

Getting a LandsatLook Image

Mike Taylor, NASA Landsat Project Science Office

Finding a specific location:

There are many ways to find LandsatLook images for a given location. Here's one option:

(1) Find coordinates for your location:

Use an atlas, GPS, or something like Google Maps to look up your site's coordinates. (In Google maps after locating your site, right click on the location and select "What's Here" from the drop down menu. The lat/long coordinates will come up in decimals at the top.)

Glovis:

USGS offers two interfaces to access Landsat data: EarthExplorer (<http://earthexplorer.usgs.gov>) and the Global Visualization Viewer (GloVis, <http://glovis.usgs.gov>). Here we focus on GloVis.

Take the coordinates you obtained and plug them into the lat/long box on GloVis and click "go". This will take you to the Landsat scene that corresponds with those coordinates. You can scroll through scenes chronologically using the button **Prev Scene** and **Next Scene**. In the box directly above those buttons you will see a read out of the scene information.

Scene Information:

In the Scene Information both, the scene "ID" tells you which Landsat satellite acquired the image, also called a scene. For example, here is a typical ID: LE70290302011148EDC00, the third character in each ID will tell you the satellite; in this case it is 7. Below the scene ID in the same Scene Information window, you will see "CC." CC stands for cloud cover, the closer to 0% this is, the better. "Date" is when the scene was acquired. "Qlty" stands for Quality and ranges from 0-9 with 9 being the best. "Sensor" tells you what sensor on the satellite acquired the image. If the sensor is "TM" (Thematic Mapper) it refers to Landsat 4 or 5 (both carried a Thematic Mapper instrument). If the sensor is "ETM+" it refers to Landsat 7. You should note that Landsat 7 had a malfunction in mid 2003 that created some data gaps in the imagery. So whenever you see "ETM+ SLC-off" there will be data gaps in that image.

Changing Landsat Collections:

In order to get to the first three Landsat satellites' data you will need to navigate to **Collection** in the menu at the top of the window, then to **Landsat Archive**, and finally to **Landsat 1-3** and select it. The data from Landsats 1-3 extend from 1972 to 1982. Note however that the spatial resolution scenes are smaller (60 m as opposed to 30 m). Another tip: that if you want a quick look at a scene without downloading it you can right click on the scene and scroll down to select **Show Browse**. This will show

you an image that has 240 m resolution, as opposed to the 1000 m resolution of the default thumbnails.

Downloading a LandsatLook Image or Full Scene Data Set:

To download the LandsatLook image make sure the image that you want is selected within the yellow highlighted box then find and click **Add** at the lower left hand corner of the window. Next click **Send to Cart**. This will pop up a new window with the scene info, to continue downloading click the green arrow hard drive graphic. Another pop up will appear with some selections, if all you require is a natural color image (one that looks like you might take it from a simple camera out in space), select the **LandsatLook “Natural Color” Image** and finish by clicking the **Select Download Option** (this options gives you a pseudo-natural color image using TM/ETM+ bands 5, 4, and 3 or MSS bands 2, 4, 1, all less than 12 Mb). If you want to **composite your own image using the actual band data** then select the last option “Level 1 Product” in the menu. All of the other menu options are self-explanatory. *For more information on image compositing, visit: The Landsat Compositor, <http://landsat.gsfc.nasa.gov/education/compositor/>*

The LandsatLook images are in JPEG format. Most geographic information systems and image processing software packages support JPEG (.jpg) images. The full scene data are in GeoTIFF format, this format is also widely supported.

Notes: *You need to register to download images, registration helps USGS keep track of data downloads so that they can justify providing free data, so thank you!*

*You can only download the full image data if the screen says **Downloadable** in red at the top. If it does not you need to submit an order so that the data will be processed for you. The turnaround time is usually a day or two. Keep in mind that the size of the full scene data set can be rather large (a typical Landsat 7 data set is usually around 220 Mb compressed and 670 Mb uncompressed). The good news is, that it’s free!*