Subject: Re: Best routines for mapping satellite images
Posted by Steve Super on Thu, 30 Oct 2014 18:40:24 GMT
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On Thursday, October 30, 2014 12:20:44 PM UTC-4, liam....@ssec.wisc.edu wrote:
> On Wednesday, October 29, 2014 4:08:27 PM UTC-5, Steve Super wrote:
>> On Monday, August 25, 2014 3:13:01 PM UTC-4, Steve Super wrote:
>>> Does anyone have any suggestions for which routines are best for projecting satellite images? I have an un-projected image array, along with associated lat/lon arrays that I would like to map and then add some other layers/annotations.
>>>
>>> I have tried many different approaches (i.e., old IDL procedures, new IDL graphics functions, CG) with varying, but insufficient results.
>>>
>>> Thanks,
>>> Steve
>>
>> Sorry I missed all these replies, I put this problem aside for while and forgot to check back.
>>
>> To answer some of the questions:
>>
>> -Yes the coordinates are in degrees and are not evenly spaced (non-gridded data).
>> -The lat/lon arrays have the same dimensions as the image data.
>>
>> The data I am working with is NPP VIIRS M-band data, which I am attempting to use to create a true-color image. My desired outcome is to have a warped image that retains the original dimensions of the data. I want to then focus on a subset of the image and highlight pixels of interest, as well as plot the path of CALIPSO overpass, which is based on lat/lon as well.
>>
>> So far the closest I have come to what I believe is a good result was done using the 'map_set' and 'map_patch' procedures. However, in this case boundaries and coastlines do not quite match up, and there is no way to specify that the image dimensions remain the same as the input array.
>>
>> Thanks for the comments and help.
>> -Steve
>
> Steve,
>
> The POLAR2GRID package will ingest VIIRS M-band SDR HDF5 files (image and geolocation) and create high quality true color images in GeoTIFF format. Several different map projections are available, including Google Earth. Once you have the imagery in GeoTIFF format, it should be straightforward to load and georeference the image in IDL. POLAR2GRID provides similar features for MODIS Level 1B HDF4 files.
>
> POLAR2GRID is freely available here:
>
> http://cimss.ssec.wisc.edu/cspp/npp_polar2grid_v1.2.shtml
>

> You will need a 64-bit Linux system to run the software.
>
> Cheers,
> Liam.
> Practical IDL Programming
> http://www.gumley.com/

Thanks Liam, I downloaded the software and gave it a shot. I was able to create reprojected images without any trouble, however when I tried to use the crefl2gtiff script for creating a True Color GeoTIFF file I received the following errors:

"Cannot read fill value of SDS "Reflectance_Mod_M5".
SDS "Reflectance_Mod_M5": 3200x768 scale factor: 2.44174e-05 offset: 0
Cannot find SDS Reflectance_Mod_M7 in file NPP_VMAE_L1.hdf.
band 2
Cannot read fill value of SDS "Reflectance_Mod_M3".
SDS "Reflectance_Mod_M3": 3200x768 scale factor: 2.44174e-05 offset: 0
band 3
Cannot read fill value of SDS "Reflectance_Mod_M4".
SDS "Reflectance_Mod_M4": 3200x768 scale factor: 2.44174e-05 offset: 0
Cannot find SDS Reflectance_Mod_M8 in file NPP_VMAE_L1.hdf.
Cannot find SDS Reflectance_Mod_M10 in file NPP_VMAE_L1.hdf.
Cannot find SDS Reflectance_Mod_M11 in file NPP_VMAE_L1.hdf.
band 16
Cannot read fill value of SDS "SolZenAng_Mod".
SDS "SolZenAng_Mod": 3200x768 scale factor: 1 offset: 0
band 17
Cannot read fill value of SDS "SenZenAng_Mod".
SDS "SenZenAng_Mod": 3200x768 scale factor: 1 offset: 0
band 18
Cannot read fill value of SDS "SolAziAng_Mod".
SDS "SolAziAng_Mod": 3200x768 scale factor: 1 offset: 0
band 19
Cannot read fill value of SDS "SenAziAng_Mod".
SDS "SenAziAng_Mod": 3200x768 scale factor: 1 offset: 0
band 20
Cannot read fill value of SDS "Longitude".
SDS "Longitude": 3200x768 scale factor: 1 offset: 0
band 21
Cannot read fill value of SDS "Latitude".
SDS "Latitude": 3200x768 scale factor: 1 offset: 0
Creating SDS CorrRefl_01: 3200x768
(lines_1km x samples_1km)
Creating SDS CorrRefl_02: 0x0
Cannot create SDS CorrRefl_02
Error running VIIRS M-band corrected reflectance on input file NPP_VMAE_L1.hdf
OOPS: Could not create CREFL output for file
/data/home001/stephens/polar2grid/data//SVM05_npp_d20130915_ t2038180_e

2039422_b09768_c20130916030531344011_noaa_ops.h5
FAILURE"

I did this by calling the script with the -d flag along with path to the directory containing the 3 matching SVM(band3-5) files and GMTCO geolocation file. Is there something else I'm missing here?
