



Importing ASCII Grid Data into GIS/Image processing software

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Importing data into:

- [ArcGIS 9.x](#)
- [ENVI](#)
- [ArcView 3.x](#)
- [GRASS](#)



Importing the ASCII Grid data into ArcGIS 9.x

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Example File : GRID.MOD13A2.asc

MODIS ASCII Subsets: Data Visualization

[MOD13A2] Terra Vegetation Indices (NDVI, EVI)

USA, Walker Branch Watershed, Oak Ridge, Tennessee

Centered on Latitude [35.958767] Longitude [-84.287433]

7 Kilometers [7 Pixels] Wide and 7 Kilometers [7 Pixels] High

Requested Time Span November 2005 to November 2005

For a PRJ file, access http://daac.ornl.gov/cgi-bin/MODIS/GR_common/modis.prj

For a prj.adf file, access http://daac.ornl.gov/cgi-bin/MODIS/GR_common/prj.adf

MODIS HDF Tile

MOD13A2.A2005305.h11v05.004.2005325075111.hdf

-----START Scientific Data Set (Band): 1_km_16_days_NDVI, MODIS Date: A2005305 (Nov. 1, 2005)-----

ncols 7

nrows 7

xllcorner -7589988.98

yllcorner 3995608.83

cellsize 926.62543305583381

nodata_value -9999999

5579 5846 5940 5769 5566 5869 5776

6173 5722 5876 5912 5920 5882 5632

5844 5812 5972 5904 5154 4966 5282

5786 5765 5822 5695 5739 5817 5992

5609 5094 4333 5790 5763 5793 5863

5602 5499 5844 5811 5210 5436 5728

4749 5674 5419 2617 4012 5607 5219

-----END Scientific Data Set (Band): 1_km_16_days_NDVI, MODIS Date: A2005305 (Nov. 1, 2005)-----

MODIS HDF Tile

MOD13A2.A2005321.h11v05.004.2005342022515.hdf

-----START Scientific Data Set (Band): 1_km_16_days_NDVI, MODIS Date: A2005321 (Nov. 17, 2005)-----

ncols 7

nrows 7

xllcorner -7589988.98

yllcorner 3995608.83

cellsize 926.62543305583381

nodata_value -9999999

5279 5480 5584 5584 5226 5248 5275

5781 5508 5517 5383 5347 5281 5051

5634 5554 5571 5511 4825 4557 5344

5635 5375 5293 5432 5298 5562 5581

5386 4646 4660 5279 5446 5480 5393

5396 5118 5750 5563 4825 5260 5587

4774 5425 5047 3500 4174 5187 4955

-----END Scientific Data Set (Band): 1_km_16_days_NDVI, MODIS Date: A2005321 (Nov. 17, 2005)-----

Step 1

Copy contents between

“-----START Scientific Data Set (Band).....”

And

“-----END Scientific Data Set (Band).....”

Into a separate file.

If there are more than one START-END entries, copy contents within each of the START-END statements into individual files like:

File **GRID_MOD13A2_A2005305_1_km_16_days_NDVI.asc** from example file **GRID.MOD13A2.asc**

ncols 7

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xllcorner -7589988.98

yllcorner 3995608.83

cellsize 926.62543305583381

nodata_value -9999999

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5844 5812 5972 5904 5154 4966 5282

5786 5765 5822 5695 5739 5817 5992

5609 5094 4333 5790 5763 5793 5863

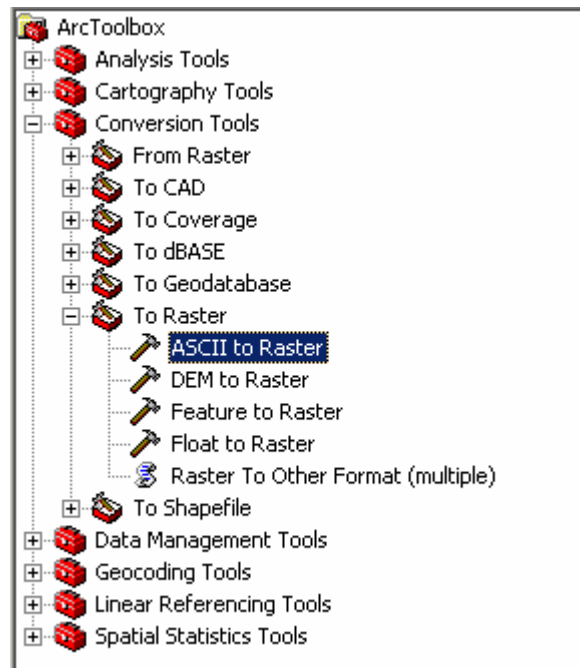
5602 5499 5844 5811 5210 5436 5728

4749 5674 5419 2617 4012 5607 5219

Step 2

Importing the individual file `GRID_MOD13A2_A2005305_1_km_16_days_NDVI.asc` into ArcGIS :

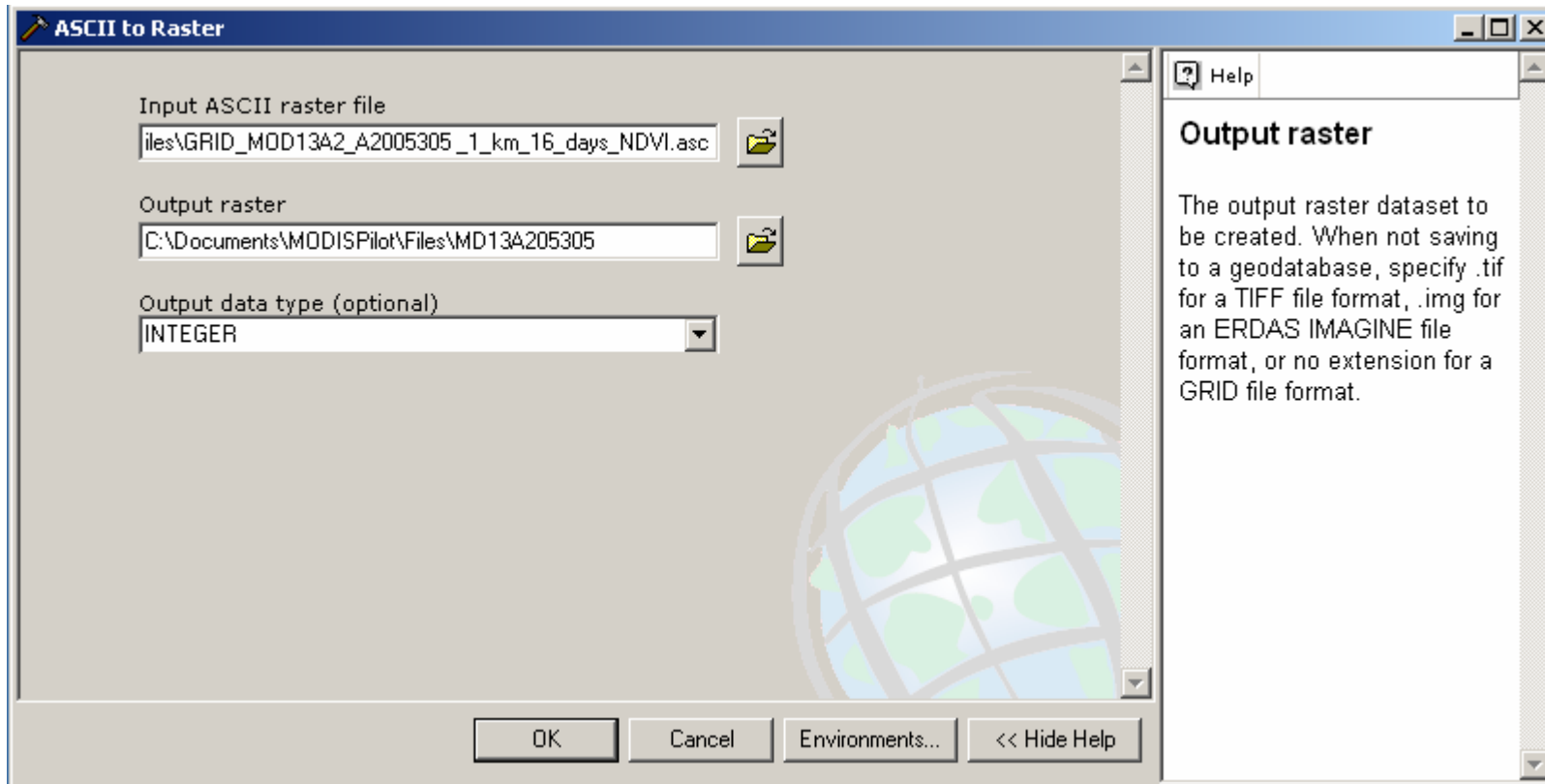
Using ArcToolbox from ESRI's ArcGIS 9.x software



Select:

Conversion Tools → To Raster → ASCII to Raster

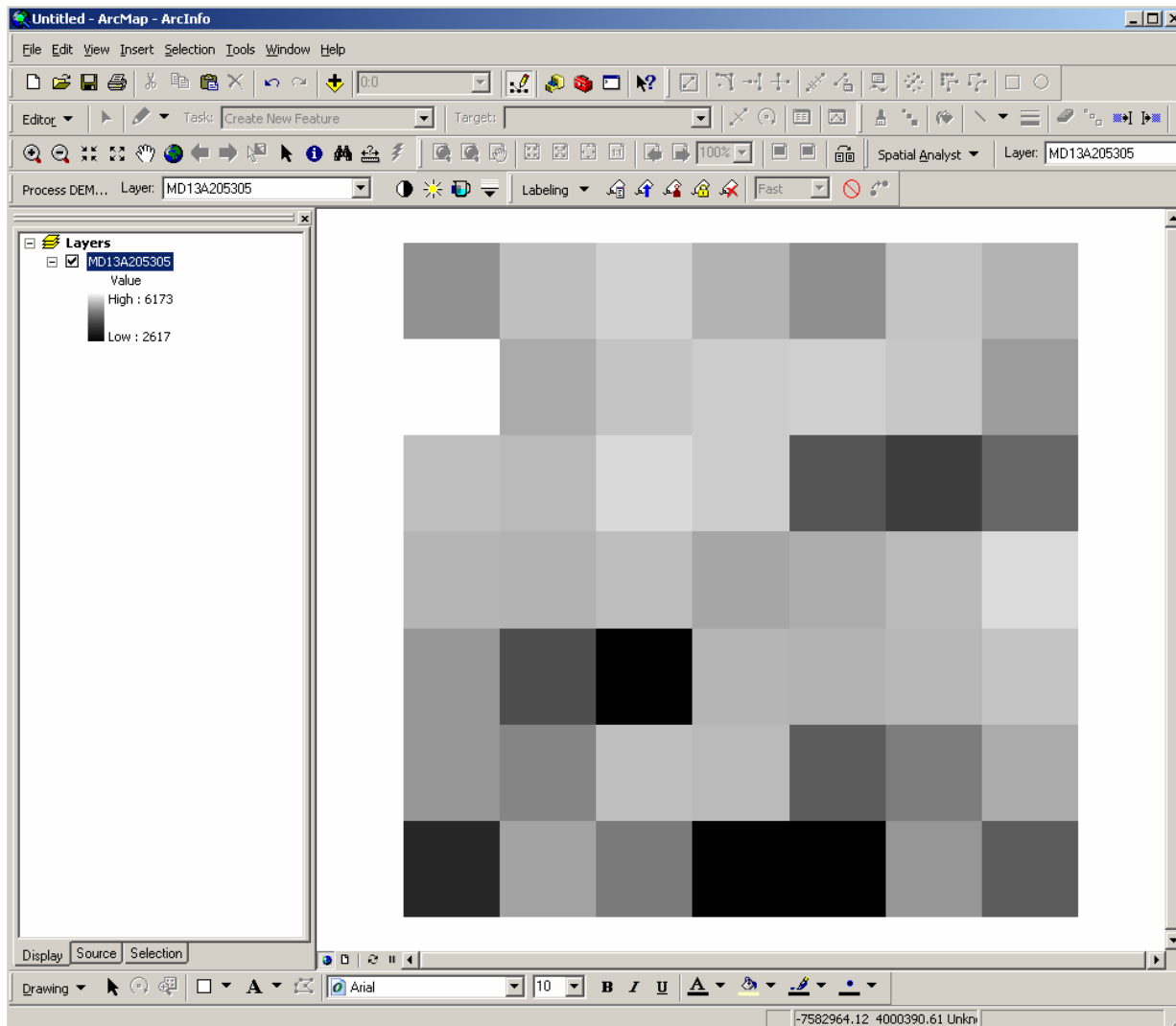
Step 3



Provide path to ASCII file (**GRID_MOD13A2_A2005305_1_km_16_days_NDVI.asc**) and Output Raster (**MD13A205305**)

Click OK

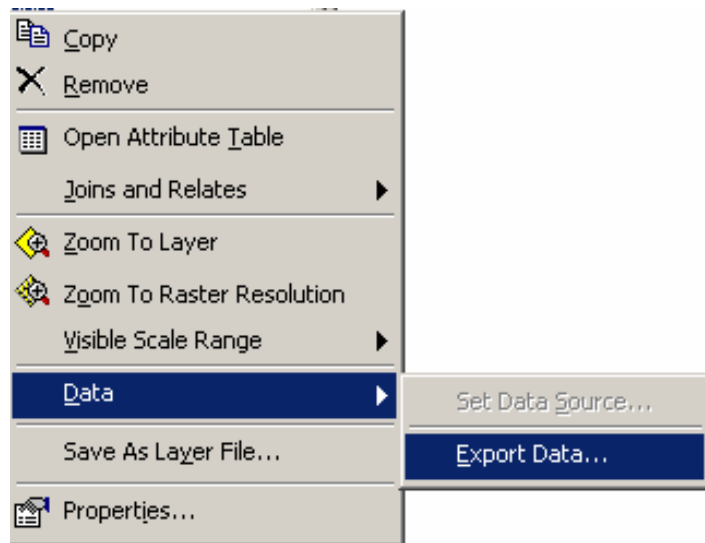
Step 4



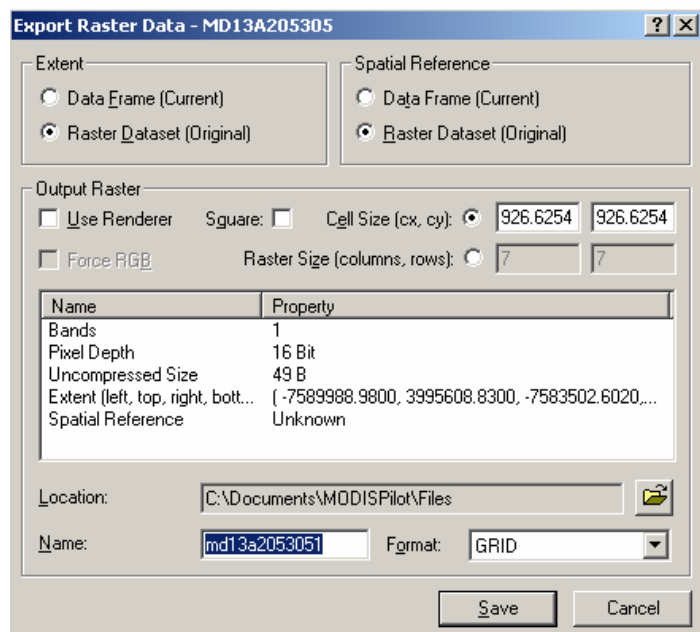
After converting to Raster the output raster (**MD13A205305**) would automatically load into ArcMap

Step 5

Export this file (**MD13A205305**) into ArcGIS GRID



Right Click on the file to Export



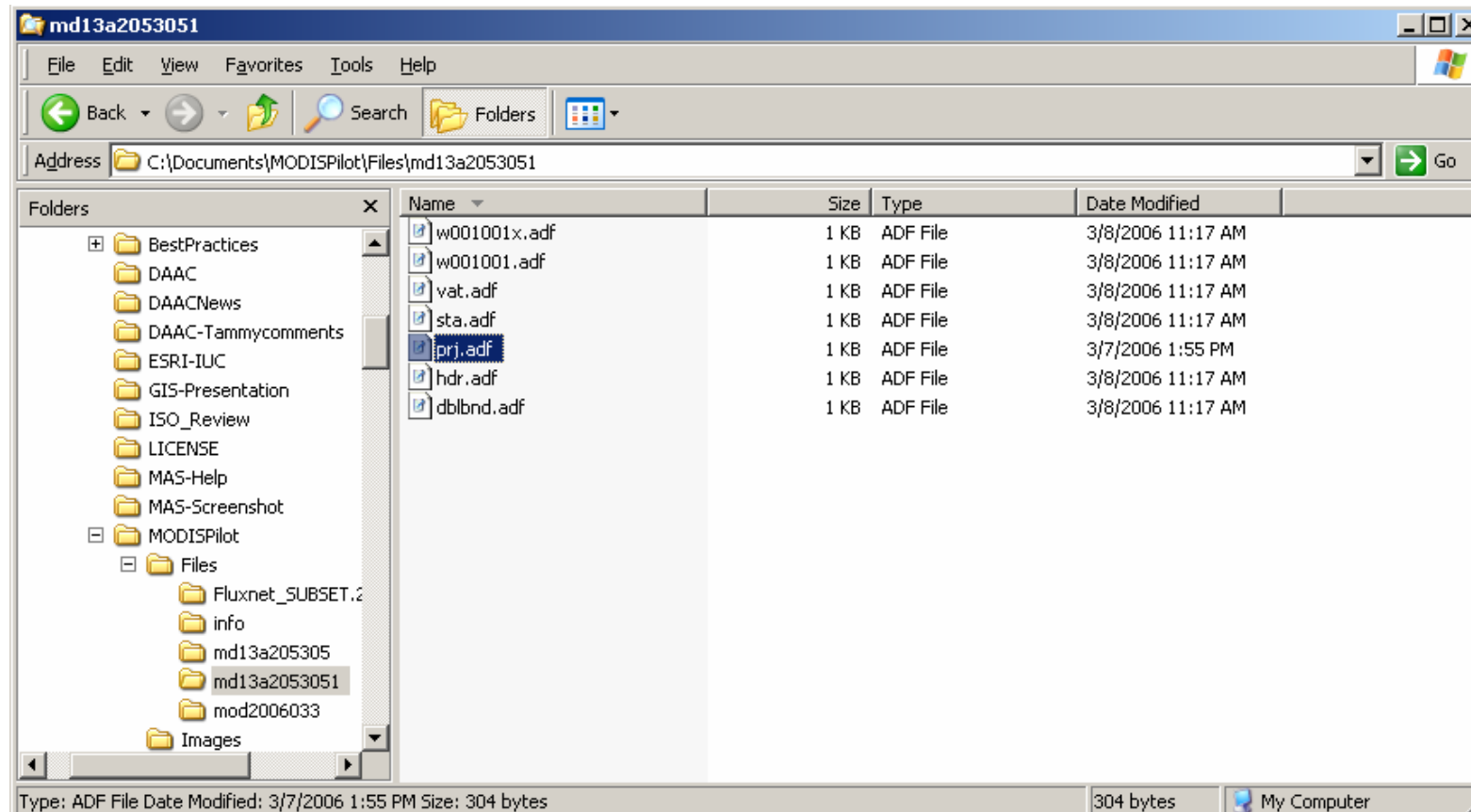
Provide output filename (**e.g. md13a2053051**) and format

Step 6

Setting up the projection

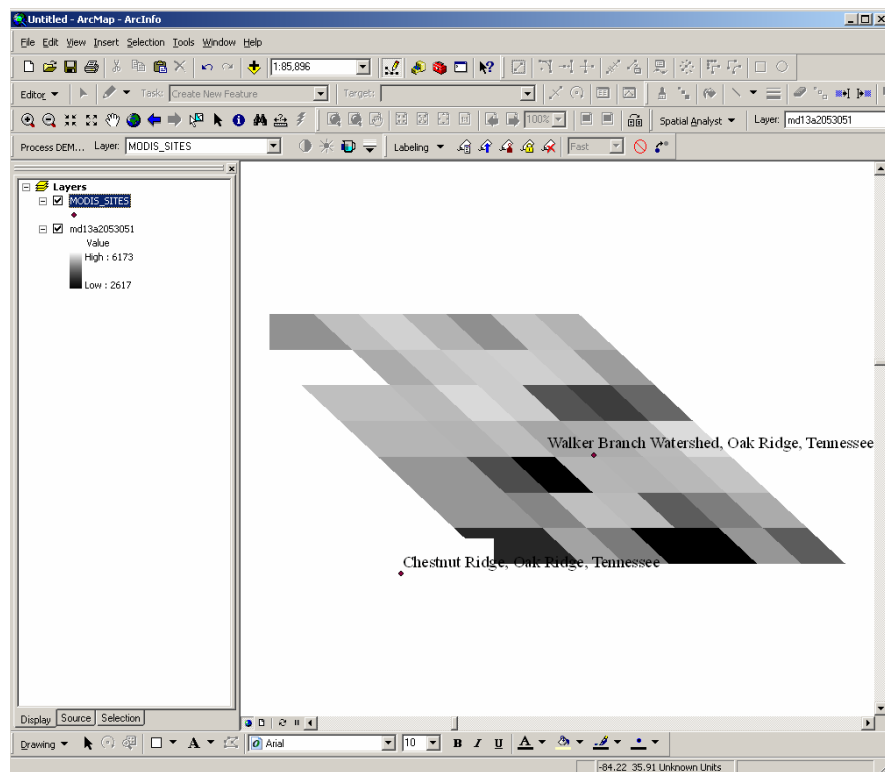
Download file prj.adf from http://daac.ornl.gov/cgi-bin/MODIS/GR_common/prj.adf

copy the prj.adf file into the GRID file directory (**md13a2053051**) created in the previous step



Step 7

Load the GRID file in ArcMap – Make sure that the projection is defined on the dataset



Final output **md13a2053051**
with projection set, overlaid with the MODIS site locations

If the projection isn't defined, use the following file to define the projection.

Download file modis.prj from http://daac.ornl.gov/cgi-bin/MODIS/GR_common/modis.prj

Copy this file into

<ESRI installation Folder>\Coordinate Systems\Projected Coordinate Systems\World\Sphere-based
and manually set the projection for the file



Importing the ASCII Grid data into ENVI 4.x

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Example File : GRID.MOD13A2.asc

MODIS ASCII Subsets: Data Visualization

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USA, Walker Branch Watershed, Oak Ridge, Tennessee

Centered on Latitude [35.958767] Longitude [-84.287433]

7 Kilometers [7 Pixels] Wide and 7 Kilometers [7 Pixels] High

Requested Time Span November 2005 to November 2005

For a PRJ file, access http://daac.ornl.gov/cgi-bin/MODIS/GR_common/modis.prj

For a prj.adf file, access http://daac.ornl.gov/cgi-bin/MODIS/GR_common/prj.adf

MODIS HDF Tile

MOD13A2.A2005305.h11v05.004.2005325075111.hdf

-----START Scientific Data Set (Band): 1_km_16_days_NDVI, MODIS Date: A2005305 (Nov. 1, 2005)-----

ncols 7

nrows 7

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yllcorner 3995608.83

cellsize 926.62543305583381

nodata_value -9999999

5579 5846 5940 5769 5566 5869 5776

6173 5722 5876 5912 5920 5882 5632

5844 5812 5972 5904 5154 4966 5282

5786 5765 5822 5695 5739 5817 5992

5609 5094 4333 5790 5763 5793 5863

5602 5499 5844 5811 5210 5436 5728

4749 5674 5419 2617 4012 5607 5219

-----END Scientific Data Set (Band): 1_km_16_days_NDVI, MODIS Date: A2005305 (Nov. 1, 2005)-----

MODIS HDF Tile

MOD13A2.A2005321.h11v05.004.2005342022515.hdf

-----START Scientific Data Set (Band): 1_km_16_days_NDVI, MODIS Date: A2005321 (Nov. 17, 2005)-----

ncols 7

nrows 7

xllcorner -7589988.98

yllcorner 3995608.83

cellsize 926.62543305583381

nodata_value -9999999

5279 5480 5584 5584 5226 5248 5275

5781 5508 5517 5383 5347 5281 5051

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4774 5425 5047 3500 4174 5187 4955

-----END Scientific Data Set (Band): 1_km_16_days_NDVI, MODIS Date: A2005321 (Nov. 17, 2005)-----

Step 1

Copy contents between

“-----START Scientific Data Set (Band).....”

And

“-----END Scientific Data Set (Band).....”

Into a separate file.

If there are more than one START-END entries, copy contents within each of the START-END statements into individual files like:

File **GRID_MOD13A2_A2005305_1_km_16_days_NDVI.asc** from example file **GRID.MOD13A2.asc**

ncols 7

nrows 7

xllcorner -7589988.98

yllcorner 3995608.83

cellsize 926.62543305583381

nodata_value -9999999

5579 5846 5940 5769 5566 5869 5776

6173 5722 5876 5912 5920 5882 5632

5844 5812 5972 5904 5154 4966 5282

5786 5765 5822 5695 5739 5817 5992

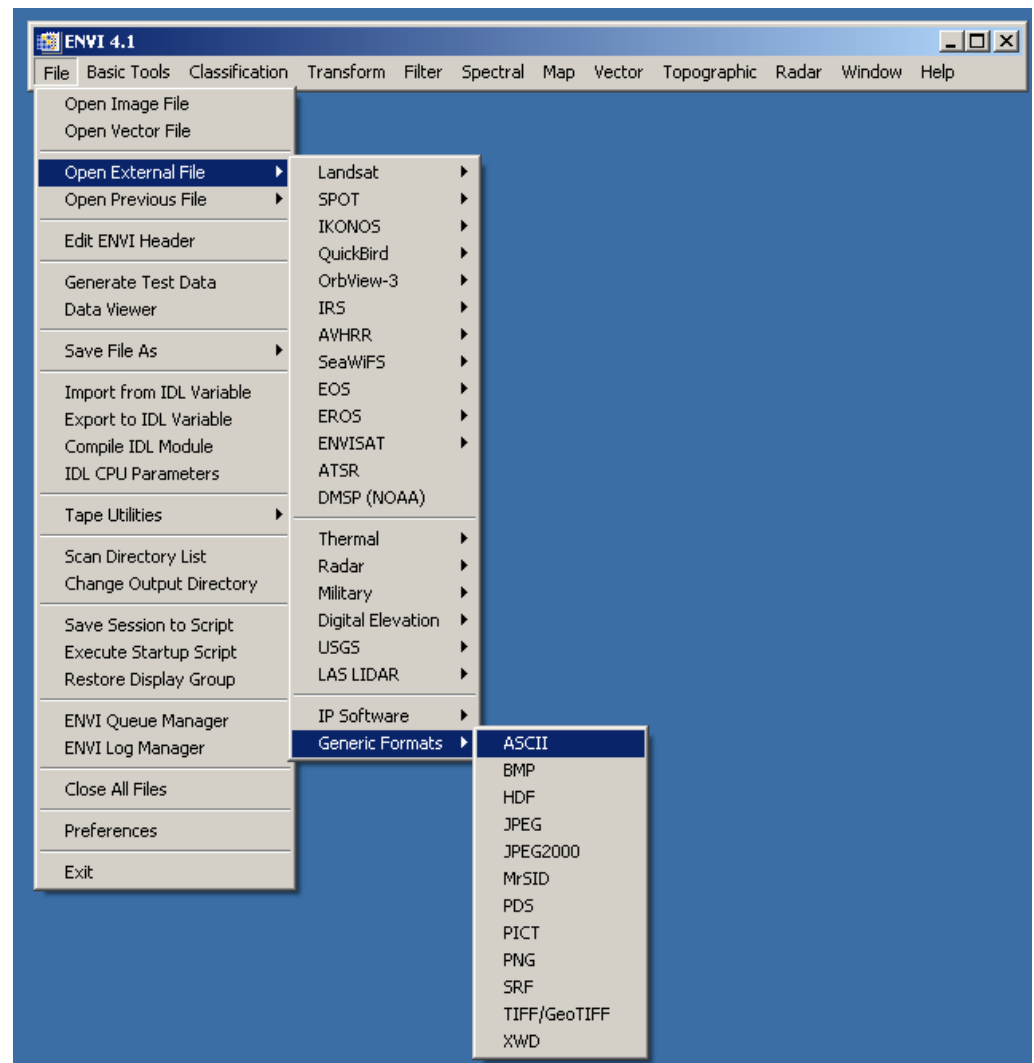
5609 5094 4333 5790 5763 5793 5863

5602 5499 5844 5811 5210 5436 5728

4749 5674 5419 2617 4012 5607 5219

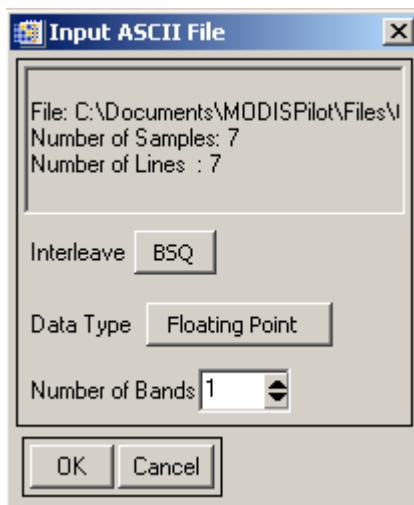
Step 2

Open ENVI and select the Open External File → Generic Formats → ASCII command



Step 3

Select the file **GRID_MOD13A2_A2005305_1_km_16_days_NDVI.asc**



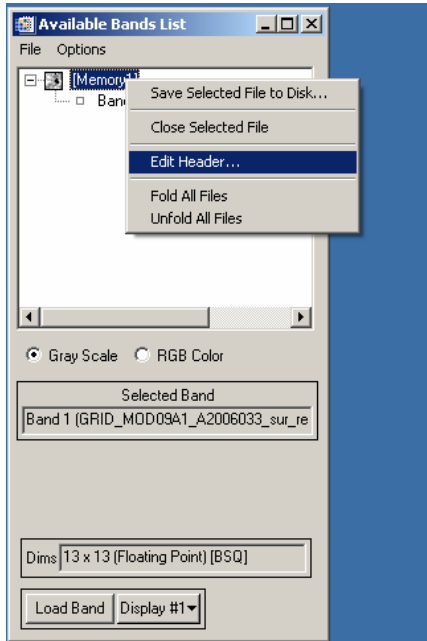
A message box similar to one shown above should display

The Number of samples and Lines in this message box should match with the Requested Data Area

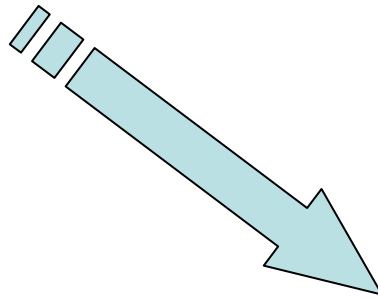
Click OK

Step 4

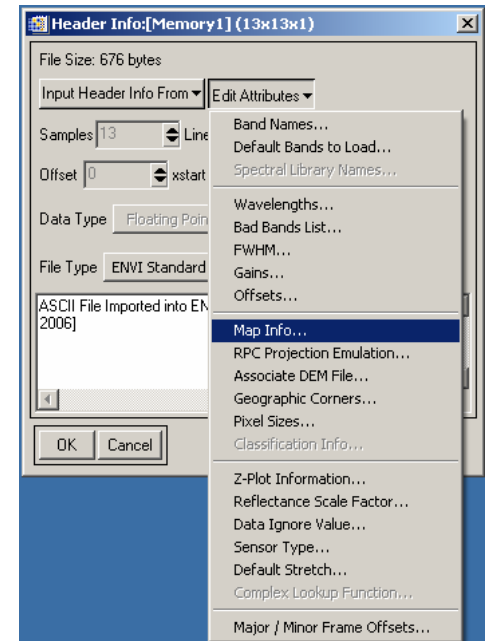
After the image has been loaded into display – Edit the header information to set the Projection parameters



Right click on the file → Edit Header

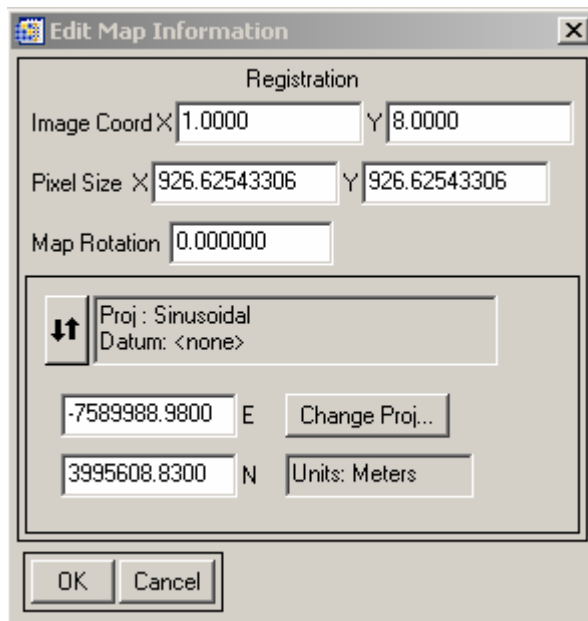


Select Edit Attributes → Map Info



Step 4

Set the projection parameters using the **GRID_MOD13A2_A2005305_1_km_16_days_NDVI.asc** file



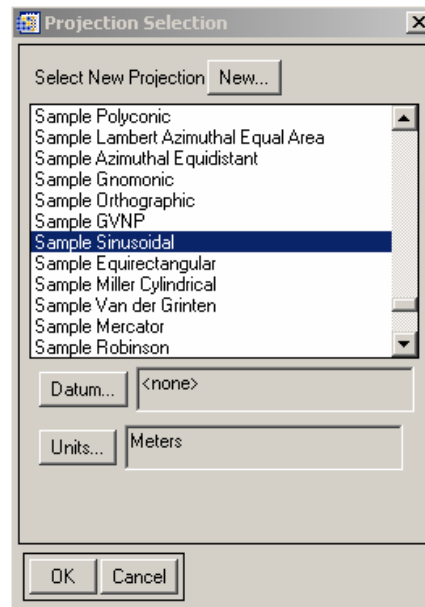
•Pixel Size is the “Cell Size” from the ASCII file **GRID_MOD13A2_A2005305_1_km_16_days_NDVI.asc**

- Easting is the **xllcorner**
- Northing is the **yllcorner**
- Image Coord X is **1.0000** and
- Image Coord Y is **(nrows +1)**

Step 5

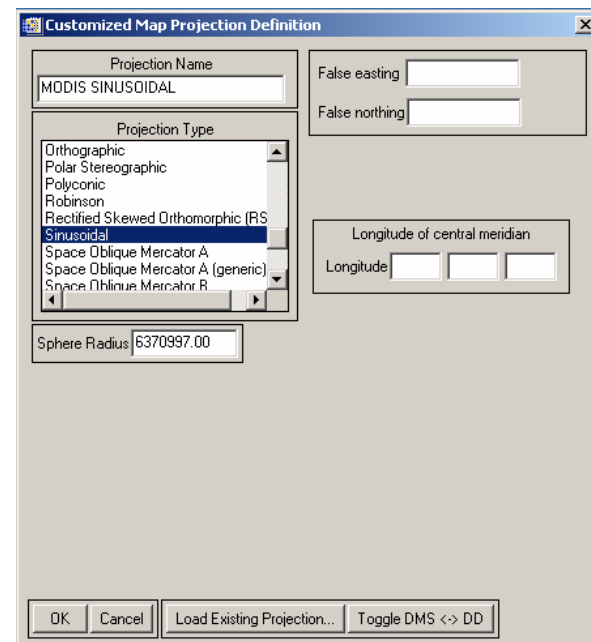
Change Projection to sinusoidal →

Click OK twice to display image and export the file into any format of choice



In the above step If the sinusoidal projection isn't defined, use the following file to define the projection.

Download file modis.prj from http://daac.ornl.gov/cgi-bin/MODIS/GR_common/modis.prj





Importing the ASCII Grid data into ArcView 3.x

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MODIS HDF Tile

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5609 5094 4333 5790 5763 5793 5863

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4749 5674 5419 2617 4012 5607 5219

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MODIS HDF Tile

MOD13A2.A2005321.h11v05.004.2005342022515.hdf

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ncols 7

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cellsize 926.62543305583381

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5396 5118 5750 5563 4825 5260 5587

4774 5425 5047 3500 4174 5187 4955

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And

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File **GRID_MOD13A2_A2005305_1_km_16_days_NDVI.asc** from example file **GRID.MOD13A2.asc**

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6173 5722 5876 5912 5920 5882 5632

5844 5812 5972 5904 5154 4966 5282

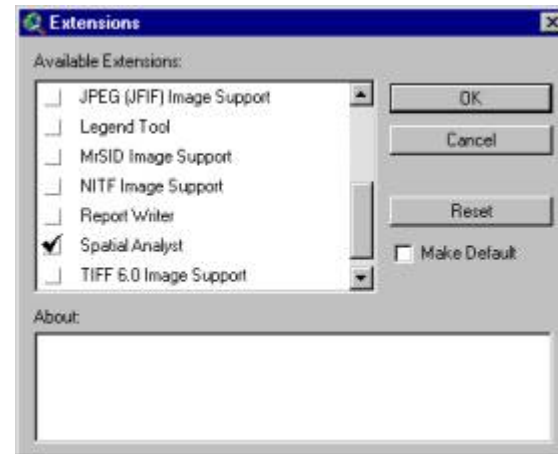
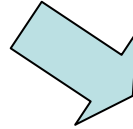
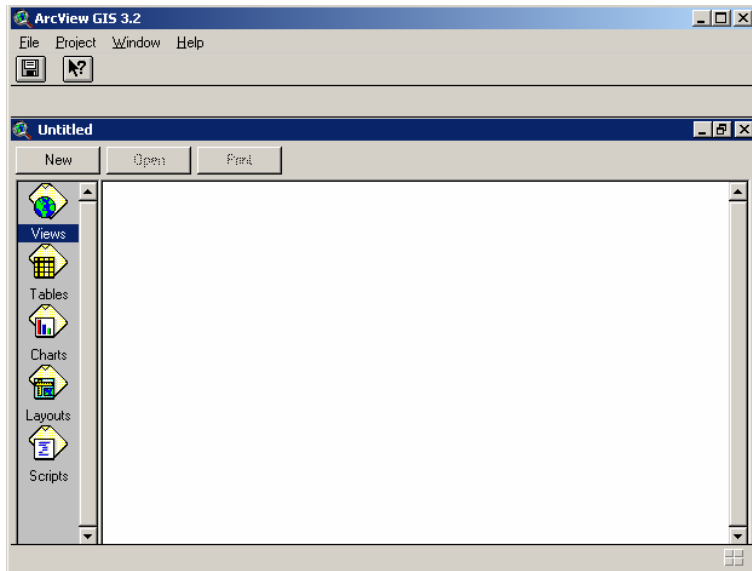
5786 5765 5822 5695 5739 5817 5992

5609 5094 4333 5790 5763 5793 5863

5602 5499 5844 5811 5210 5436 5728

4749 5674 5419 2617 4012 5607 5219

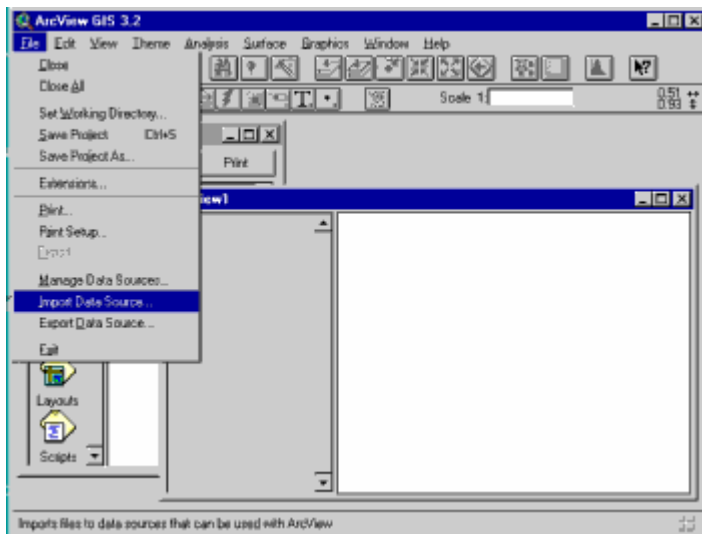
Step 2



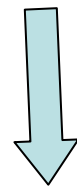
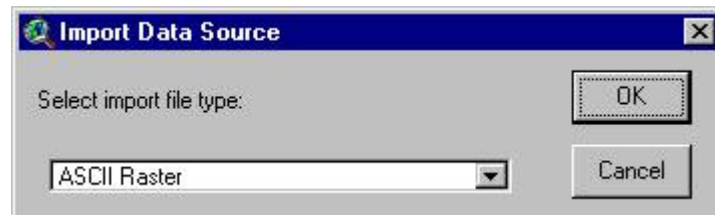
Open ArcView and activate the Spatial Analyst extension

Step 3

Invoke “Import Data Source” tool



Select “ASCII Raster” file type



Select the ASCII raster file
GRID_MOD13A2_A2005305_1_km_16_days_NDVI.asc
and import it as a Theme into the View.



Importing the ASCII Grid data into GRASS

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5602 5499 5844 5811 5210 5436 5728

4749 5674 5419 2617 4012 5607 5219



NAME

r.in.arc - Convert an ESRI ARC/INFO ascii raster file (GRID) into a (binary) raster map layer.

(GRASS Raster Data Import Program)

SYNOPSIS

r.in.arc

r.in.arc help

r.in.arc input=name output=name [title="phrase"] [mult=multiplier]

DESCRIPTION

r.in.arc allows a user to create a (binary) GRASS raster map layer from an ESRI ARC/INFO ascii GRID file with (optional) title.

OPTIONS

Parameters:

input=name

Name of an existing ASCII raster file to be imported.

output=name

Name to be assigned to resultant binary raster map layer.

title="phrase"

Title to be assigned to resultant raster map layer.

mult=multiplier

Multiply all raster cell values by *multiplier*. *multiplier* is a floating point value, and has a default value of 1.0.

The **input** file has a header section which describes the location and size of the data, followed by the data itself.

The header has 6 lines:

ncols: nrows: xllcorner: yllcorner: cellsize: or alternatively (not supported in r.in.arc, but in [r.in.gdal](#)): ncols: nrows: xllcenter: yllcenter: cellsize:

NOTES

r.in.arc handles floating point cell values. The **mult** option allows the number of significant figures of a floating point cell to be increased before importing. Multiples of ten are the most functional multipliers.

SEE ALSO

[r.in.gdal](#) [r.out.arc](#)

Source:

http://grass.itc.it/gdp/html_grass5/html/r.in.arc.html