



National Aeronautics and
Space Administration



ARSET

Applied Remote Sensing Training

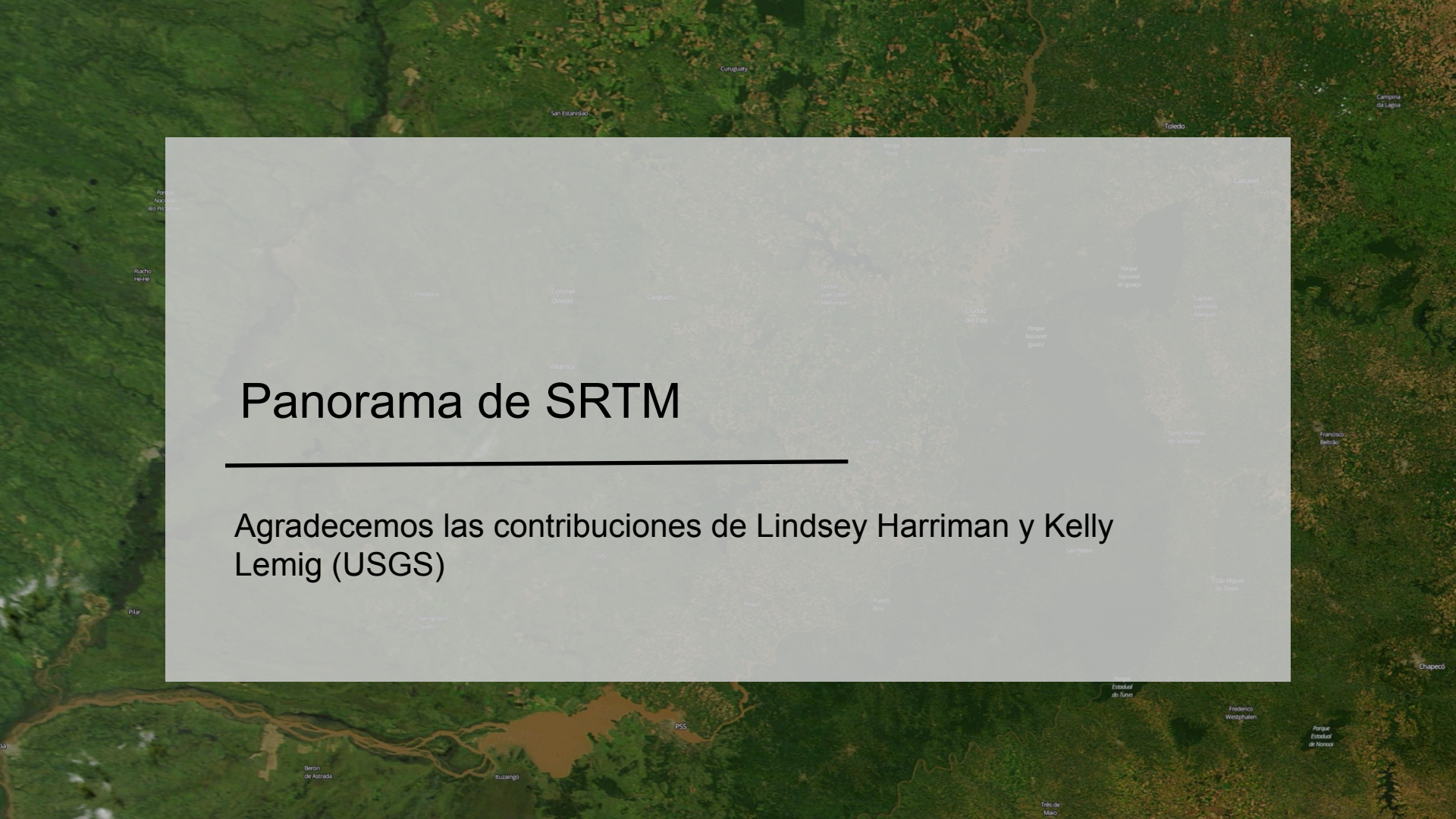
<http://arset.gsfc.nasa.gov>

 @NASAARSET

Acceso y Aplicaciones del Shuttle Radar Topography Mission (SRTM)

Panorama

- Resumen de datos de SRTM
- Acceso a datos de SRTM usando el Global Data Explorer (GDEX) y el Consultative Group for International Agricultural Research (CGIAR)
- Actividad: Como descargar datos de SRTM e iimportarlos en QGIS

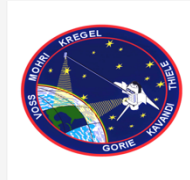
An aerial photograph of a lush, green landscape, likely a forested area with a river or stream winding through it. The terrain is hilly and covered in dense vegetation. A semi-transparent white rectangular box is centered over the image, containing text. The text is in a clean, sans-serif font. A horizontal line is positioned below the main title. The background image shows various geographical features like rivers, streams, and forested hills, with some labels visible around the edges of the white box.

Panorama de SRTM

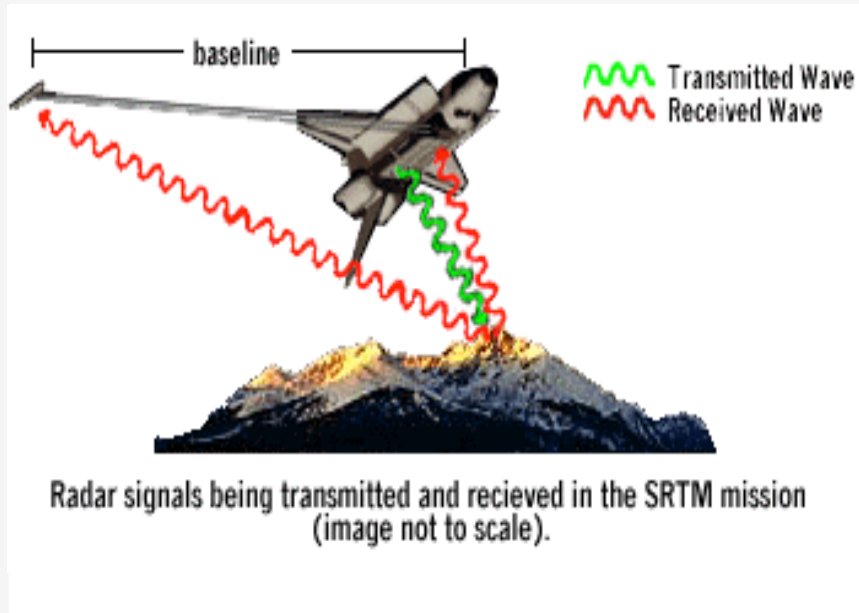
Agradecemos las contribuciones de Lindsey Harriman y Kelly Lemig (USGS)

Que es SRTM?

- Una misión del NASA Space Shuttle Endeavour, completada en Febrero del 2000
- Consistió en 176 orbitas alrededor de la tierra en 11 días
- Adquirió Digital Elevation Model (DEM) para todo el terreno entre la latitud 60°N y 56°S, ~80% de la masa total de la superficie de la tierra
- Útil para mapear terreno peligroso
- Calcula:
 - Pendiente y aspecto
 - Área de captación
 - Altitud de la cubierta del bosque
- Modelos:
 - Escorrentía
 - Redes de corrientes
 - Deslizamientos



NASA SRTM Versión 3.0 (SRTM Plus)



- Eliminó deficiencias en datos de SRTM rellenando con:
 - ASTER GDEM2
 - USGS GMTED2010
 - USGS National Elevation Dataset (NED)
- Datos adquiridos en 1 arco segundo; remuestreado en 3 arco segundos
- Nov 2013: Territorios en EEUU, 1 arco segundo; globales, 3 arco segundos
- Oct 2014: Africa, 1 arco segundo

<http://srtm.usgs.gov/data/interferometry.php>

Productos de datos de SRTM v3

Tile size	1° by 1°	New version released in 2014 has high resolution
Pixel size	1 arc second (~30 meters) 3 arc seconds (~90 meters)	
Geographic coordinates	Geographic latitude and longitude	
Output format	DEMS: .HGT, 16-bit signed integer, in units of vertical meters Number: .NUM	
Geoid reference	WGS84/EGM96	
Special DN values	N/A - No voids in v3	
Coverage	60°N to 56°S latitude U.S. and Territories Africa	

Como acceder a Datos de Terreno de SRTM v3

- Reverb

- <http://reverb.echo.nasa.gov/reverb>

- GDEx

- <http://gdex.cr.usgs.gov/gdex>

- CGIAR-CSI

- <http://srtm.csi.cgiar.org>

Herramientas interactivas para acceso a datos

- Data Pool y DAAC2Disk

- https://lpdaac.usgs.gov/data_access/data_pool

- Mas información: Guía de Usuario de SRTM v3

- https://lpdaac.usgs.gov/sites/default/files/public/measures/docs/NASA_SRTM_V3.pdf

An aerial satellite view of a lush green landscape with a river and a semi-transparent map overlay. The map overlay shows a grid of latitude and longitude lines and various place names. The text is centered on the map overlay.

Acceso a datos de SRTM usando Global Data Explorer (GDEx)

GDEx

<http://gdex.cr.usgs.gov/gdex>

- Un vvisor de datos fluido, ofreciendo acceso a múltiples fuentes de datos de elevación digital
- Usuarios pueden descargar y crear conjuntos de datos para su área de interés en varios formatos y proyecciones

The screenshot displays the USGS Global Data Explorer (GDEx) web application. The main content area shows a world map with various data layers overlaid, including elevation data (ASTER Global DEM, NGA SRTM 1 arcsec, etc.) and land cover data (MODIS Land Cover). The right sidebar contains a 'Map Layers' panel with a tree view of the selected layers. The top navigation bar includes 'NASA Earth Data', 'Data Discovery', 'Data Centers', 'Community', 'Science Disciplines', and 'Search EGDIS'. The bottom of the page features a footer with 'Accessibility', 'FOIA', 'Privacy', 'Policies and Notices', and contact information for the U.S. Department of the Interior and U.S. Geological Survey.

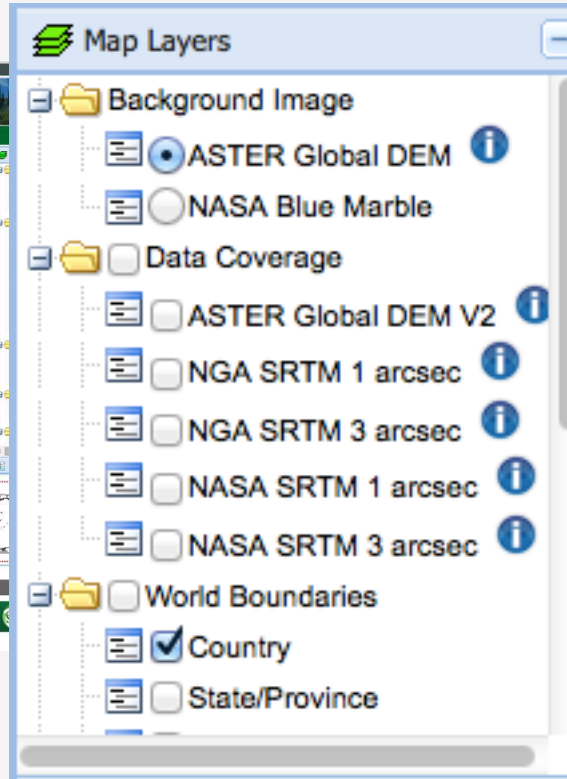
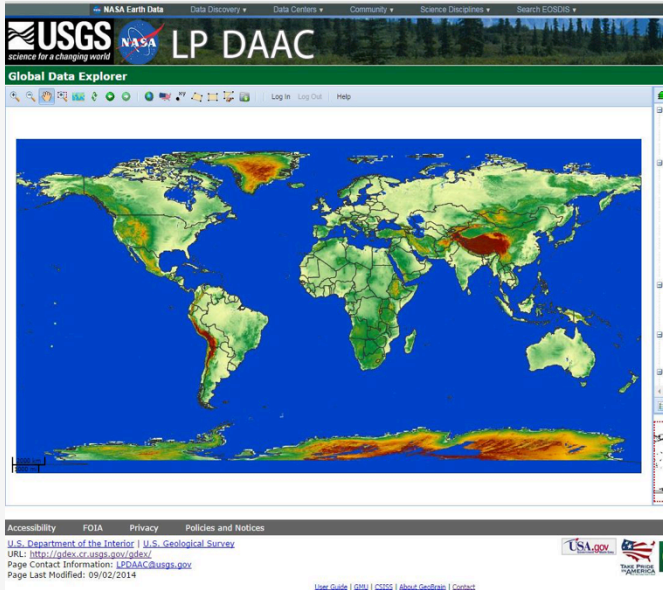
Data can be previewed before download

GDEx

<http://gdex.cr.usgs.gov/gdex>

- NASA ECHO/Reverb: una cuenta de usuario es necesaria para descargar datos – puede registrarse a través de GDEx
- Área de interés cuadrada o poligonal
- Áreas pre-definidas de interés (estado, país)
 - Procesamiento avanzado e inmediato
 - Cobertura con cuadrícula de mosaico ajustada al área de interés
 - Reformateado a GeoTIFF, ArcASCII, or JPEG
 - Proyección Universal Transversal de Mercator (UTM) o de LATITUD/
LONGITUD

GDEx: Acceso a datos de SRTM



- Capa Base
- Datos de SRTM (con huecos rellenos)

GDEx: Selección de datos de SRTM

The screenshot displays the GDEx web application interface. At the top, there is a navigation bar with 'EARTHDATA', 'Data Discovery', 'DAACs', 'Community', and 'Science Disciplines'. Below this is a toolbar with various icons for map navigation and data selection. A red box highlights a section of the toolbar containing icons for globe, US flag, 'XY', a yellow rectangle, a yellow rectangle with a black border, a yellow rectangle with a black border and a red arrow, and a folder icon. A red arrow points from the 'XY' icon to a text box on the left. Another red arrow points from the folder icon to a text box on the right. The main area shows a map of the United States with a blue shaded region in the southeast. A sidebar on the right lists data layers: 'ASTER Global DEM', 'MODIS Land Cover', and 'NASA Blue Marble'. At the bottom, there are logos for 'USA.gov', 'Powered by GeoBrain', and 'GEORGE MASON UNIVERSITY'.

- Zoom
- Defina la región de interés con un cuadro limitador o por estado, país o latitud/longitud
- Refresh
- Download

CGIAR-CSI

http://csi.cgiar.org/WhtisCGIAR_CSI.asp

Consultative Group for International Agricultural Research/Consortium of Spatial Information

Datos de
SRTM
(90 m)



The CGIAR Consortium for Spatial Information (CGIAR-CSI)

Applying GeoSpatial Science for a Sustainable Future...

CGIAR-CSI HOME

Home > What is CGIAR-CSI ?

What is CGIAR-CSI ?

The fifteen CGIAR International Research Centers have pioneered the application of Geographic Information Systems (GIS) and Remote Sensing (RS) for sustainable agricultural development for more than a decade. In May 1999, they formed the Consortium for Spatial Information (CGIAR-CSI) which links the all of the CGIAR's GIS/RS laboratories, and the many geospatial scientists and researchers within the CGIAR system, with scientists and institutions from around the world. Together, these laboratories, scientists and researchers constitute a formidable assemblage of technical ingenuity, scientific expertise, and practical experience in spatial analysis.

They have already developed important collections of data on population, poverty, climate, soils, crops, livestock, transportation, and biodiversity and other geospatial Global Public Goods. The CGIAR-CSI researchers are continuing to break new ground in the integration of biophysical and socio-economic data to better target agricultural technologies and resources to farmers' needs, to assess global needs, develop strategies to alleviate poverty, and to better adapt to a changing global environment.

These powerful spatial technologies have become an integral part of interdisciplinary research within the CGIAR. Through linking geo-referenced data to digital maps, a whole new range of opportunities for integrating and presenting diverse information has opened to a diverse set of users to harness these technologies. Users can more readily see and understand interrelationships between, for example, urban and rural areas, markets, crop production, deforestation, and soil erosion.

They can develop more realistic models, and identify and monitor change more accurately. Ultimately, the improved understanding of the landscape strengthens strategies and activities in natural resource management, agricultural development, land change analysis, biodiversity conservation, and ecological studies.

csi.cgiar.org/Members.asp

CGIAR-CSI: Acceso a datos de SRTM

Pulsen para seleccionar y descargar datos



The CGIAR Consortium for Spatial Information (CGIAR-CSI)

Applying GeoSpatial Science for a Sustainable Future...

CGIAR-CSI HOME | SRTM 90m DATABASE HOME | DISCLAIMER | HELP

- CGIAR-CSI Content
 - What is CGIAR-CSI ?
 - CGIAR-CSI Members
 - What's New ?
 - CRU Climate Data
- SRTM Content
 - SRTM Data Search and Download**
 - SRTM Data Processing Methodology
 - SRTM FAQ
 - SRTM Quality Assessment (PDF File - 2.55 Mb)
 - About SRTM Imagery
 - CIAT Landuse Project
 - How to Search for Data?
 - Disclaimer
 - Contact Us

SRTM 90m Digital Elevation Data

new Resampled SRTM data to 250m resolutions for the entire globe are available <https://hc.box.net/shared/fyidaheouv> (Password: ThanksCSII)

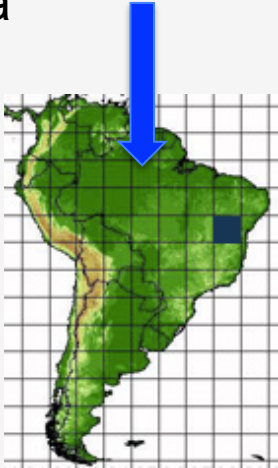
UPDATE - VERSION 4: THE SRTM DATA NOW AVAILABLE FROM THIS SITE HAS BEEN UPGRADED TO VERSION 4. THIS LATEST VERSION REPRESENTS A SIGNIFICANT IMPROVEMENT FROM PREVIOUS VERSIONS, USING NEW INTERPOLATION ALGORITHMS AND BETTER AUXILIARY DEMs. WE ARE CONFIDENT THIS IS NOW THE HIGHEST QUALITY SRTM DATASET AVAILABLE

CGIAR-CSI
GIG
KING COL LOND
EUROPEAN COMMISSION Joint Res
il

CGIAR-CSI: Selección de datos de SRTM

Selección espacial
con latitud/longitud

or pulsando el la
grilla



SRTM Data Selection Options Chinese users : [中国用户可通过中国科学院镜像站点下载](#)

1. Select Server: CGIAR-CSI (USA) HarvestChoice (USA) JRC (IT) King's College (UK) TelaScience (USA)

2. Data selection method: Multiple Selection Enable Mouse Drag Input Coordinates

Multiple Selection can be selected at random locations. These selected tiles are listed in the results page for download.

Decimal Degrees (ie 34.5, -100.5) Degrees: Minutes: Seconds (ie 34 30 00 N, 100 30 00 W)

Longitude - min: max: Longitude - min: East max: East

Latitude - min: max: Latitude - min: North max: North

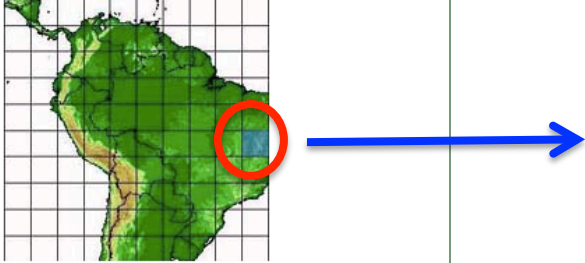
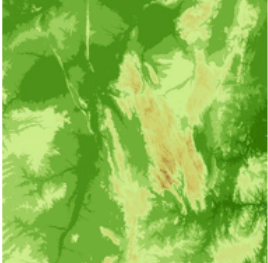
Longitude: 100.00 Latitude: 100.0 Tile X: 10 Tile Y: 10





3. Select File Format: GeoTiff Arcinfo ASCII

A world map overlaid with a grid. A blue arrow points to a specific tile in the grid, which is highlighted in a darker blue color.

CGIAR-CSI: Descarga de datos de SRTM

1 Items have been Found.

Description	Location	Image
<p>Product : SRTM 90m DEM version 4</p> <p>Data File Name : srtm_28_15.zip</p> <p>Mask File Name: srtm_mk_28_15.zip</p> <p>Latitude min: 15 S max: 10 S</p> <p>Longitude min: 45 W max: 40 W</p> <p>Center point : Latitude 12.50 S Longitude 42.50 W</p>		

Client Server :  Data Download (FTP)  Data Download (HTTP)  Data Mask Download (FTP)  Data Mask Download (HTTP) [^TOP^](#)

[0] Image

- Opciones de descarga
- Datos de elevación digital pueden ser descargados en el formato GeoTIFF



Actividad:
Descargar datos de SRTM e importarlos en QGIS
