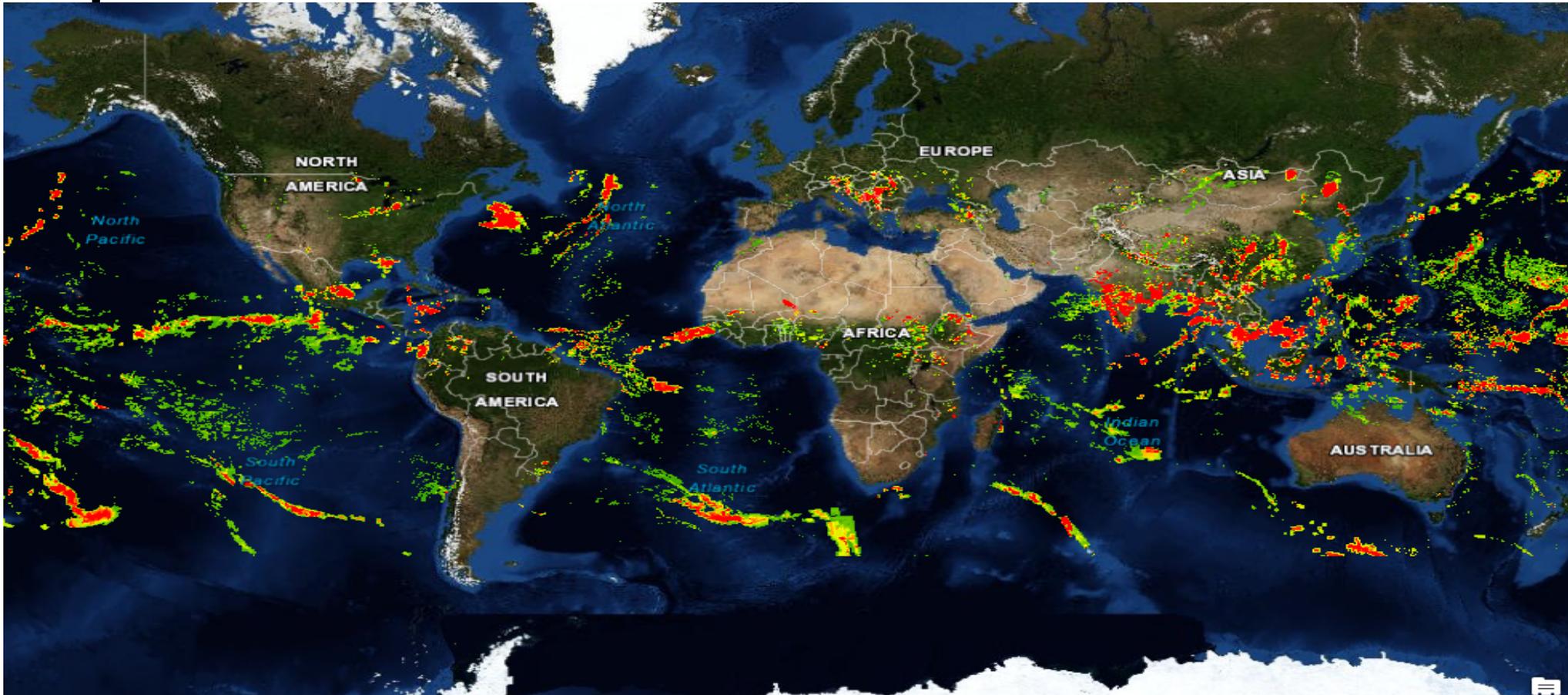


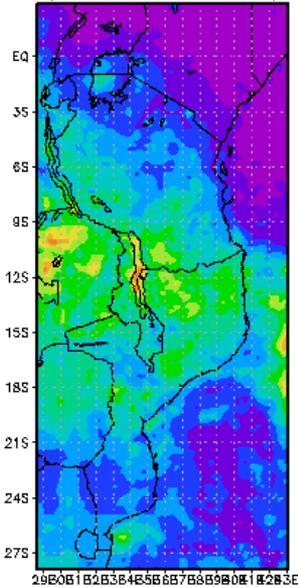
La adquisición de datos mensuales del TRMM y el GLDAS y la importación al ArcMap para el análisis del balance hídrico



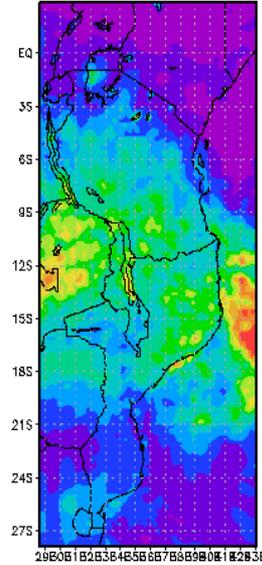
Condiciones de precipitación pesada sobre la cuenta del río Limpopo (África meridional) en 2013

Lluvia acumulada del TRMM

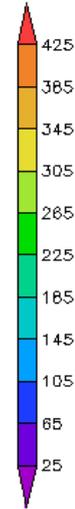
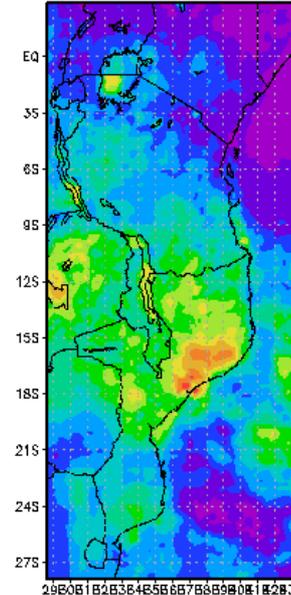
TRMM_3B43_ACC.007 Accumulated Rain [mm]
(Dec2010 – Feb2011)



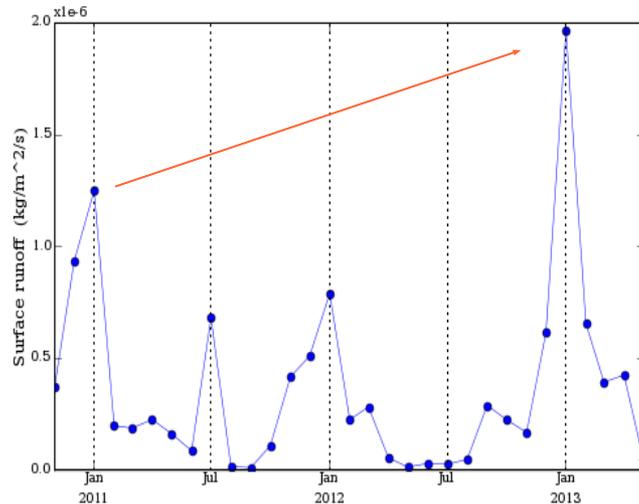
TRMM_3B43_ACC.007 Accumulated Rain [mm]
(Dec2011 – Feb2012)



TRMM_3B43_ACC.007 Accumulated Rain [mm]
(Dec2012 – Feb2013)



Area-Averaged Time Series (GLDAS_NOAH025_M.001)
(Region: 25E-39E, 33S-17S)



• Variabilidad estacional y anual en productos de datos de lluvia acumulada debido a su relevancia en condiciones de lluvia pesada

• Comparaciones estacionales y anuales:

dic-feb (2010-2013)

• En relación a la escorrentía superficial (kg/m²/s) obtenido del GLDAS

• Los datos gratuitamente disponibles de la NASA se importarán al GIS donde pueden ser examinados junto con los niveles del GIS

(cuencas hídricas, redes fluviales, elevación, tipo de suelo, tierras agrícolas, represas, embalses, población)

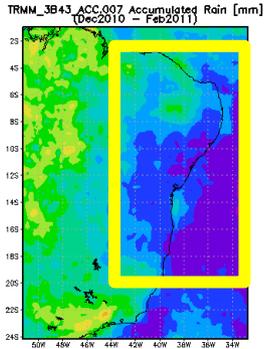
Condiciones de sequía sobre el Brasil 2012

Lluvia acumulada TRMM

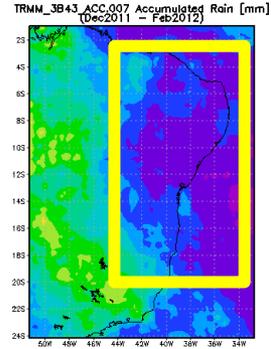
Humedad del suelo GLDAS

Area-Averaged Time Series (GLDAS_NOAH025_M.001)
(Region: 44W-34W, 14S-4S)

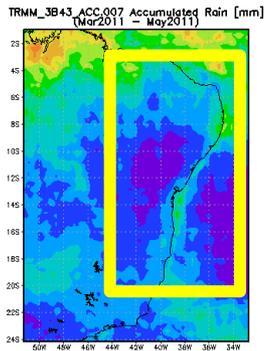
dic2010-feb2011



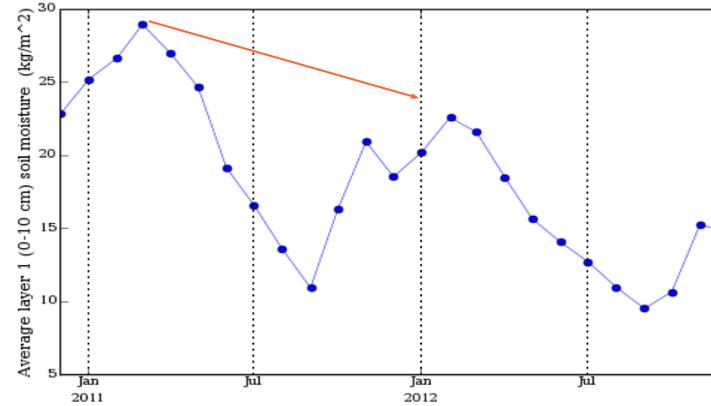
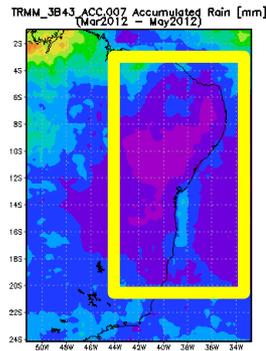
dic2011-feb2012



mar2010-may2011



mar2011-may2012



- Examinaremos la variabilidad estacional y anual en los productos de datos de lluvia acumulada debido a su relevancia a las condiciones de sequía
- Escala temporal de omparaciones estacionales y anuales:
- Dic-feb (2011-2012) y mar-may (2011-2012)
- En relación a la escorrentía superficial ($\text{kg/m}^2/\text{s}$) obtenido del GLDAS

Niveles de datos del GIS

Ríos/cuencas	USGS HydroSHEDS	http://hydrosheds.cr.usgs.gov/
Población	NASA Socioeconomic Data and Applications Center (SEDAC)	http://sedac.ciesin.columbia.edu/
Elevación	Consortium for Spatial Information (CGIAR-CSI)	http://srtm.csi.cgiar.org/
Embalses	NASA Socioeconomic Data and Applications Center (SEDAC)	http://sedac.ciesin.columbia.edu/
Tipos de suelo	ISRIC - World Soil Information	http://www.isric.org/
Represas	NASA Socioeconomic Data and Applications Center (SEDAC)	http://sedac.ciesin.columbia.edu/
Tierras agrícolas	NASA Socioeconomic Data and Applications Center (SEDAC)	http://sedac.ciesin.columbia.edu/
Áreas administrativas globales, nacionales	Global Administrative Areas	http://www.gadm.org/
Mapas de base globales	ESRI Base maps	http://www.esri.com/data/basemaps

Herramientas en línea

Sistema de visualización y análisis en línea del TRMM (TRMM Online Visualization and Analysis System -TOVAS)

<http://disc.sci.gsfc.nasa.gov/precipitation/tovas>

Giovanni – Análisis y visualización interactivas

<http://disc.sci.gsfc.nasa.gov/giovanni#instances>

Vaya a Giovanni, Science Portals, Precipitation: TRMM – TOVAS

The screenshot shows a web browser window with the URL `disc.sci.gsfc.nasa.gov/precipitation/tovas`. The page header includes the NASA logo and "GES DISC Goddard Earth Sciences Data and Information Services Center". A search bar is visible on the right. The main navigation menu includes "Science Portals" and "Precipitation". A large yellow alert box is the central focus, containing the following text:

IMPORTANT MESSAGE May 14, 2013 IMPORTANT: Rollback and Replacement of TRMM VIRS Data Products for May 12, 2013 (DOY 132)

From PPS:

PPS was informed by PACOR after TRMM data production for May 12, 2013 had finished and products were made available, that there was missing data in the level zero VIRS file for that day (DOY 132). A replacement version with the recovered data was made available and PPS used this improved version to generate replacement files.

If you have obtained any 1A01 and downstream TRMM data products earlier today (see list below) through our data archive or via Standing Order, etc., please discard these products and use the newer replacement file versions. The replacement files should have a time stamp of approx 19:16 etc.

TRMM data replaced for May 12, 2013 include the following:

1A01, 1B01, 1B01BR, 1B01QA, 1B01_C, 1B01_TREND, 3G01-4, 3G01-5, EGscan, FireMonth, FireDay, FireDayPlot, FireMonthPlot, UtahDay, UtahZ

If you have questions or concerns, please contact us, gsfc-help-disc@lists.nasa.gov

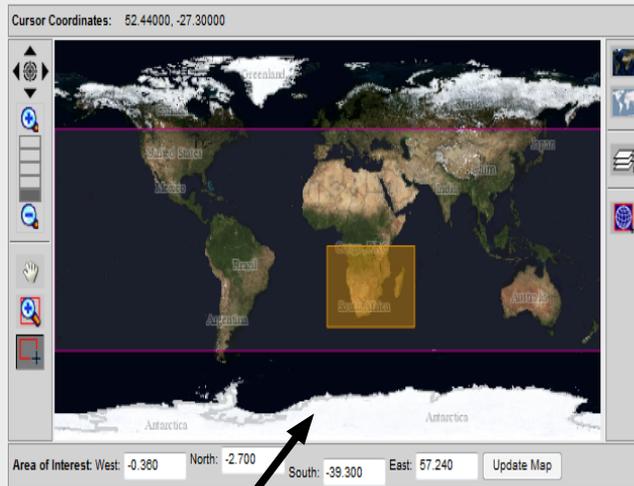
Welcome to TOVAS, a member of the Giovanni (GES-DISC Interactive Online Visualization AND aNalysis Infrastructure) family, which provides users with an easy-to-use, Web-based interface for the visualization and analysis of global precipitation data.

Archivos pluviales satelitales:
Estimación de datos mensuales del TRMM y de otras fuentes de datos (3B43, 3A12, 3A25 V7)

Giovanni -TRMM 3B43

Select:

Spatial



Vertical Profile

Select a vertical profile range. The range selection is disabled unless a qualifying parameter is selected. In order to enable this option (and populate the list with values), select a 3D parameter. 3D are labeled with a '3D)' in the 'Parameters' section.

Elegir región y parámetros temporales.

Generar visualización como mapa con latitud y longitud, temporalmente promediados.

CUENCA DEL RÍO LIMPOPO

TRMM 3B43 V7

Elija lluvia acumulada y tasa pluvial

<input type="checkbox"/>	Conv Rain Pixel Count (0.5x0.5 deg)	TRMM_3A25.007	TRMM	1997/12 - 2013/10
<input type="checkbox"/>	Conv Rain Pixel Count (5.0x5.0 deg)	TRMM_3A25.007	TRMM	1997/12 - 2013/10
<input type="checkbox"/>	Rain Pixel Count (0.5x0.5 deg)	TRMM_3A25.007	TRMM	1997/12 - 2013/10
<input type="checkbox"/>	Rain Pixel Count (5.0x5.0 deg)	TRMM_3A25.007	TRMM	1997/12 - 2013/10
<input type="checkbox"/>	Stat-Mean-Rain-Rate (0.5x0.5 deg)	TRMM_3A25.007	TRMM	1997/12 - 2013/10
<input type="checkbox"/>	TRMM 3B43 V7(1998/01/01 - 2013/08/31)			
Parameter		Data Product Info		
<input checked="" type="checkbox"/>	Accumulated Rain	TRMM_3B43_ACC.007	TRMM	1998/01 - 2013/07
<input checked="" type="checkbox"/>	Rain Rate	TRMM_3B43.007	TRMM	1998/01 - 2013/08
<input type="checkbox"/>	Relative Error	TRMM_3B43.007	TRMM	1998/01 - 2013/08
<input type="checkbox"/>	TRMM 3A11 V7(1997/12/01 - 2013/10/31)			
Parameter		Data Product Info		
<input type="checkbox"/>	Accumulated Precipitation	TRMM_3A11.007	TRMM	1997/12 - 2013/10
<input type="checkbox"/>	TRMM 3B31 V7(1997/12/01 - 2013/10/31)			
Parameter		Data Product Info		
<input type="checkbox"/>	Accumulated TMI Convective Surface Precipitation	TRMM_3B31.007	TRMM	1997/12 - 2013/10
<input type="checkbox"/>	Accumulated TMI Surface Precipitation	TRMM_3B31.007	TRMM	1997/12 - 2013/10

Temporal

Begin Date Year 2011 Month Dec

End Date Year 2013 Month Feb

Note: The products are monthly

Select Visualization:

Lat-Lon map, Time-averaged

Generate Visualization Reset

Resultados de la disualización

TRMM Level-3 Monthly Products.

Home

Results #1

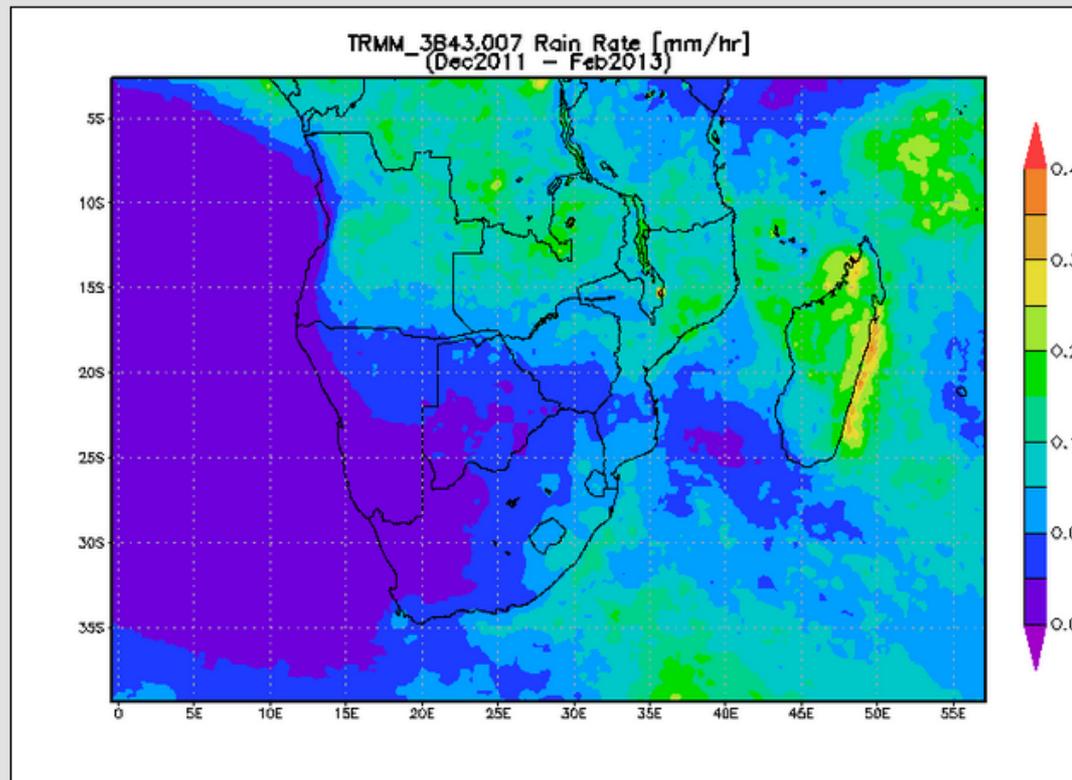
Remove All

Visualization Results

Download Data

Product Lineage

Acknowledgment Policy



Pulse para descargar datos

Descargar archivos NetCDF

TRMM Online Visualization and Analysis System (TOVAS) TRMM Level-3 Monthly Products.

Home Results #1 Remove All

Visualization Results **Download Data** Product Lineage Acknowledgment Policy

Download source data products and data products derived from Giovanni processing stages. For simplicity purposes, only the initial retrieval and final rendering phases are currently accessible for downloading. Supported download formats are HDF, NetCDF(NCD), ASCII, and KMZ (ASCII is available only when the array size is within about half-million points). To **download multiple files** at once, select the desired files (from any section) by clicking on their associated checkboxes, and then click 'Download in Batch'. **Note:** that 'n/a' means that a file size or other column value is not available; 'saa' means that a file is exactly the same as the previous one in the list. Also, not all services and data products support all download file formats.

Initial Data Retrieval

Data Product	Start Time	File Size (b)	Download Files
TRMM_3B43.007 (precipitation)	2011-12-01T00:00:00Z	3885739	<input type="checkbox"/> HDF <input checked="" type="checkbox"/> NCD <input type="checkbox"/> ASC
TRMM_3B43.007 (precipitation)	2012-01-01T00:00:00Z	3889404	<input type="checkbox"/> HDF <input checked="" type="checkbox"/> NCD <input type="checkbox"/> ASC
TRMM_3B43.007 (precipitation)	2012-02-01T00:00:00Z	3897999	<input type="checkbox"/> HDF <input checked="" type="checkbox"/> NCD <input type="checkbox"/> ASC
TRMM_3B43.007 (precipitation)	2012-03-01T00:00:00Z	3904667	<input type="checkbox"/> HDF <input checked="" type="checkbox"/> NCD <input type="checkbox"/> ASC
TRMM_3B43.007 (precipitation)	2012-04-01T00:00:00Z	3916273	<input type="checkbox"/> HDF <input checked="" type="checkbox"/> NCD <input type="checkbox"/> ASC

Download in Batch

Download Files

HDF NCD ASC

Two Dimensional Map Plot

Input Files	Start Time	File Size (b)	Download Files
TRMM_3B43.007 (precipitation)	2011-12-01T00:00:00Z	141695	<input type="checkbox"/> HDF <input type="checkbox"/> NCD <input type="checkbox"/> ASC

Download in Batch

Tiquear el "NCD" y "Download in Batch" (bajar en conjunto)

Archivo zip descargado. Pulse en el enlace para guardar el archivo en el lugar deseado.

gdata1.sci.gsfc.nasa.gov/daac-bin/G3/batchDownload.cgi

NASA National Aeronautics and Space Administration

Search DISC
+ GO
+ Advanced Search

Giovanni - The Bridge Between Data and Science

+ ABOUT GIOVANNI + NEWS + INSTANCES + FEEDBACK + RELEASE NOTES + HELP

Batch Download

All of your selected files have been compressed into one single file. Please click the file name below to download:

File: TRMM_Monthly_latlonplot_113103182238.tar.gz
Size: 83069.4 KB

Please click [here](#) to go back to make another download, or click the "Back" button on the browser.

NASA Responsible NASA Official: Steven.J.Kempler@nasa.gov
Web Curator: [M. Hegde @gsfc-giovanni-disco@lists.nasa.gov](mailto:M.Hegde@gsfc-giovanni-disco@lists.nasa.gov)

+ Privacy Policy and Important Notices + Contact Us

Opcionalmente, uno puede retroceder y elegir varias visualizaciones, incluso

representaciones gráficas de series temporales

<input type="checkbox"/> Strat Mean Rain Rate (0.5x0.5 deg)	TRMM_3A25.007	TRMM	1997/12 - 2013/10
<input type="checkbox"/> Strat Mean Rain Rate (5.0x5.0 deg)	TRMM_3A25.007	TRMM	1997/12 - 2013/10
<input type="checkbox"/> Strat Rain Pixel Count (0.5x0.5 deg)	TRMM_3A25.007	TRMM	1997/12 - 2013/10
<input type="checkbox"/> Strat Rain Pixel Count (5.0x5.0 deg)	TRMM_3A25.007	TRMM	1997/12 - 2013/10

TRMM 3B43 V7(1998/01/01 - 2013/08/31)

Parameter	Date Product Info		
<input checked="" type="checkbox"/> Accumulated Rain	TRMM_3B43_ACC.007	TRMM	1998/01 - 2013/07
<input checked="" type="checkbox"/> Rain Rate	TRMM_3B43.007	TRMM	1998/01 - 2013/08
<input type="checkbox"/> Relative Error	TRMM_3B43.007	TRMM	1998/01 - 2013/08

TRMM 3A11 V7(1997/12/01 - 2013/10/31)

Parameter	Date Product Info		
<input type="checkbox"/> Accumulated Precipitation	TRMM_3A11.007	TRMM	1997/12 - 2013/10

TRMM 3B31 V7(1997/12/01 - 2013/10/31)

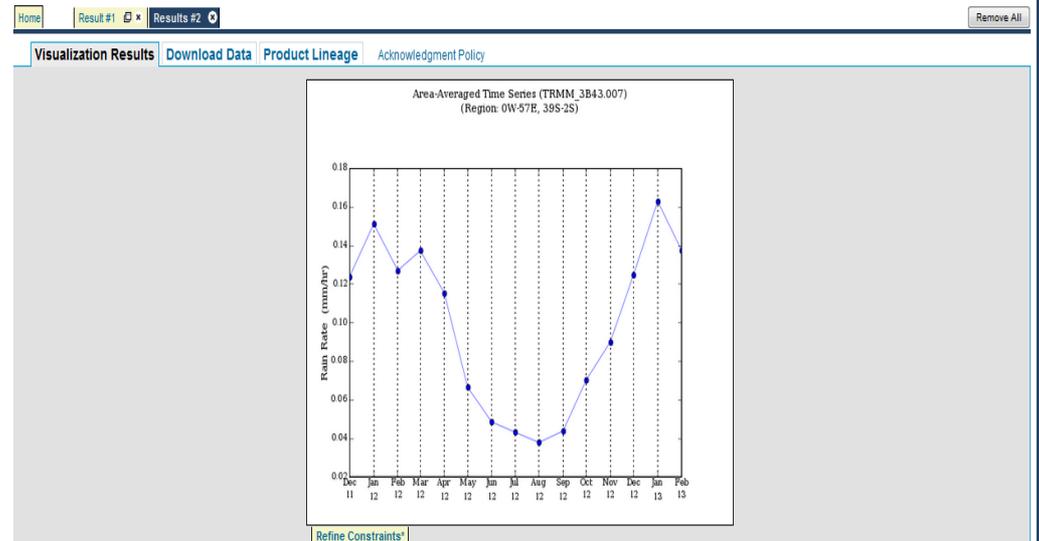
Parameter	Date Product Info		
<input type="checkbox"/> Accumulated TMI Convective Surface Precipitation	TRMM_3B31.007	TRMM	1997/12 - 2013/10
<input type="checkbox"/> Precipitation	TRMM_3B31.007	TRMM	1997/12 - 2013/10

Time series
Vertical Profile
Scatter plot, Time-averaged
Longitude-Time Hovmöller Diagram
Cross Map, Time-Pressure
Latitude-Time Hovmöller Diagram
Cross Map, Latitude-Pressure
Time series, Area statistics
Lat-Lon map, Time-accumulated
Cross Map, Longitude-Pressure
Overlay of Lat-Lon Maps
Animation
Lat-Lon map, Time-averaged

Begin Date Year 2011 Month Dec
End Date Year 2013 Month Feb

[Edit Preferences](#) [Visualization Help](#)

TRMM Online Visualization and Analysis System (TOVAS) TRMM Level-3 Monthly Products.



Los productos del GLDAS de los cuatro modelos de superficie terrestre: Mosaic, Noah, CLM (Community Land Model o Modelo de tierra comunitaria), y VIC (Variable Infiltration Capacity- Capacidad variable de infiltración), pueden accederse a través de Giovanni.

Giovanni:
<http://disc.sci.gsfc.nasa.gov/giovanni>

The screenshot shows the Giovanni website interface. At the top, there are navigation tabs: "GES DISC Home", "Data Services", "Science Portals", and "Mission Portals". Below these are links for "Analyze Data with Giovanni", "Search for Data with Mirador", "Simple Subset Wizard", "Data Cookbook", and "More...". A banner features the text "Giovanni - The Bridge Between Data and Science" with a background of satellite imagery. The main content area includes an "OVERVIEW" section with a sidebar of links like "What is Giovanni?", "Who Uses Giovanni?", and "Giovanni Parameters". The main text area displays "You are here: GES DISC Home » Giovanni - Interactive Visualization and Analysis" and "Giovanni - Interactive Visualization and Analysis" with contributors "tonyr, rchowdhury". A highlighted yellow box announces "Giovanni-4 Now Available" with details about its improved performance and data availability. Below this is a "Giovanni Portals" section with a "Giovanni Parameter List" tab. The "Giovanni Portals" list includes "Atmospheric Portals", "Application and Education Portal", "Meteorological Portals", "Ocean Portals", and "Hydrology Portals". Under "Hydrology Portals", there is a link for "GLDAS" (Global Land Data Assimilation System) with sub-links for "1° x 1° Monthly Data", "1° x 1° 3-Hourly Data", and "New! 0.25° x 0.25° Monthly Data". A right-hand sidebar titled "GIOVANNI NEWS" lists recent news items with dates, such as "MODIS observes progressive development of air pollution crisis in China" (Oct 25, 2013) and "Humberto: Hurricane today, gone tomorrow?" (Sep 10, 2013).

Sistema global de asimilación de datos terrestres (Global Land Data Assimilation System) 0.25° x 0.25° Datos mensuales

Global Land Data Assimilation System (GLDAS)

0.25 Degree Monthly Products

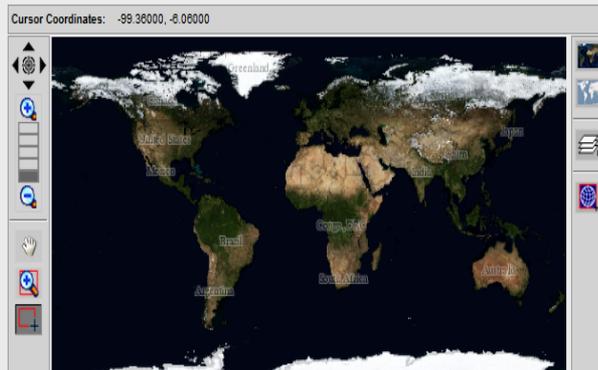
[Home](#)[Remove All](#)

The Global Land Data Assimilation System (GLDAS) is generating a series of land surface forcing (e.g. precipitation, surface meteorology and radiation), state (e.g., soil moisture and temperature, and snow), and flux (e.g., evaporation and sensible heat flux) data simulated by land surface models.

Current GLDAS data holdings include a set of GLDAS Version 1 (GLDAS-1) 1.0 degree resolution data (1979 - present) from CLM, Mosaic, Noah, and VIC models; a set of GLDAS Version 2 (GLDAS-2) 1.0 degree resolution data (1948 - 2008) from CLM, Catchments, Noah, and VIC models; a set of 0.25 degree resolution data from GLDAS-1 Noah model (2000 - present) and GLDAS-2 Noah model (1948 - 2008). This instance focuses on GLDAS-1 0.25 degree monthly data. GLDAS-2 0.25 degree data will be added in once the data become available.

Select:

Spatial



Elegir región y parámetros temporales.

Generar visualización como mapa con latitud y longitud, temporalmente promediado.

Sistema global de asimilación de datos terrestres (Global Land Data Assimilation System o GLDAS)

- Productos mensuales de 0.25 grados

Parameters

Display: Data Product Info Units

GLDAS Version 1

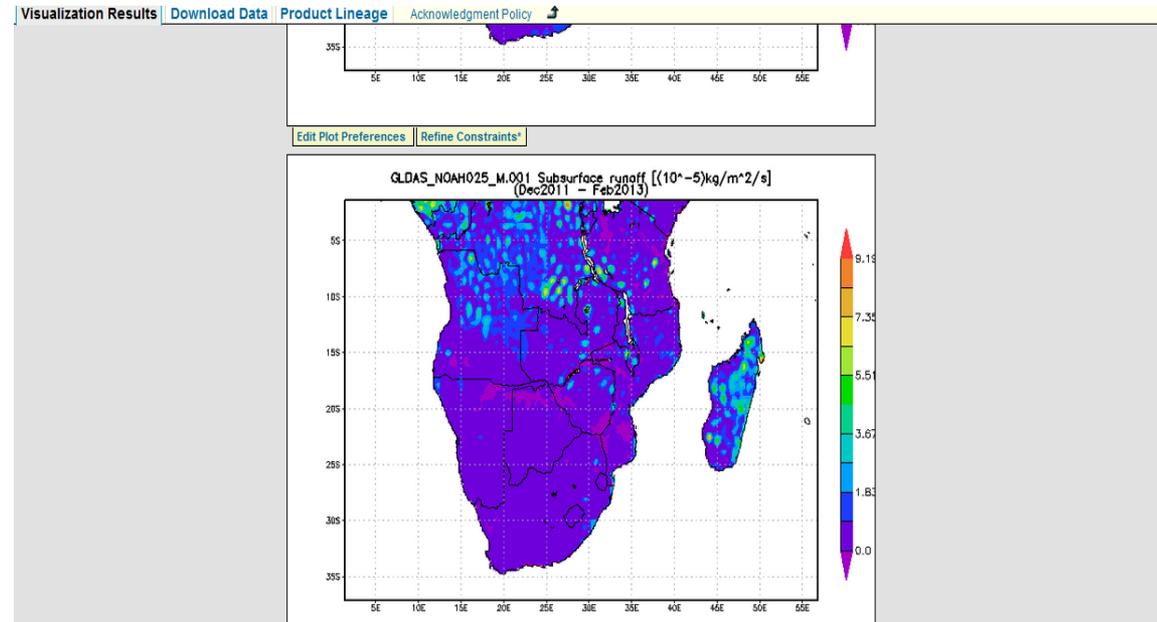
Parameter	Parameter Units	Data Product Info
<input checked="" type="checkbox"/> Average layer 1 (0-10 cm) soil moisture	kg/m ²	GLDAS_NOAH025_M.001 Noah Model 2000/03 - 2013/08
<input checked="" type="checkbox"/> Average layer 1 (0-10 cm) soil temperature	K	GLDAS_NOAH025_M.001 Noah Model 2000/03 - 2013/08
<input checked="" type="checkbox"/> Average layer 2 (10-40 cm) soil moisture	kg/m ²	GLDAS_NOAH025_M.001 Noah Model 2000/03 - 2013/08
<input checked="" type="checkbox"/> Average layer 2 (10-40 cm) soil temperature	K	GLDAS_NOAH025_M.001 Noah Model 2000/03 - 2013/08
<input checked="" type="checkbox"/> Average layer 3 (40-100 cm) soil moisture	kg/m ²	GLDAS_NOAH025_M.001 Noah Model 2000/03 - 2013/08

Temporal

Begin Date Year 2011 Month Dec

End Date Year 2013 Month Feb

Parecido a la rutina de los datos del TRMM, después de haber generado la visualización, descargar los datos. Si hay muchos archivos, tiene la opción de descargar en conjunto en formato de archivo zip.



Home Results #1 Remove All

Visualization Results **Download Data** Product Lineage Acknowledgment Policy

Download source data products and data products derived from Giovanni processing stages. For simplicity purposes, only the initial retrieval and final rendering phases are currently accessible for downloading. Supported download formats are HDF, NetCDF(NCD), ASCII, and KMZ (ASCII is available only when the array size is within about half-million points). To download multiple files at once, select the desired files (from any section) by clicking on their associated checkboxes, and then click 'Download in Batch'. Note: that 'nila' means that a file size or other column value is not available; 'saa' means that a file is exactly the same as the previous one in the list. Also, not all services and data products support all download file formats.

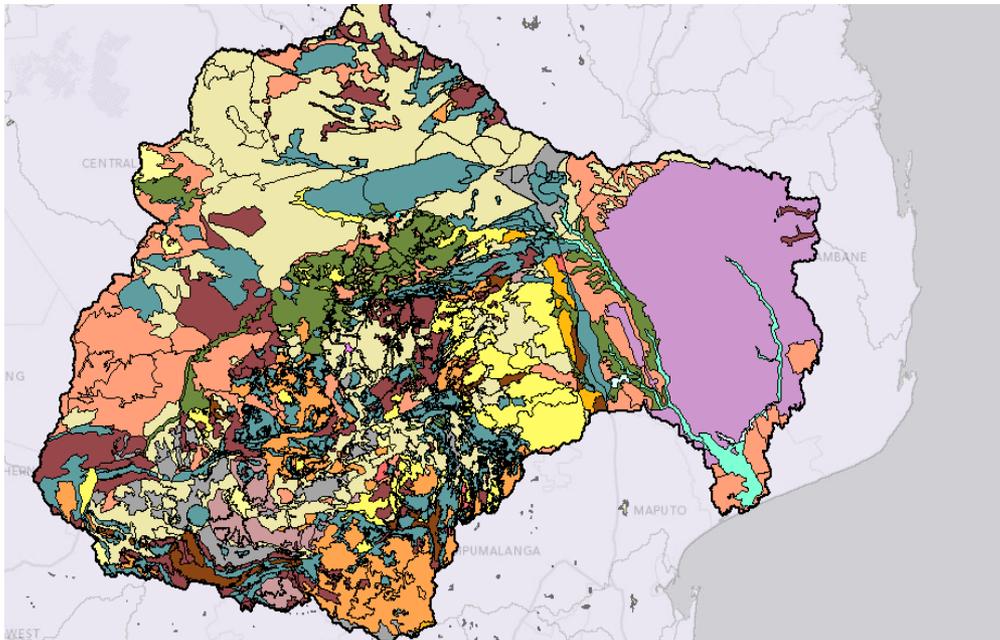
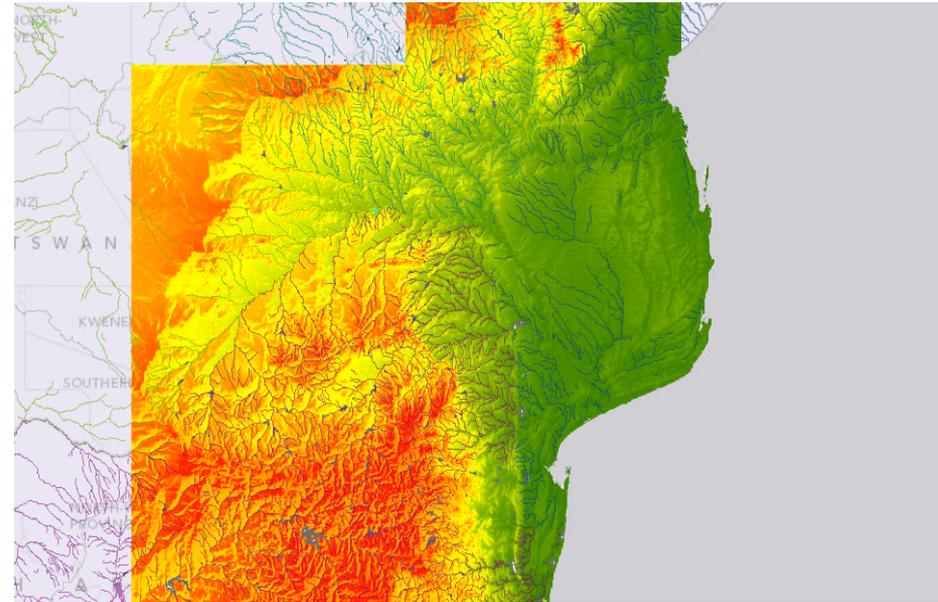
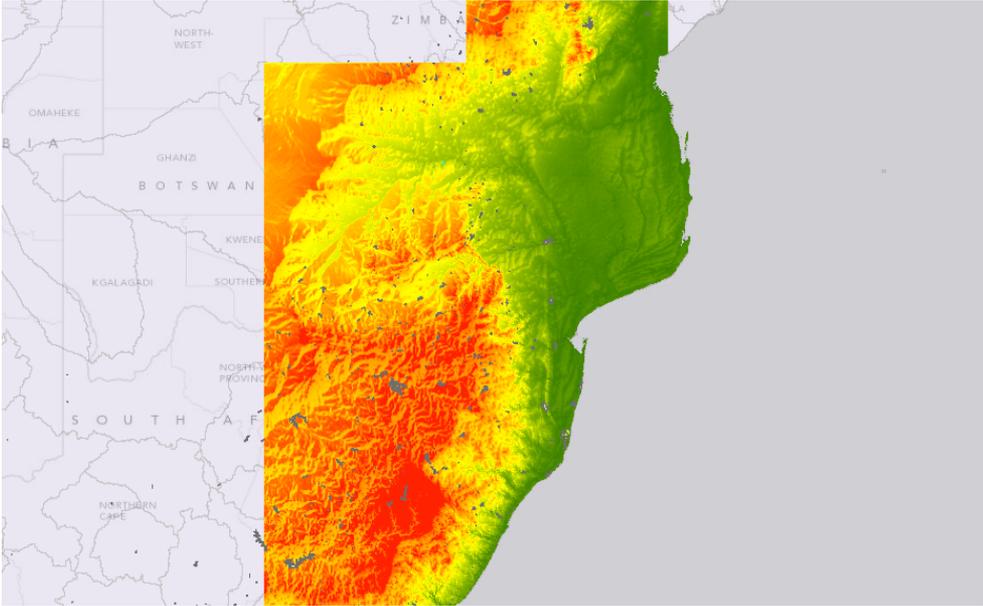
Initial Data Retrieval Download in Batch

Data Product	Start Time	File Size (b)	Download Files
GLDAS_NOAH025_M.001 (soilm1)	2011-12-01T00:00:00Z	16092261	<input type="checkbox"/> HDF <input checked="" type="checkbox"/> NCD <input type="checkbox"/> ASC
GLDAS_NOAH025_M.001 (soil1)	2011-12-01T00:00:00Z	16092261	saa saa
GLDAS_NOAH025_M.001 (soilm2)	2011-12-01T00:00:00Z	16092261	saa saa
GLDAS_NOAH025_M.001 (soil2)	2011-12-01T00:00:00Z	16092261	saa saa
GLDAS_NOAH025_M.001 (soilm3)	2011-12-01T00:00:00Z	16092261	saa saa
GLDAS_NOAH025_M.001 (soil3)	2011-12-01T00:00:00Z	16092261	saa saa
GLDAS_NOAH025_M.001 (soilm4)	2011-12-01T00:00:00Z	16092261	saa saa
GLDAS_NOAH025_M.001 (soil4)	2011-12-01T00:00:00Z	16092261	saa saa

Two Dimensional Map Plot Download in Batch

Input Files	Start Time	File Size (b)	Download Files
GLDAS_NOAH025_M.001 (canopint)	2011-12-01T00:00:00Z	3819925	<input type="checkbox"/> HDF <input checked="" type="checkbox"/> NCD <input checked="" type="checkbox"/> ASC
GLDAS_NOAH025_M.001 (tair)	2011-12-01T00:00:00Z	3819925	saa saa <input checked="" type="checkbox"/> ASC
GLDAS_NOAH025_M.001 (qair)	2011-12-01T00:00:00Z	3819925	saa saa <input checked="" type="checkbox"/> ASC
GLDAS_NOAH025_M.001 (lwdow)	2011-12-01T00:00:00Z	3819925	saa saa <input checked="" type="checkbox"/> ASC

ESRI – ArcMap – Cuenca del río Limpopo



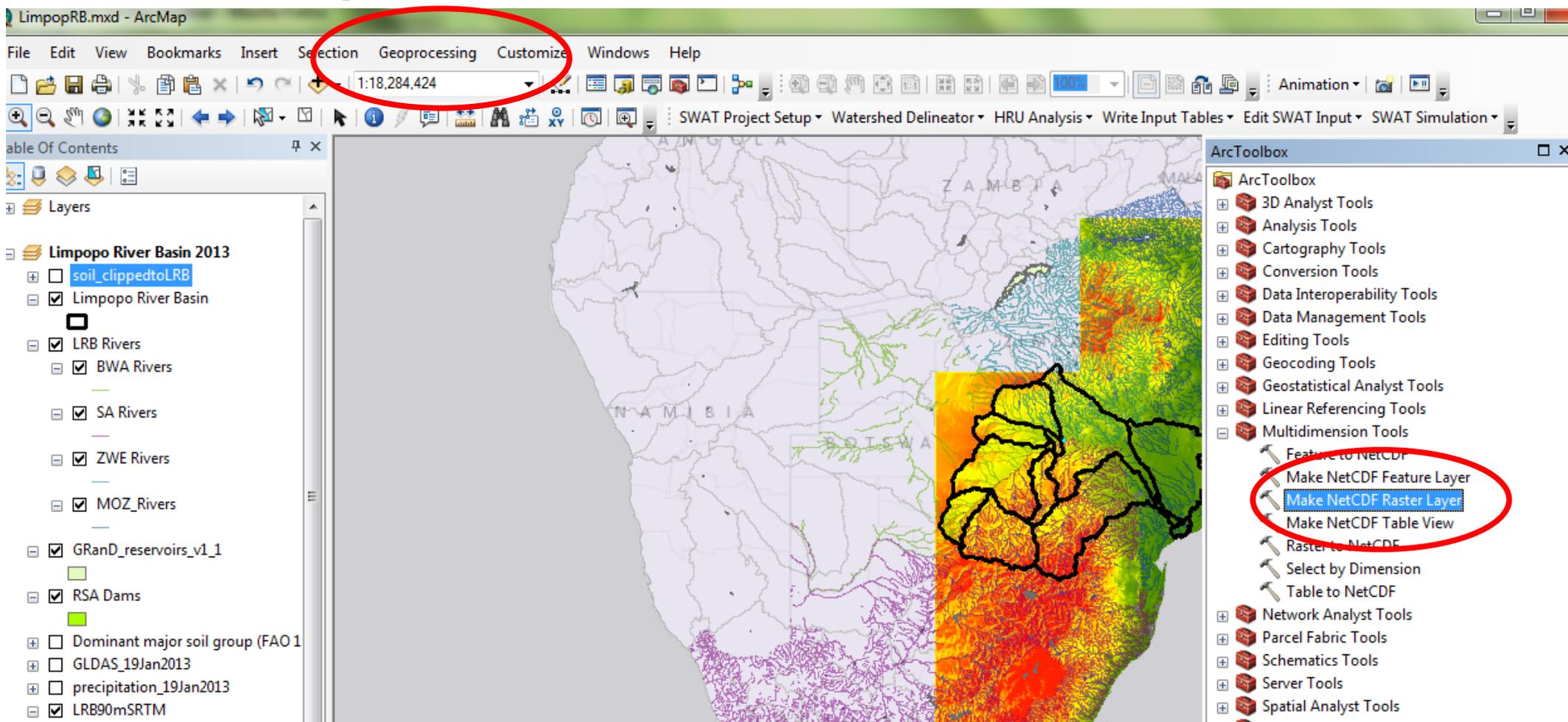
Niveles de datos relevantes

- Datos de elevación STRM
- Ríos
- Unidades hidrológicas
- Tipo de suelo
- Datos de población
- Uso de la tierra/ Cubierta terrestre
- Infraestructura

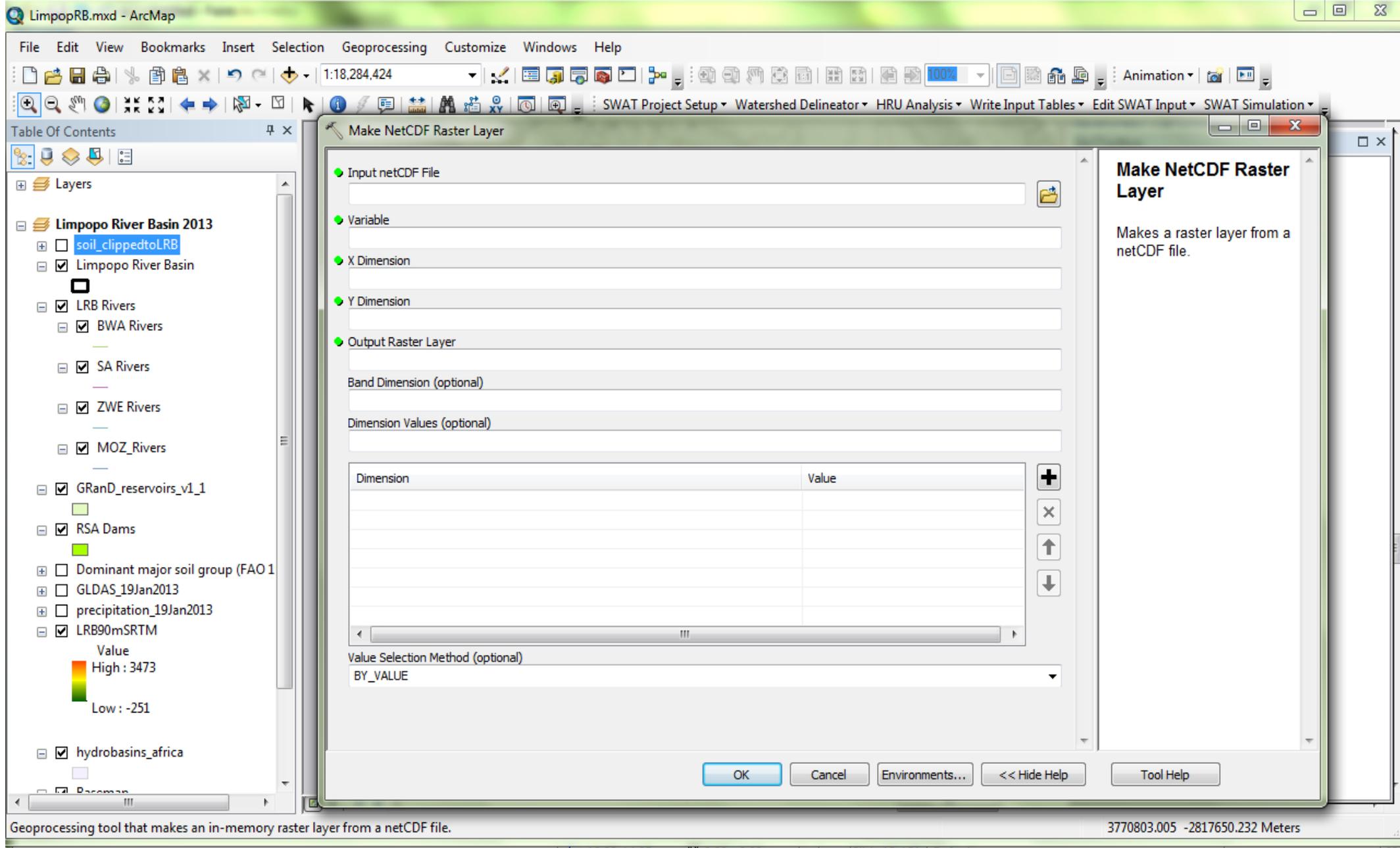
Niveles de datos del GIS

Ríos/cuencas	USGS HydroSHEDS	http://hydrosheds.cr.usgs.gov/
Población	NASA Socioeconomic Data and Applications Center (SEDAC)	http://sedac.ciesin.columbia.edu/
Elevación	Consortium for Spatial Information (CGIAR-CSI)	http://srtm.csi.cgiar.org/
Embalses	NASA Socioeconomic Data and Applications Center (SEDAC)	http://sedac.ciesin.columbia.edu/
Tipos de suelo	ISRIC - World Soil Information	http://www.isric.org/
Represas	NASA Socioeconomic Data and Applications Center (SEDAC)	http://sedac.ciesin.columbia.edu/
Tierras agrícolas	NASA Socioeconomic Data and Applications Center (SEDAC)	http://sedac.ciesin.columbia.edu/
Áreas administrativas globales, nacionales	Global Administrative Areas	http://www.gadm.org/
Mapas de base globales	ESRI Base maps	http://www.esri.com/data/basemaps

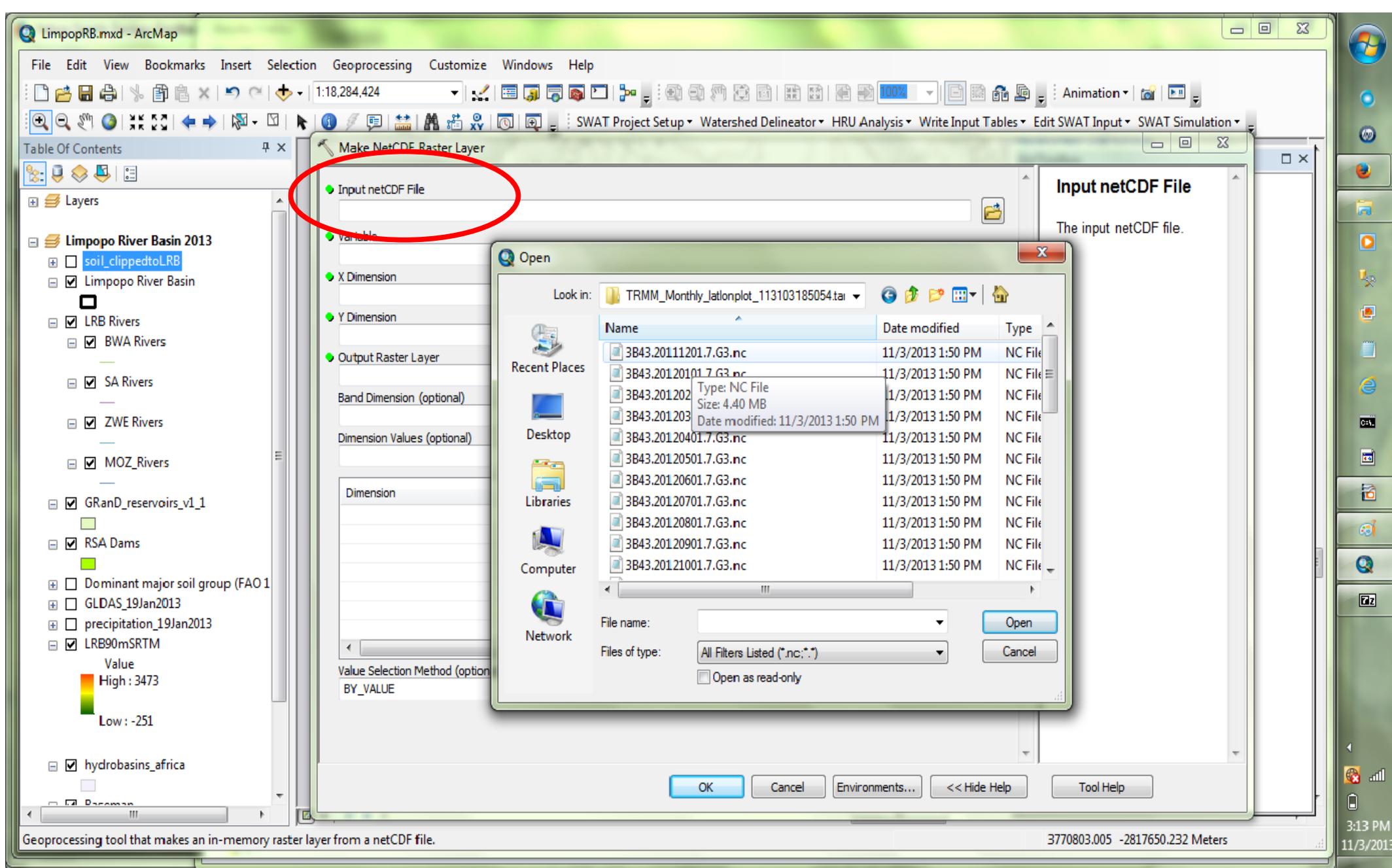
Importación de datos TRMM



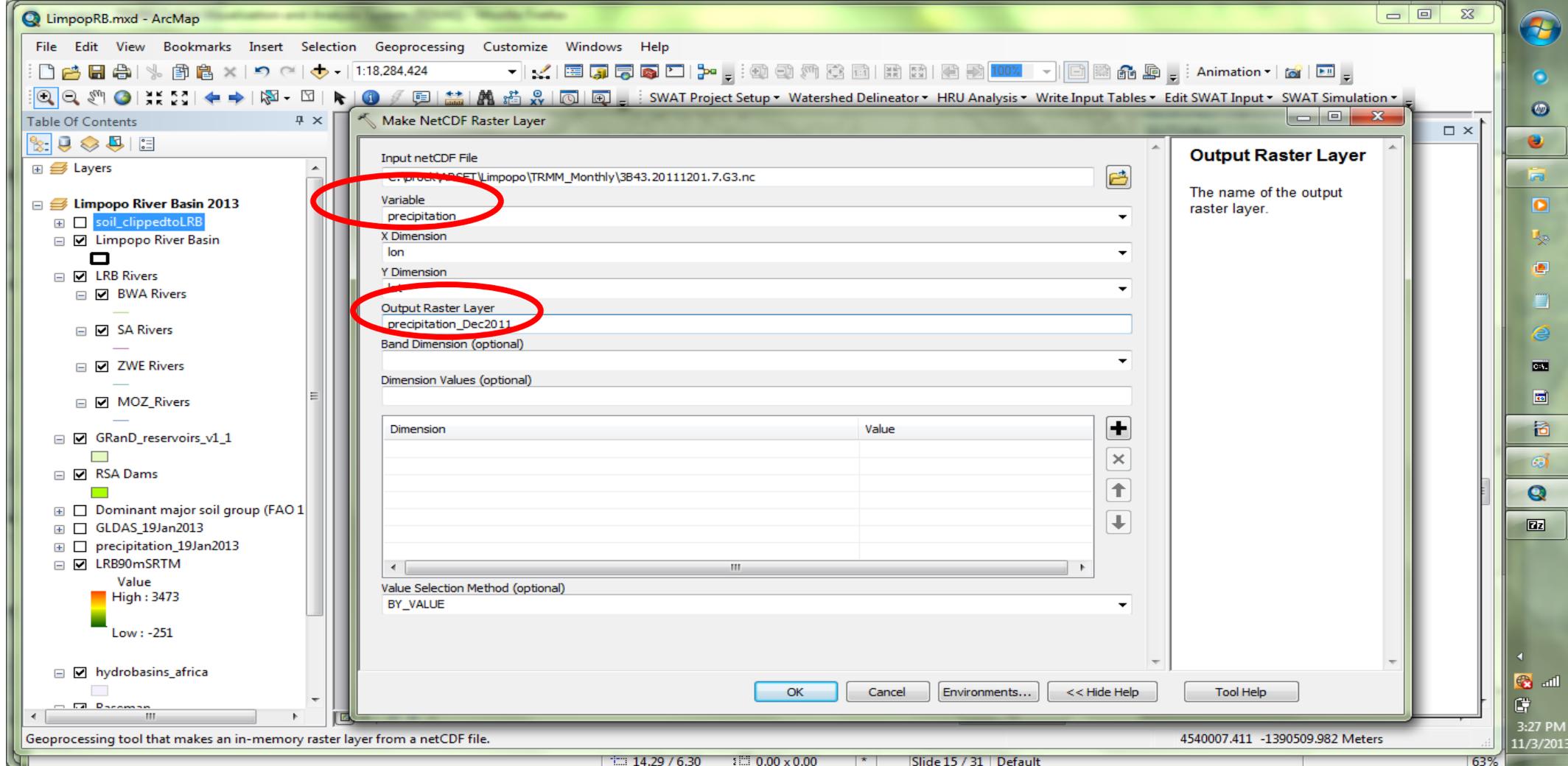
Bajo la opción de geoprocresamiento (Geoprocessing), abra el ArcToolbox. Abra la caja de herramientas (Multidimensional toolbox), elija la herramienta Make NetCDF Raster Layer



Herramienta *Make netCDF Raster Layer*



Elija su archivo netCDF para el valor de entrada
“Input netCDF File”

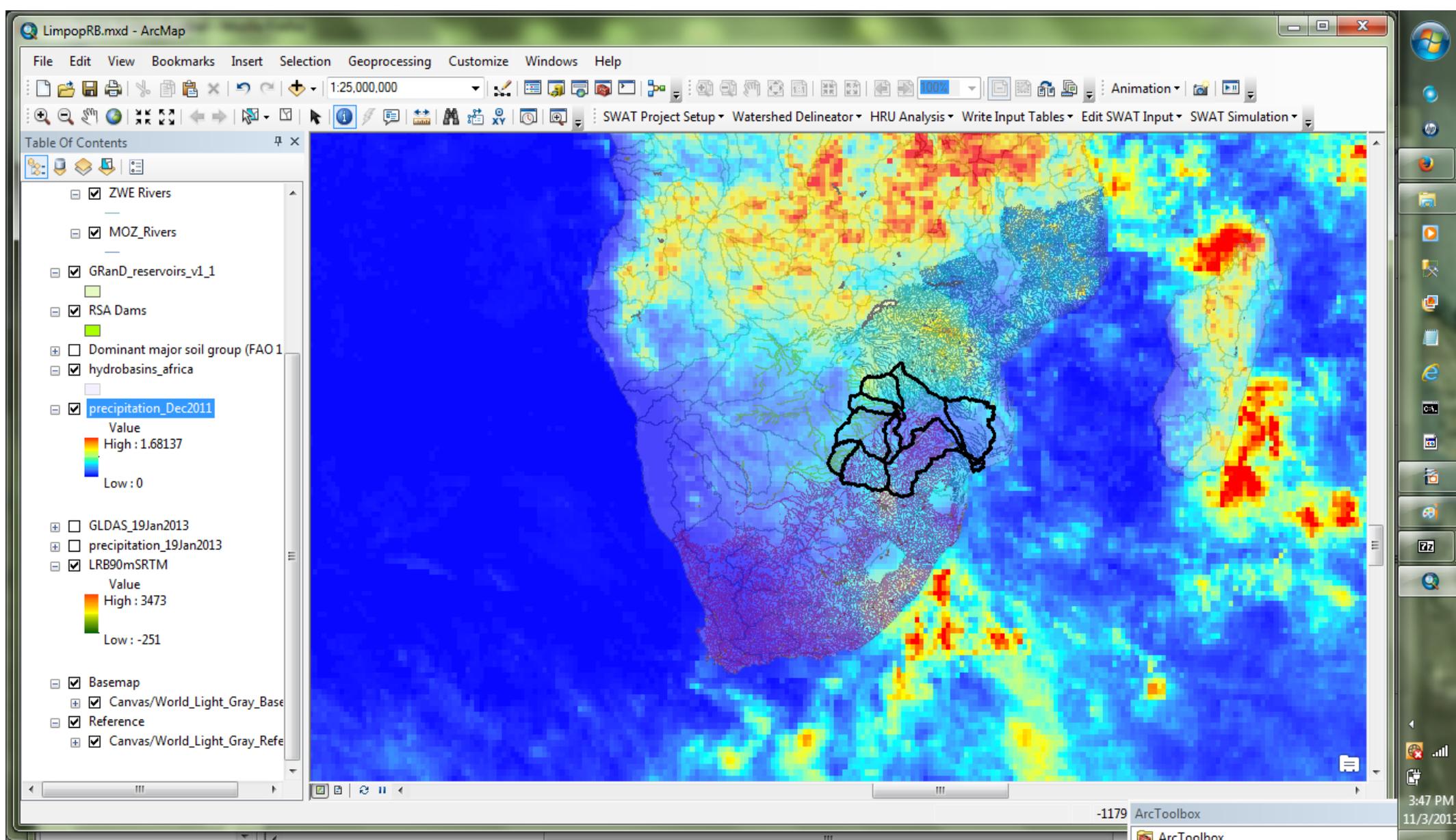


En el campo “Variable”, bajo el menú expandible, elija lluvia acumulada, “accumulated precipitation”.

Para el campo de dimensión X, elija longitud (lon). Para el campo de la dimensión Y, elija latitud (lat). Estas son las configuraciones estándares.

Para el “Output Raster Layer”, escriba un nombre apropiado para el archivo “raster” a ser creado. El variable de día y hora que se muestra es una sugerencia.

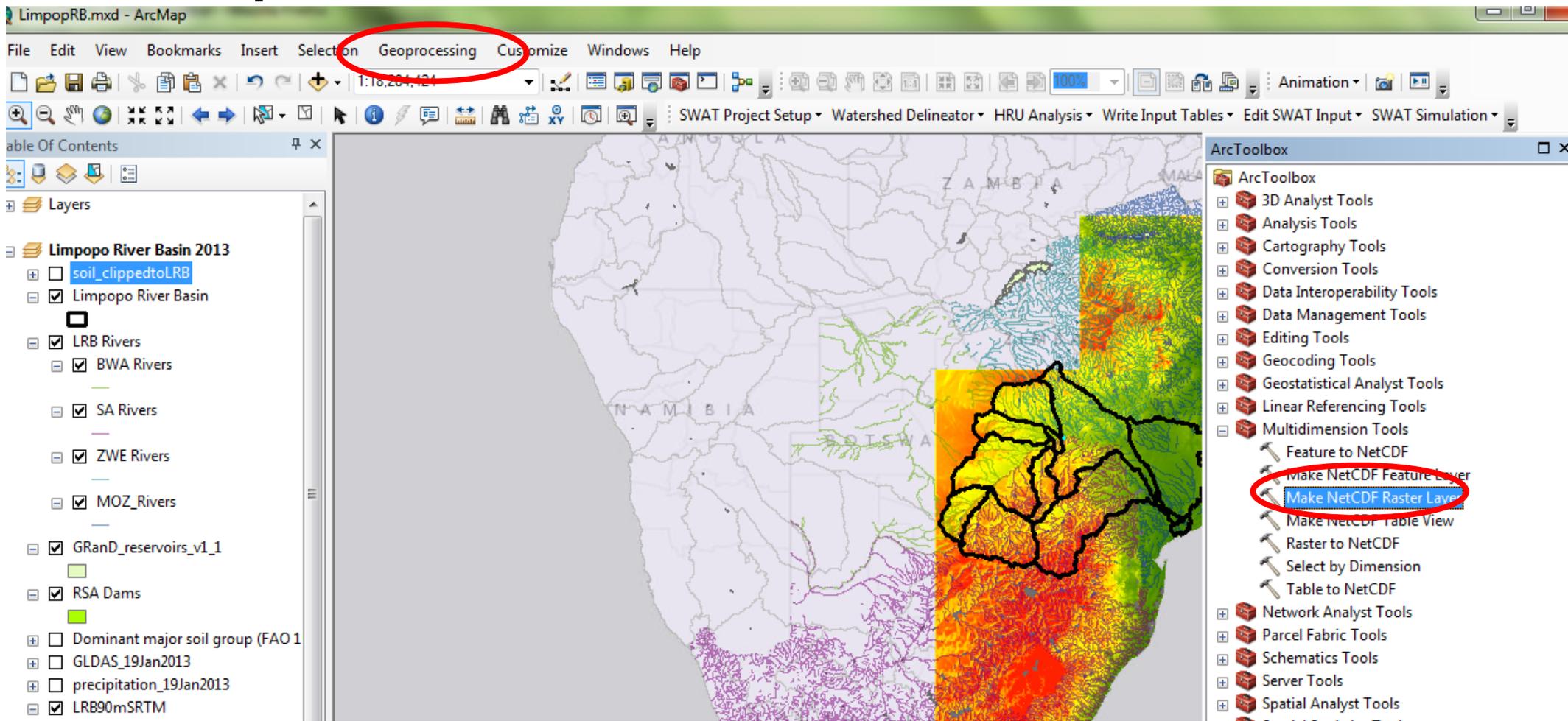
Pulse OK.



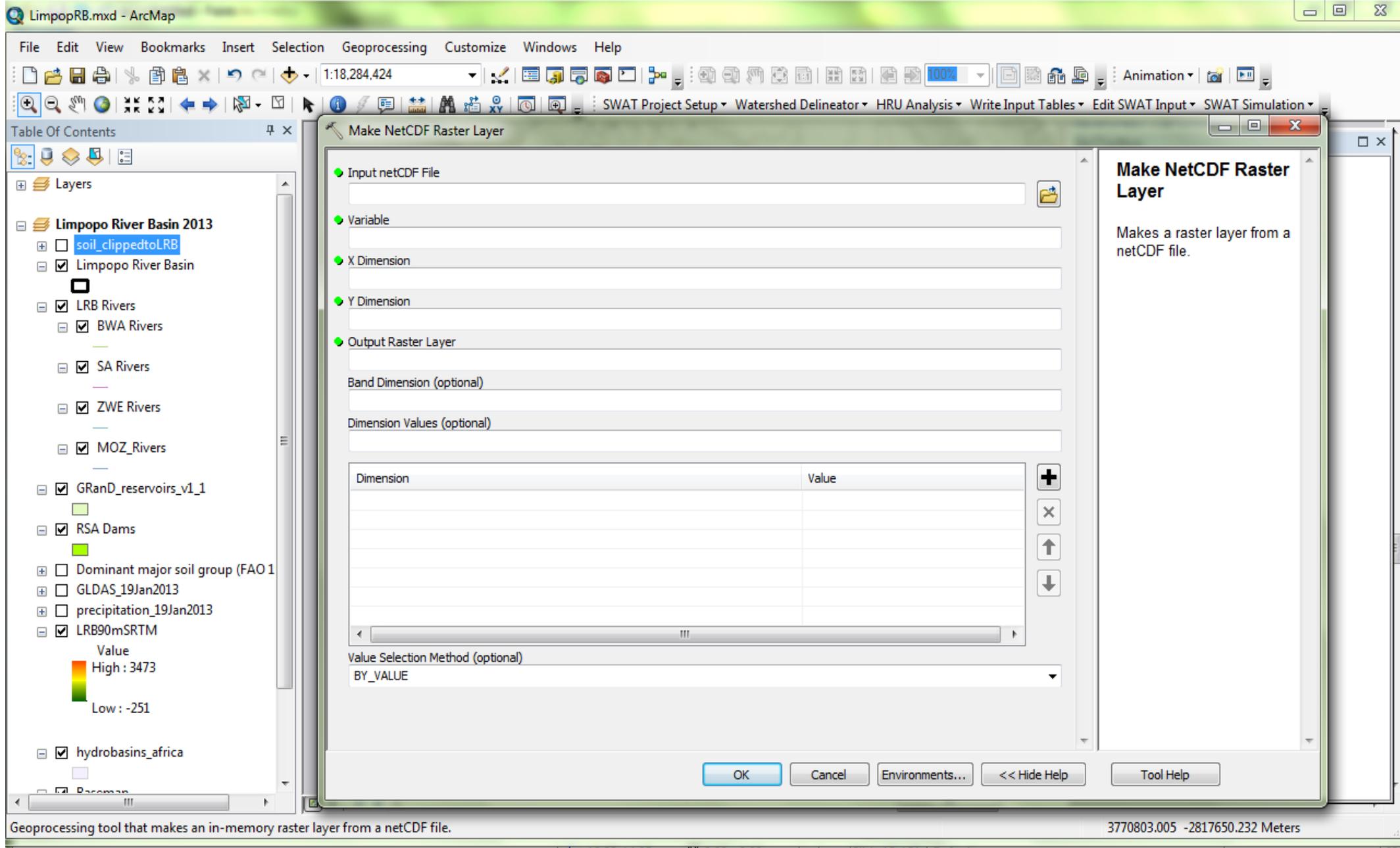
Resultados de la importación

Repita esta rutina con todos archivos mensuales de precipitación del TRMM y de precipitación acumulada del netCDF files.

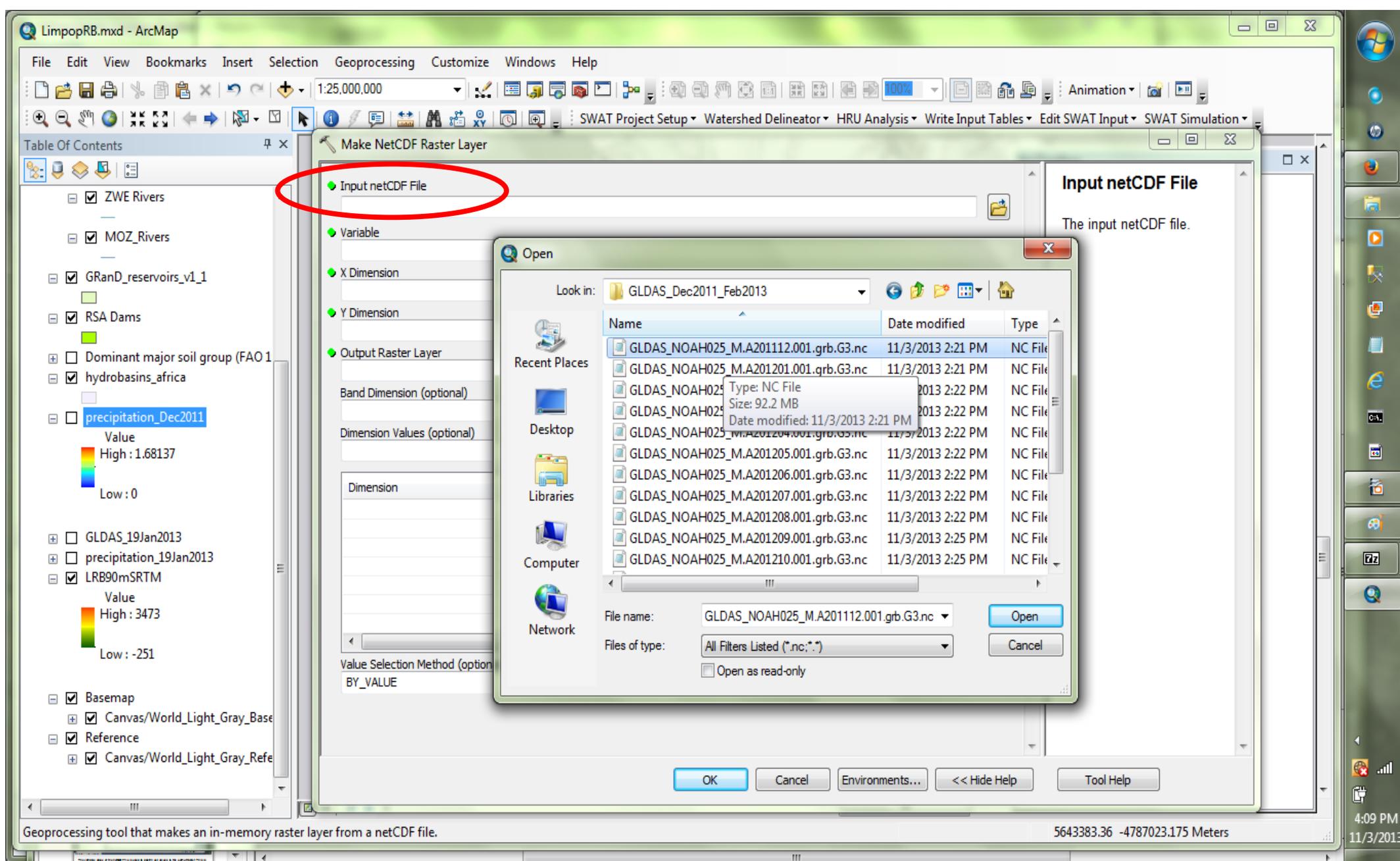
Importacion de datos del GLDAS



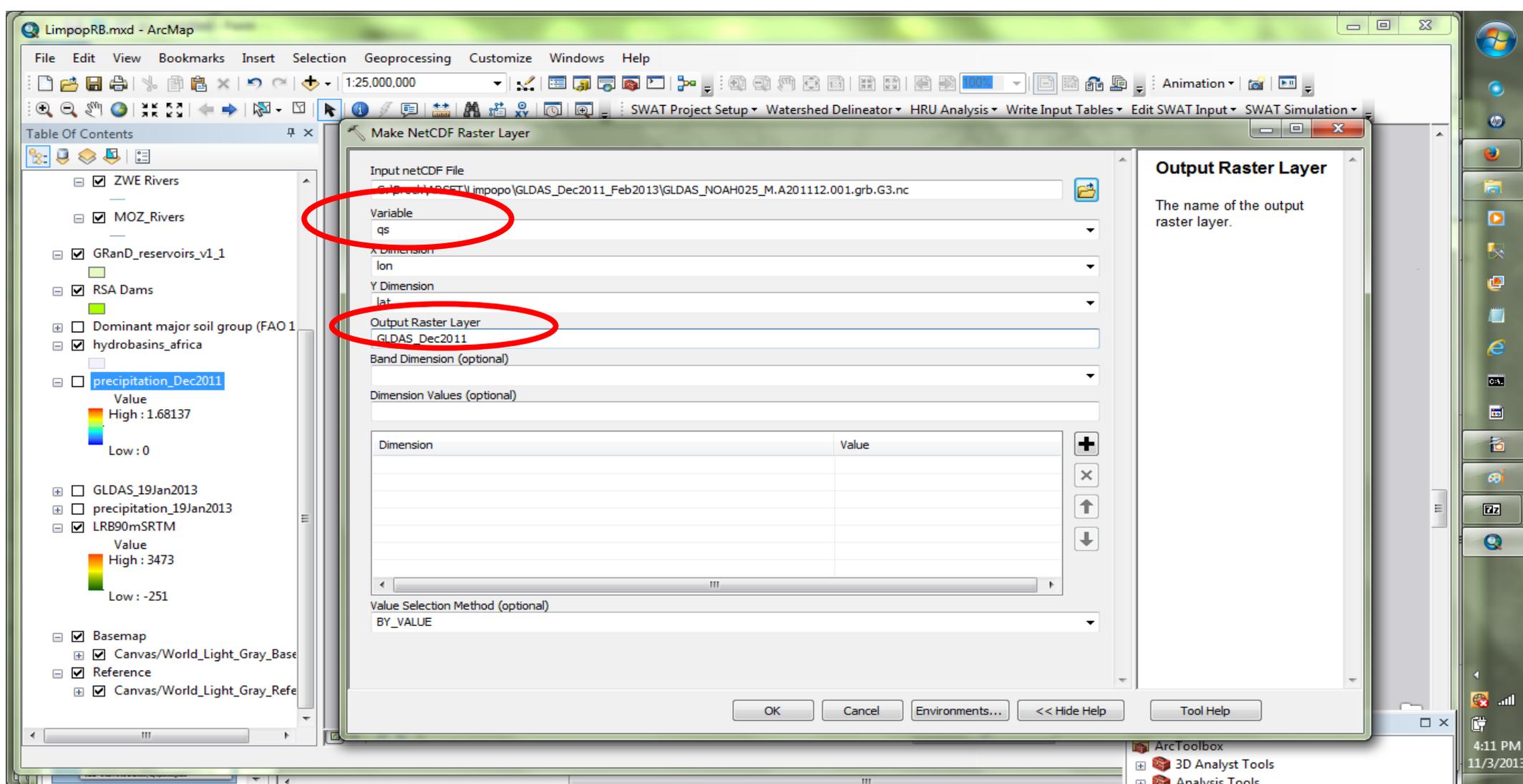
Bajo “Geoprocessing”, abra “ArcToolbox”. Abra el “Multidimensional toolbox”, elija la herramienta “Make NetCDF Raster Layer”



Herramienta *Make netCDF Raster Layer*



Elija su archivo netCDF para el valor Input netCDF File

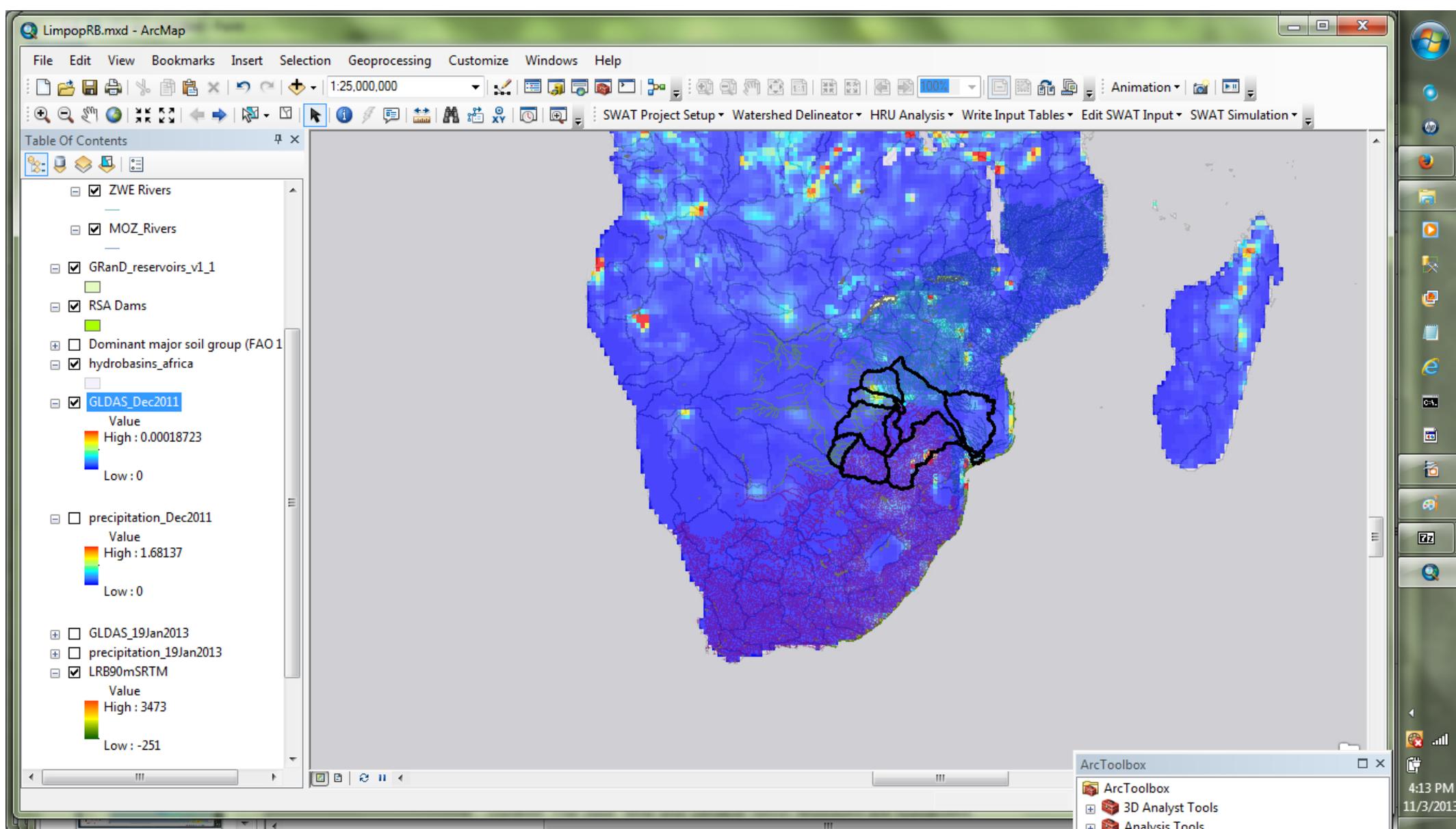


El variable para el valor del archivo netCDF se usa para asignar valores de célula al ráster del rendimiento. Éste es el variable que estará visualizado. Elija su variable inicial de interés. Al importar, sin embargo, todos los variables se incluyen en el nivel netCDF.

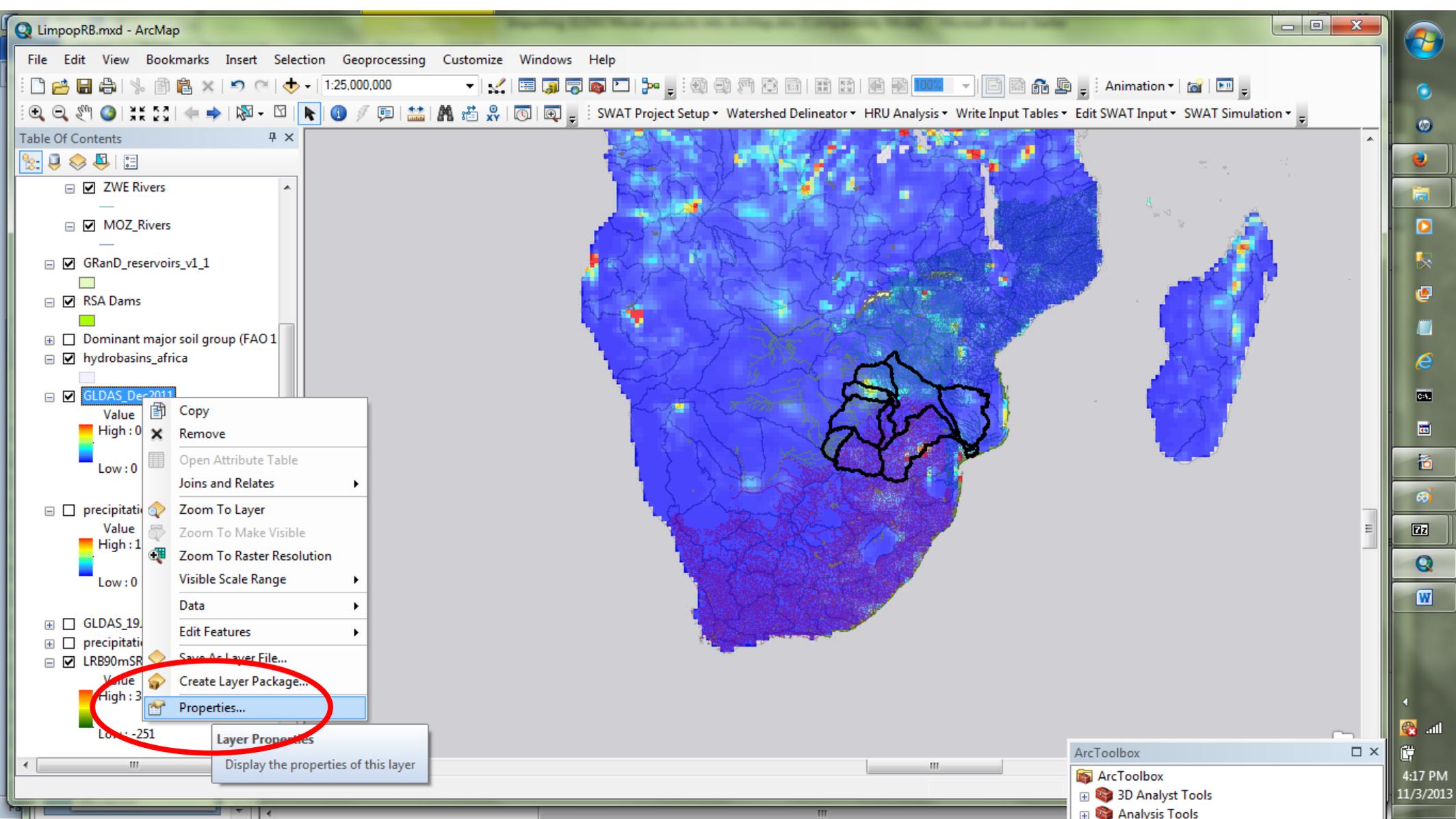
Para el campo "X Dimension", elija longitud (lon).

Para el campo "Y Dimension", elija longitude (lat).

Para el "Output Raster Layer", escriba un nombre apropiado para el archivo "raster" a ser creado. El variable de día y hora que se muestra es una sugerencia.



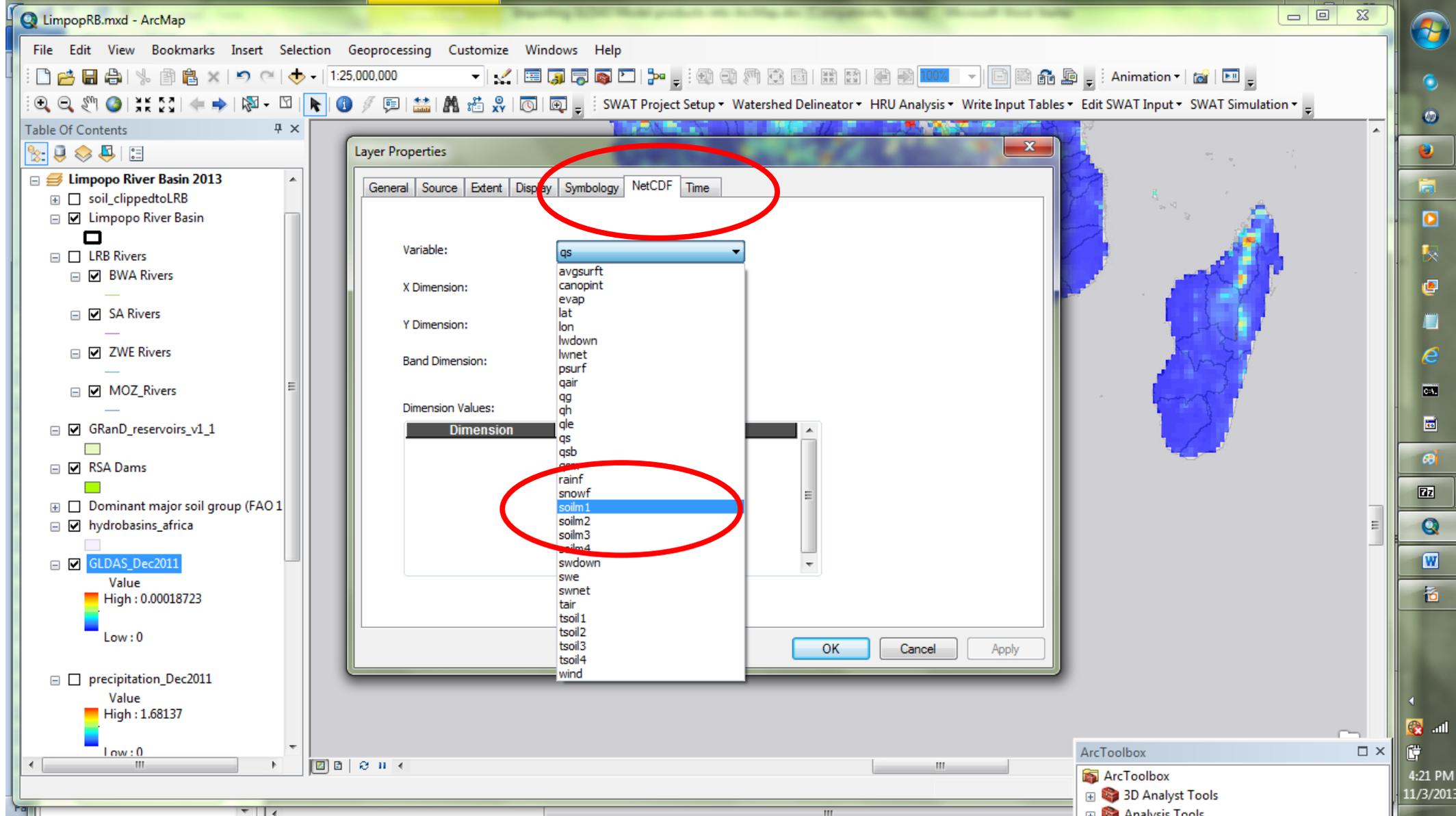
Pulse OK y el producto del GLDAS y el variable inicial elegido en la herramienta estará visualizado como un nivel en el ArcMap. Éste es escorrentía superficial (Surface Runoff) (**qs**) $\text{kg/m}^2/\text{s}$



Puede elegir cual variable de modelo se visualice.

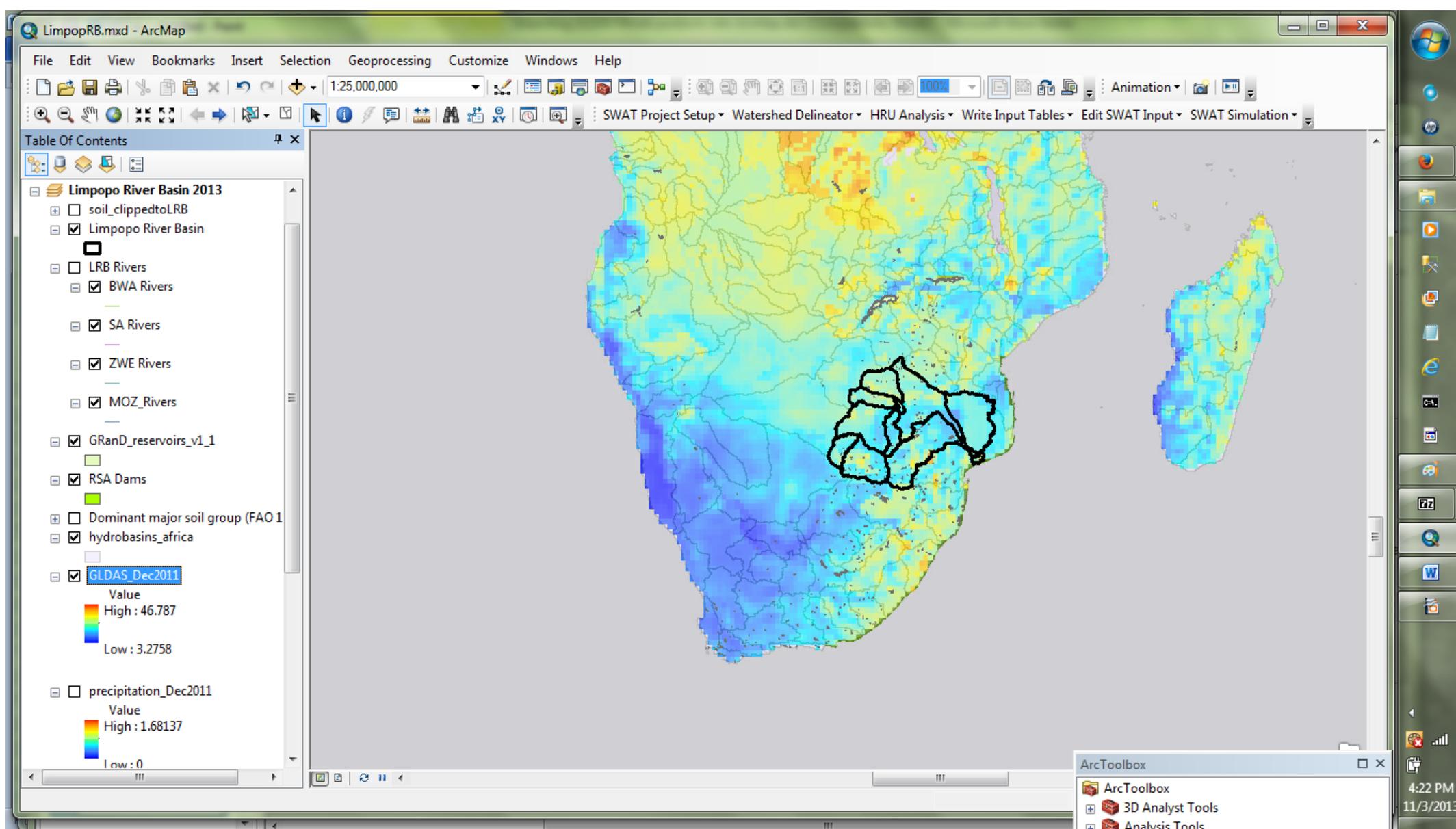
Pulse con el botón derecho sobre el nivel netCDF recién agregado en la sección contenido (Table of Contents) section del ArcMap.

Navegue a las propiedades y abra..



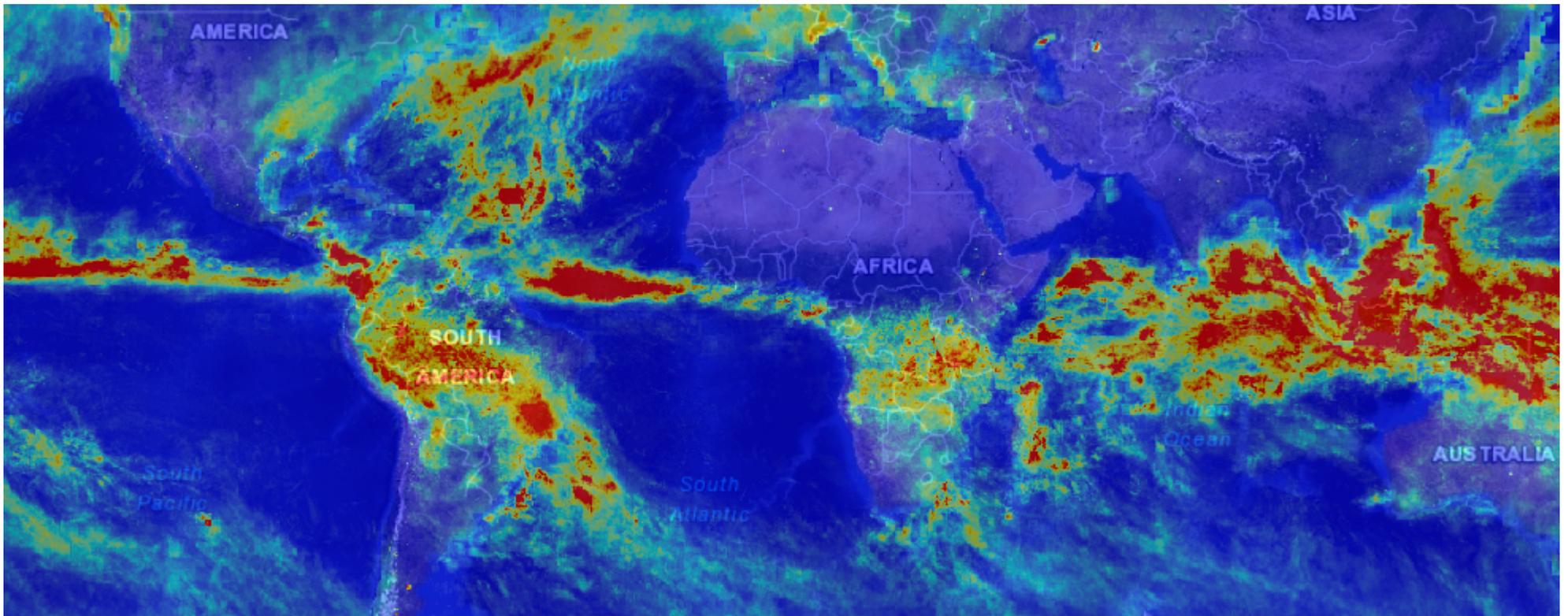
Pulse en la opción NetCDF.

Bajo la flecha expandible Variable, puede elegir cuál variable se visualice.



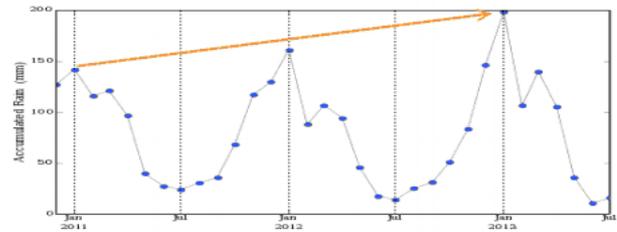
Humedad del suelo variable cambiada (Changed variable soil moisture),
0-10 cm (**soilm1**) kg/m²

Mientras los datos del TRMM y el GLDAS fueron configurados como subconjunto espacial para visualización en Giovanni, cuando se descargan los archivos netCDF, los archivos descargados datos globales.



Comparación estacional de lluvia acumulada del TRMM y escorrentía superficial del GLDAS en la cuenca hídrica del río Limpopo

Serie temporal lluvia acumulada (mm)

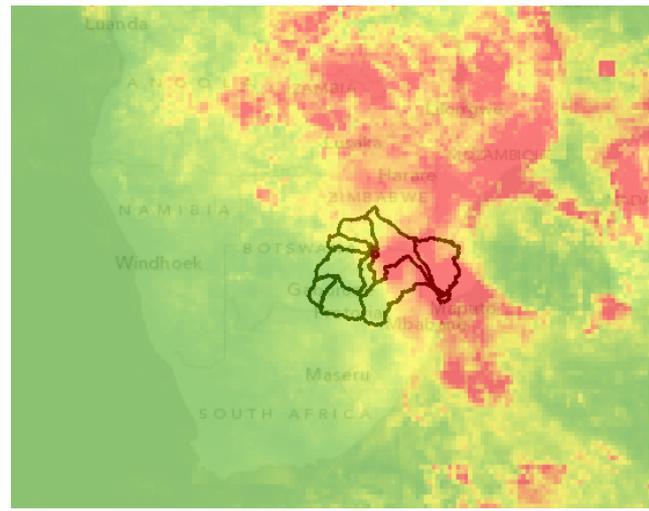
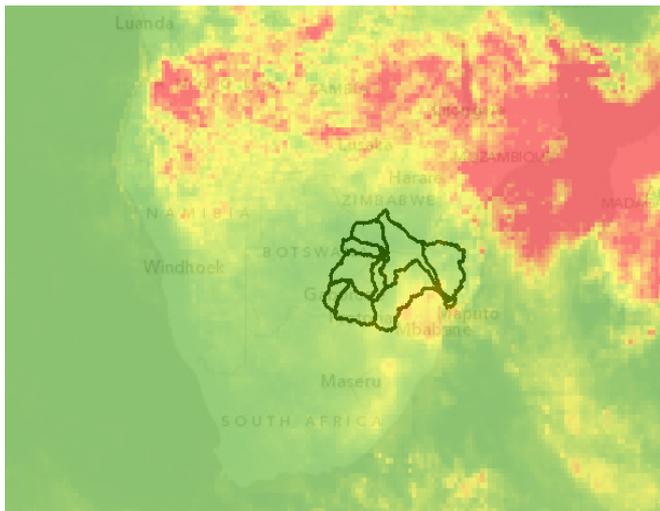
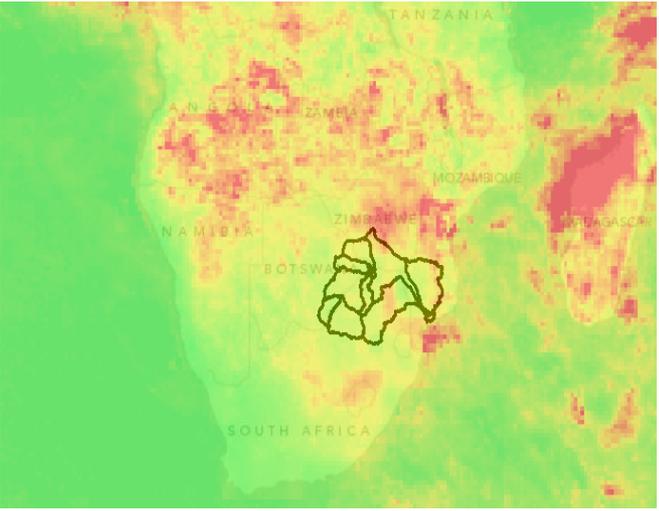


enero 2011

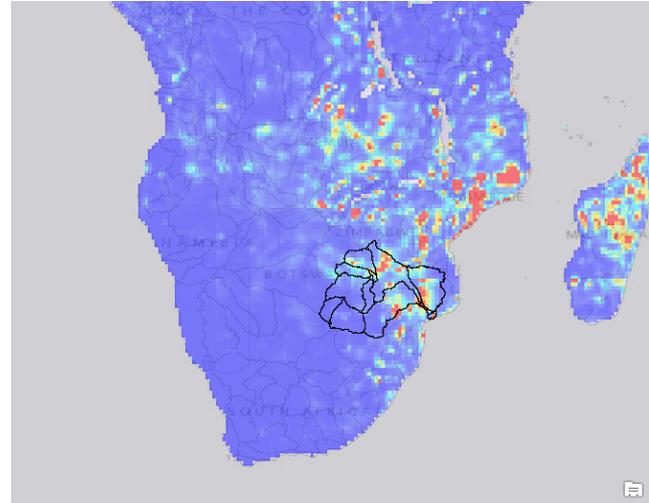
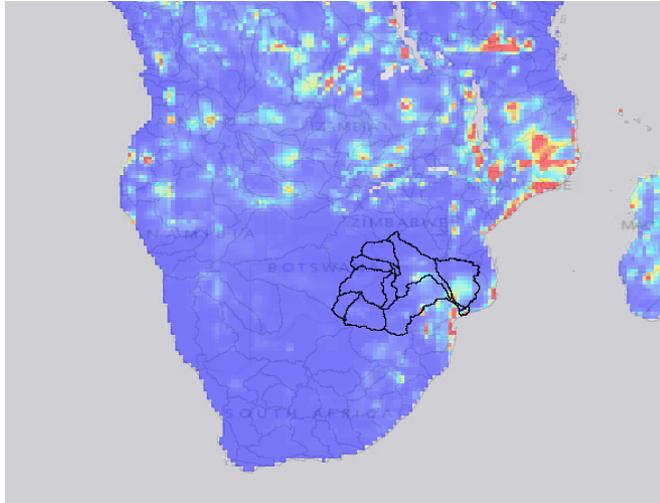
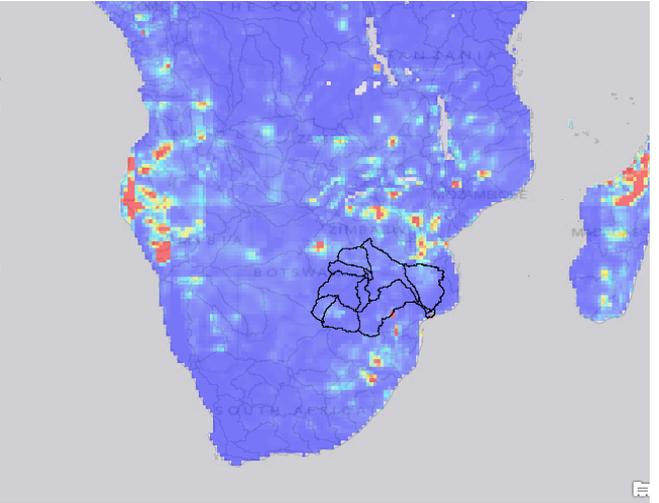
enero 2012

enero 2013

Lluvia acumulada (mm)



Escorrentía superficial (kg/m²/s)



Abreviaturas de variables del GLDAS

avgsurft- average surface temperature K	qh- sensible heat flux W/m^2 Flujo de calor sensible
Temperatura superficial media	qle- latent heat flux W/m^2 Flujo de calor latente
canopint- total canopy water storage kg/m^2	qs- surface runoff $kg/m^2/s$ Escorrentía superficial
Almacenamiento de agua total en la cubierta forestal	qsb- subsurface runoff $kg/m^2/s$ Escorrentía en el subsuelo
evap- total evapotranspiration $kg/m^2/s$	qsm- snowmelt $kg/m^2/s$ Deshielo
Evapotranspiración total	rainf- rainfall rate $kg/m^2/s$ Tasa pluvial
lwdown-surface incident longwave radiation W/m^2	swe- snow water equivalent $kg/m^2/s$ Equivalente en agua de la nieve
Radiación de onda larga incidente en la superficie	sdown- surface incident shortwave radiation W/m^2 Radiación de onda corta incidente a nivel del suelo
lwnet- net longwave radiation W/m^2	
Radiación de onda larga neta	
psurf- surface pressure Pa	
Presión superficial	
qair-near surface specific humidity kg/kg	
Humedad específica cerca de la superficie	
qg- ground heat flux W/m^2	
Flujo de calor a nivel del suelo	

Abreviaturas de variables del GLDAS

swnet- net shortwave radiation W/m^2

Radiación de onda corta neta

snowf- snowfall rate $kg/m^2/s$

Tasa de nieve

soilm1- 0-10 cm average layer 1 soil moisture kg/m^2

Humedad media del suelo de la capa 1 0-10 cm

soilm2- 10-40 cm average layer 2 soil moisture kg/m^2

Humedad media del suelo de la capa 2 10-40 cm

soilm3- 40-100 cm average layer 3 soil moisture kg/m^2

Humedad media del suelo de la capa 3 40-100 cm

soilm4- 100-200 cm average layer 4 soil moisture kg/m^2

Humedad media del suelo de la capa 4 100-200 cm

tsoil1- 0-10 cm average layer 1 soil temperature K

Temperatura media del suelo de la capa 1 0-10 cm

tsoil2- 10-40 cm average layer 2 soil temperature K
Temperatura media del suelo de la capa 2 10-40 cm

tsoil3- 40-100 cm average layer 3 soil temperature K
Temperatura media del suelo de la capa 3 40-100 cm

tsoil4- 100-200 cm average layer 4 soil temperature K
Temperatura media del suelo de la capa 4 100-200 cm

tair- near surface air temperature K
Temperatura del aire cerca de la superficie

wind- near surface wind magnitude m/s
Magnitud del viento cerca de la superficie