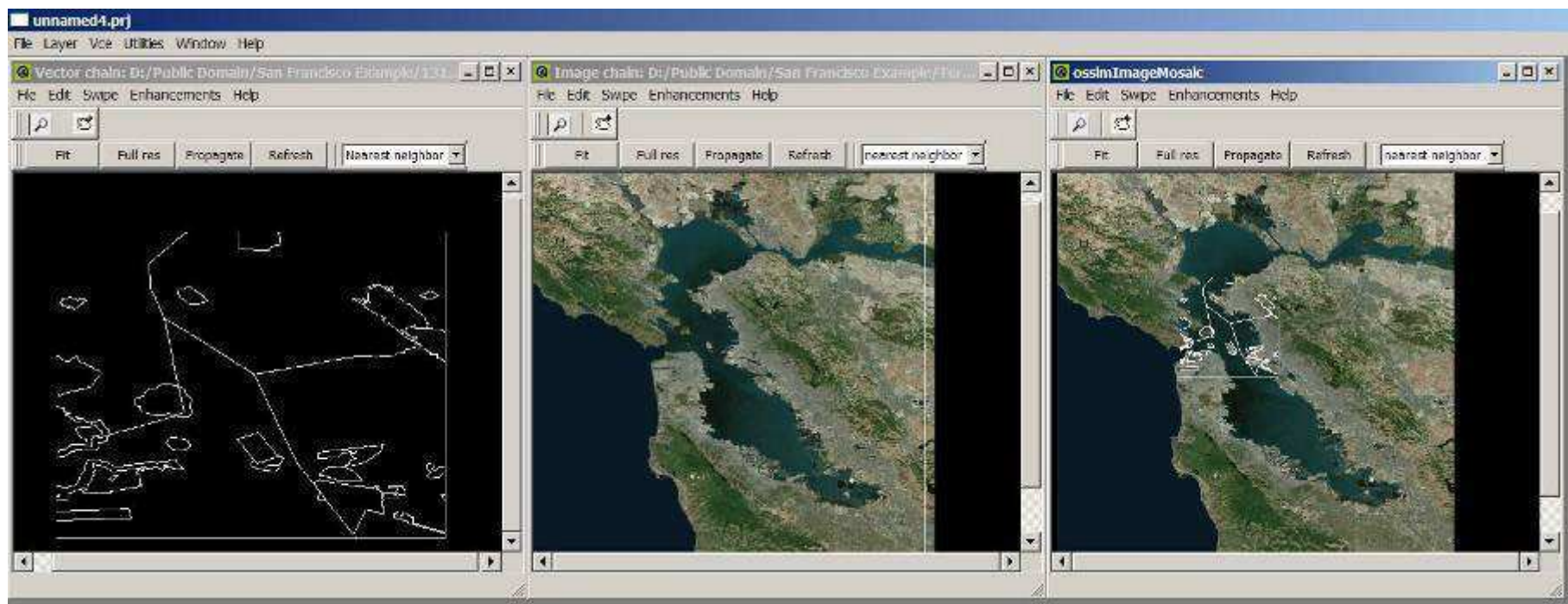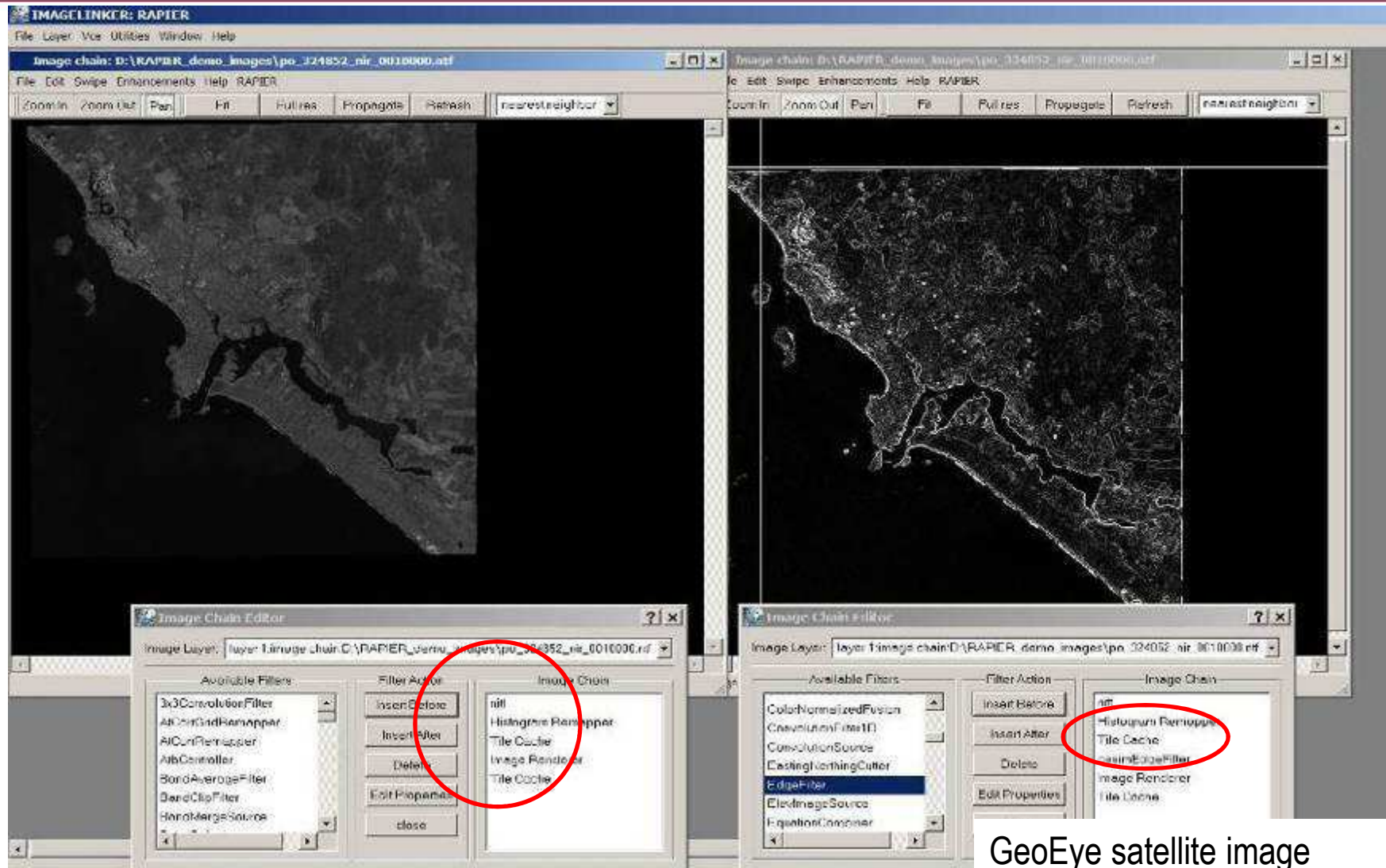
ImageLinker – Vector Support
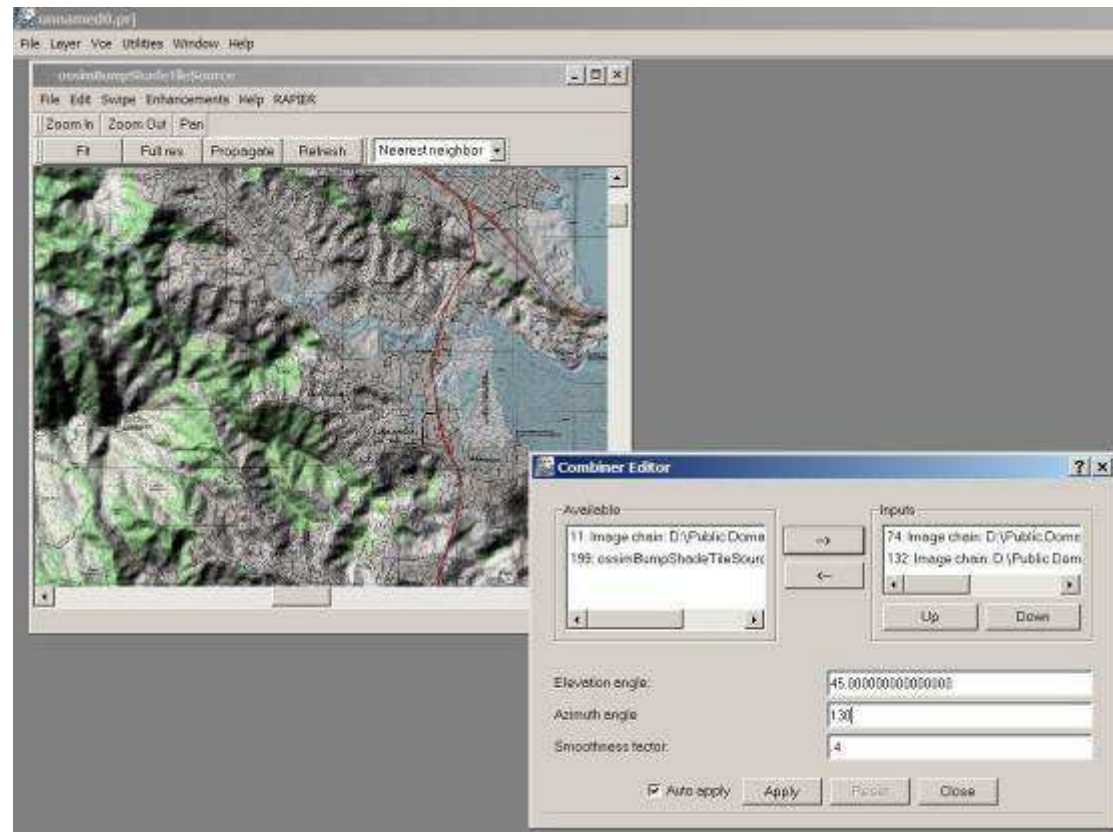
ImageLinker – Vector Support

- File → Open

- \San Francisco Example\1317597.BD.shp and \San Francisco Example\TerraColor_SanFrancisco_US_15m.tif

- Layer → Combine → Mosaic

- Select the layers

- Press Full Res and then Fit

ImageLinker – Vector Support

ImageLinker – Filters


GeoEye satellite image

ImageLinker – Filters

- File → Open Imagenes\San Francisco Example\TerraColor_SanFrancisco_US_15m.tif

- Press Full Res and then Fit

- Choose Edit → Image Chain

- Choose EdgeFilter from the left hand list and Image Renderer from the right hand list

- Click Insert After

ImageLinker – Filters

- Zoom into the image, and then remove the ossimEdgeFilter from the right hand menu

ImageLinker – Summary

- Supports extremely large imagery data (up to 4GB in size)

- Supports unique imagery formats

- Supports on-the-fly image manipulation

- Supports image overlays, etc
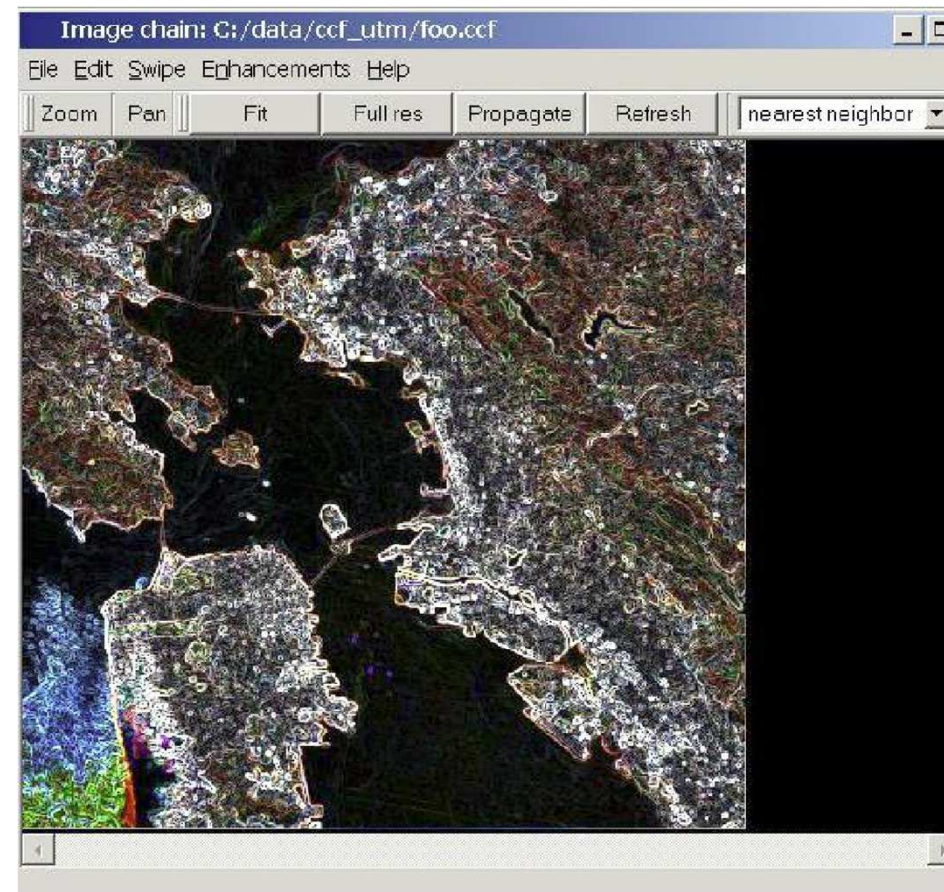
Internet y Intranet

Descargar archivos para hoy y manana:

- Lecturas de hoy (1.1 y 1.2)
- imagelinker.zip
- SanFranExample.zip
- 2.1.11_imagenes.zip (para mañana)
- Tutoriales (opcional)