

OSSIM

Command Line Applications



Version History

Ver- sion	Date	Author	Description
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Introduction

This document provides a summary of all of the command line applications and tools that are included in the OSSIM software distribution. OSSIM open source software for advanced remote sensing, image processing and geospatial mapping located at www.ossim.org . The core functionality of OSSIM is embedded in the OSSIM software library, the distributed command line applications are used the functionality that is stored in the software library. The distributed tools range from simple conversion utilities, data preparation and analysis to sophisticated product engines. The tools can be used from a shell or terminal, scripted, or called from other applications. For example, Image-Linker and iView are GUI applications that call some of the command line tools to provide functionality.

Not all applications are created equal. To help orient the reader the following command line applications are highlighted by category:

Geo Spatial Production Tools

- icp - change from one geo-spatial format to another
- igen - generate a geo-spatial image
- mosaic - build a mosaic from multiple geo-spatial inputs
- orthoigen - ortho-rectify and build a geo-spatial product

Data Preparation Tools

- img2rr - create reduced resolution pyramid images
- create_histo - create a histogram
- cmm - calculate minimum and maximum pixel values
- extract_vertices - Detects the vertices of a projected image

The following is an alphabetical listing of the individual command line applications:

Command Line applications

adrg_header_dump

Performs a listing of an Arc Digitized Raster Graphic (ADRG) file.

Usage: `./adrg_header_dump <.gen file>`

This application dumps to screen the contents of an ADRG Header (.gen) file.

applanix2oggeom

A utility to convert applanix meta-data to an ossim geometry file.

Usage: `applanix2oggeom <camera_file> <exterior_orientation_file> <imageToProcess> <optional_output_directory>`

Options:

- `--disable-elev` Will disable the elevation
- `--disable-notify` Takes an argument. Arguments are ALL, WARN, NOTICE, INFO, FATAL, DEBUG. If you want multiple disables then just do multiple `--disable-notify` on the command line. All argument are case insensitive. Default is all are enabled.
- `--ossim-logfile` takes a logfile as an argument. All output messages are redirected to the specified log file. By default there is no log file and all messages are enabled.
- `-K` specify individual keywords to add to the preferences keyword list: `name=value`
- `-P` specify a preference file to load
- `-T` specify the classes to trace, ex:
`ossimInit|ossimImage.*`
will trace `ossimInit` and all `ossimImage` classes
- `-h` or `--help` Shows help
- `camera_file` Serial number specific keyword list with camera parameters.
- `exterior_orientation_file` Applanix exterior orientation file.
- `imageToProcess` Image to create geometry for.
- `option_output_directory` Option directory to output geometry file(s) to. If not set the `imageToProcess` directory will be used.

band-merge

Merges multiple image files into a single band merged file.

Usage:

Options:

- `--disable-elev` Will disable the elevation
- `--disable-notify` Takes an argument. Arguments are ALL, WARN, NOTICE, INFO, FATAL, DEBUG. If you want multiple disables then just do multiple `--disable-notify` on the command line. All argument are case insensitive. Default is all are enabled.
- `--ossim-logfile` takes a logfile as an argument. All output messages are redirected to the specified log file. By default there is no log file and all messages are enabled.
- `-K` specify individual keywords to add to the preferences
keyword list: name=value
- `-P` specify a preference file to load
- `-T` specify the classes to trace, ex:
ossimInit|ossimImage.*
will trace ossimInit and all ossimImage classes
- `-h` or `--help` Display this information
- `-o` or `--create-overview` Creates and overview for the output image
- `-w` or `--tile-width` Defines the tile width for the handlers that support tiled output

band_merge: Band Merge

Usage:

```
band_merge [-h][-o][-w tile_width] <output_type> <input_file1> <input_file2> ... <output_file>
```

Optional argument list:

- `-h` -- display Usage/Help
- `-o` -- create an ossim overview file with output file
- `-w` -- tile width (default = 32)

NOTES:

"-w" option only valid with tiff type.

"Tile width must be a multiple of 32.

Valid output writer types:

- tiff_strip
- tiff_strip_band_separate

- tiff_tiled
- tiff_tiled_band_separate
- general_raster_bip
- general_raster_bil
- general_raster_bsq
- jpeg

bilsplitter

Splits an input Band Interleaved by Line (BIL) file into multiple output files with each file containing an individual band.

usage:

```
bilsplitter <file_to_split> <header_size_in_bytes> <bytes_per_pixel>
<samples_per_line> <number_of_channels> <output_directory>
```

NOTE:

Given a band interleaved by line (bil) image this application will split the file into separate one band files and write to the output directory.

btoa

Binary to ASCII conversion.

USAGE: btoa <binary_file>

converts a file from binary to ascii

ccfinfo

Lists information on a Chip Chunk Format (CCF) file.

Usage: ccfinfo <ccf_file>

Dumps a ccf header to screen. CCF stands for chip chunk format and used in government locations by the Harris MET program.

chgkwval

Usage: chgkwval <keywordlist_file> <keyword> <value>

Changes the keyword value within the keyword list to value specified.

Example: chgval band1.spec area.size "pixels 7689 8031"

Changes the keyword value of area.size to pixels 7689 8031

Note 1: Use no colon ":" after the keyword.

Note 2: If the keyword is present in the keyword list it will be overwritten.

Note 3: If the keyword is not in the keyword list it will be added.

Note 4: Enclose value in double quotes if it is more than one string.

cibcadrg_ovr

cibcadrg [options] <toc_file>

- o <entry> takes the entry you wish to build an overview for
- e <product> lists all entries for the passed in product
- p lists all the products
- g <entry> prints the image geometry for the specified entry
- a build overviews for all entries

cibcadrg_split

cibcadrg_split [-h] [-l] [-p] <product_name> [-e] <entry_number> [-o] <toc_file>

- h | -H -- Display Usage/Help
- l -- List all entries in product
- p -- specify product to split
- e -- specify entry to split
- o you can specify a different output directory the default is the same directory as the a.toc file

Examples:

```
cibcadrg_split -e 2 -o /my/path/out /my/rpf/a.toc
```

will export entry 2 in the a.toc file to /my/path/out

cmm

Compute min/max pixel values from within a file. Important to run this on radiometries other than 8 bit.

Usage: cmm <image_file>

This program will force a recompute of Min/Max Pixel Values.

Options:

- disable-elev Will disable the elevation
- disable-notify Takes an argument. Arguments are ALL, WARN, NOTICE, INFO, FATAL, DEBUG. If you want multiple disables then just do multiple --disable-notify on the command line.
All arguments are case insensitive. Default is all are enabled.
- ossim-logfile takes a logfile as an argument. All output messages are redirected to the specified log file. By default there is no log file and all messages are enabled.
- K specify individual keywords to add to the preferences
keyword list: name=value
- P specify a preference file to load
- T specify the classes to trace, ex: ossimInit|ossimImage.*

will trace ossimInit and all ossimImage classes-

- e or --entry Give the entry(zero based) to compute min / max for.
NOTE: Option only valid with a single file.
- h or --help Display this information
- l or --list-entries Lists the entries within the image and returns without doing anything else.
- p print values to standard output

NOTES:

- Default output is to a ".omd" file so if the image was "foo.tif" you will get a "foo.omd".
- If the .omd file exists already this will open it and add or, overwrite the min, max keywords only.
- If the -p option is used no .omd file will be written.

create_cg

create coarse grid

Usage: create_cg [options] <input file>

Options:

--disable-elev Will disable the elevation

--disable-notify Takes an argument. Arguments are ALL, WARN, NOTICE, INFO,

FATAL, DEBUG. If you want multiple disables then just do multiple --disable-notify on the command line. All argument are case insensitive. Default is all are enabled.

--ossim-logfile takes a logfile as an argument. All output messages are redirected to the specified log file. By default there is no log file and all messages are enabled.

-K specify individual keywords to add to the preferences
keyword list: name=value

-P specify a preference file to load

-T specify the classes to trace, ex: ossimInit|ossimImage.*
will trace ossimInit and all ossimImage classes

-e <error> default is .1. This is basically the pixel accuracy of the grid

-h or --help Shows help

-o <base output name> Specify a new base output name default it's base name is <image file>.dat and <image file>.geom. If specified then the output is <base output name>.dat and <base output name>.geom where the .dat is the coarse grid and the .geom is the model

-s <min_line_sample_spacing> give the min line sample spacing for the coarse grid. Helps in converging. Basically will stop splitting if number of pixels per grid cell gets below this number.

create_histo

create histogram

Usage: create_histo <args>

Options:

--disable-elev Will disable the elevation

--disable-notify Takes an argument. Arguments are ALL, WARN, NOTICE, INFO,

FATAL, DEBUG. If you want multiple disables then just do multiple --disable-notify on the command line. All argument are case insensitive. Default is all are enabled.

--ossim-logfile takes a logfile as an argument. All output messages are redirected to the specified log file. By default there is no log file and all messages are enabled.

-K specify individual keywords to add to the preferences
keyword list: name=value

-P specify a preference file to load

-T specify the classes to trace, ex: ossimInit|ossimImage.*
will trace ossimInit and all ossimImage classes

-h or --help Display this information

-i <image_file> Creates a histogram from the image_file.

-l <res_level> Output the specified number of res levels (not supported for import histogram -i option)

-o <output_file> Output the histogram to the indicated file.

-p <histogram_file> Imports imagelinks proprietary histogram_file.

examples:

create_histo foo.tif

Will create a histogram for the input image and call it foo.his

create_histo -i foo.tif -o foo.his

this will compute a histogram from the input foo.tif and write it to foo.his

create_histo -p foo2.his -o foo.his

will import the proprietary histogram file and output an ossim histogram file to foo.his

NOTE: If no output is given it will default to output.his unless the special case of a single input image is given

datums

list the datums

datums invokes a utility that prints all of the OSSIM supported datums to the screen.

deg2dms

degrees to degrees minutes seconds. Interactive command line program.

deg2rad

converts from degrees to radians

deminfo

A: deminfo

Usage: deminfo

Dumps a dem header to screen.

dms2deg

A: converts from degrees minutes seconds to decimal degrees

dtedInfo

dumps information on a dted cell

Usage: dtedInfo <dted_file>

NOTE: This application outputs all header information associated with a DTED Level 1 file.

dtedlist

dtedList

Usage: dtedlist <dted_file>

NOTE: This application outputs all header information and Data record information associated with a DTED Level 1 file.

ecg2ocg

A: converts from an enhanced coarse grid to an ossim coarse grid. ecgs are used by the government and output by a program called MET.

ecg2ocg

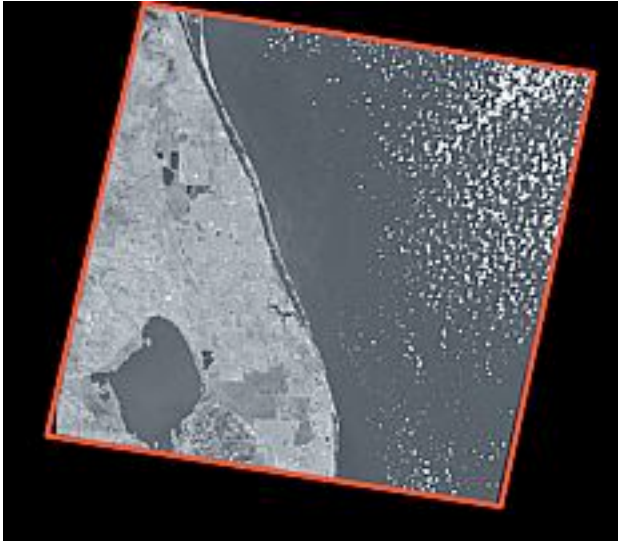
Usage: ./ecg2ocg

extract_vertices

Used to compute the valid vertices (corners) of an image. Defines a polygon - inside the polygon are valid sampled pixels outside are nulls.

extract_vertices <image_file>

NOTE:



The vertices define the bounds of the valid imagery. Map projected image files typically contain "Null" pixels that are outside the valid sampled pixels.

Scans the image, extracts vertices and writes results to a keyword list.
Name of the keyword list is the image_file with "_vertices.kwl" appended.
So if image = "foo.tif" then results file = "foo_vertices.kwl".

factory_dump

A: factory_dump

Performs a listing of all of the internal OSSIM factories. Factories are a mechanism for registering and serving functionality within the library.

icp

image copy - converts from one format to another. icp operates in image space - not in geographical space. It is used to chip or crop existing images, change file formats and also select from existing reduced resolution layers where they exist. icp does not resample the imagery, it reformats and can segment from the source file. The iView GUI application operates as a viewer and a way to set up parameters for icp. icp can be called from the command line or from an application - e.g. iView.

Usage: icp [options] <output_type> <input_file> <output_file>

Options:

--disable-elev Will disable the elevation

- `--disable-notify` Takes an argument. Arguments are ALL, WARN, NOTICE, INFO, FATAL, DEBUG. If you want multiple disables then just do multiple `--disable-notify` on the command line. All argument are case insensitive. Default is all are enabled.
- `--ossim-logfile` takes a logfile as an argument. All output messages are redirected to the specified log file. By default there is no log file and all messages are enabled.
- `-K` specify individual keywords to add to the preferences keyword list: name=value
- `-L` or `--end-line` Which end line do you wish to copy from the input. If none is given then max line is used
- `-P` specify a preference file to load
- `-T` specify the classes to trace, ex:
`ossimInit|ossimImage.*`
will trace `ossimInit` and all `ossimImage` classes
- `-a` or `--use-scalar-remapper` Uses scalar remapper, transforms to 8-bit
- `-b` or `--bands` uses the specified bands: ex. "1, 2, 4" will select bands 1 2 and 4 of the input image. Note: it is 1 based
- `-c` or `--compression-type` Uses compression. Currently valid for only tiff output `-c jpeg` will use jpeg compression
- `-e` or `--entry` For multi image handlers which entry do you wish to extract
- `-h` or `--help` Display this information
- `-l` or `--start-line` Which start line do you wish to copy from the input. If none is given then 0 is used
- `-o` or `--create-overview` Creates and overview for the output image
- `-p` or `--end-sample` Which end sample do you wish to copy from the input. If none is given then max sample is used
- `-q` or `--compression-quality` Uses compression. Valid for jpeg type. default is 75 where 100 is the best and 1 is the worst
- `-r` or `--res-level` Which res level to extract from the input: ex `-r 1` will get res level 1
- `-s` or `--start-sample` Which start sample do you wish to copy from the input. If none is given then 0 is used
- `-t` or `--create-thumbnail` Takes an argument which is the maximum pixel dimension desired.
Create thumbnail flag is enabled
- `-w` or `--tile-width` Defines the tile width for the handlers that support tiled output

NOTES:

Valid output writer types:

- tiff_strip
- tiff_strip_band_separate
- tiff_tiled
- tiff_tiled_band_separate
- jpeg
- general_raster_bip
- general_raster_bil
- general_raster_bsq
- general_raster_bip_envi
- general_raster_bil_envi
- general_raster_bsq_envi
- nitf_block_band_separate
- nitf_block_band_sequential

igen

image generator, makes a product as defined in the spec file

Usage: igen [options] <spec_file>

Options:

- disable-elev Will disable the elevation
- disable-notify Takes an argument. Arguments are ALL, WARN, NOTICE, INFO, FATAL, DEBUG. If you want multiple disables then just do multiple --disable-notify on the command line. All arguments are case insensitive.

Default is all are enabled.

- ossim-logfile takes a logfile as an argument. All output messages are redirected to the specified log file. By default there is no log file and all messages are enabled.
- K specify individual keywords to add to the preferences
keyword list: name=value
- P specify a preference file to load
- T specify the classes to trace, ex: ossimInit|ossimImage.*
will trace ossimInit and all ossimImage classes
- h or --help Display this information
- t or --thumbnail thumbnail resolution

image_info

Usage: image_info [-i] [-p] <full path to file> [-v] [-o <geom file>]

Options:

- disable-elev Will disable the elevation
- disable-notify Takes an argument. Arguments are ALL, WARN, NOTICE, INFO, FATAL, DEBUG. If you want multiple disables then just do multiple --disable-notify on the command line. All argument are case insensitive. Default is all are enabled.
- ogeo-format Formats the data to an ossim geometry file, separate files for multi image file formats
- ossim-logfile takes a logfile as an argument. All output messages are redirected to the specified log file. By default there is no log file and all messages are enabled.
- K specify individual keywords to add to the preferences
keyword list: name=value
- P specify a preference file to load
- T specify the classes to trace, ex: ossimInit|ossimImage.*
will trace ossimInit and all ossimImage classes
- h Display this information
- i Will print out the general image information.
- o Will output the information to the file specified. Default is to standard out.
- p Will print out the projection information.
- s Force the ground rect to be the specified datum
- v Overwrite existing geometry.

examples:

```
image_info -i ./myfile.tif  
prints out only general image information
```

```
image_info -p ./myfile.tif  
prints out only image projection information
```

```
image_info -p -s wgs ./myfile.tif  
prints out only image projection information and shifts to wgs84
```

```
image_info -p -i ./myfile.tif  
prints out both image and projection information
```

```
image_info -p -i ./myfile.tif -o ./myfile.geom  
writes geometry file with both image and projection information
```



```
image_info -p -i ./myfile.tif -v -o ./myfile.geom
```

writes geometry file with both image and projection information while overwriting existing .geom file.

imagebounds

```
imagebounds [-d <datum code>] [-t <output format>] [-c <coordinate type>] [-o outputfile] inputfile
```

options:

- t give an output format. Default is csv. The only valid options are:
csv.
- c give the coordinate type for the output bounds. Default geographic. This currently can be:
geographic
meters
- o Give the optional output file name.
- d output datum code

inputfile This is the file we will use to compute the image bounds for

outputfile This is the file we will use to output the information to. If this is not given then by default it will change the extension of the inputfile to match the given output type. For example csv output would have a .csv extension.

NOTE: The last argument must be the input file

img2md

Image to meta data

I've added an "img2md" application. Application to output metadata given metadata type, source image, output file. Additional keywords can be passed to writer via the "-t" option which takes a keyword list.

So you can do:

```
$ img2md tiff_world_file foo.tif foo2.tfw
```

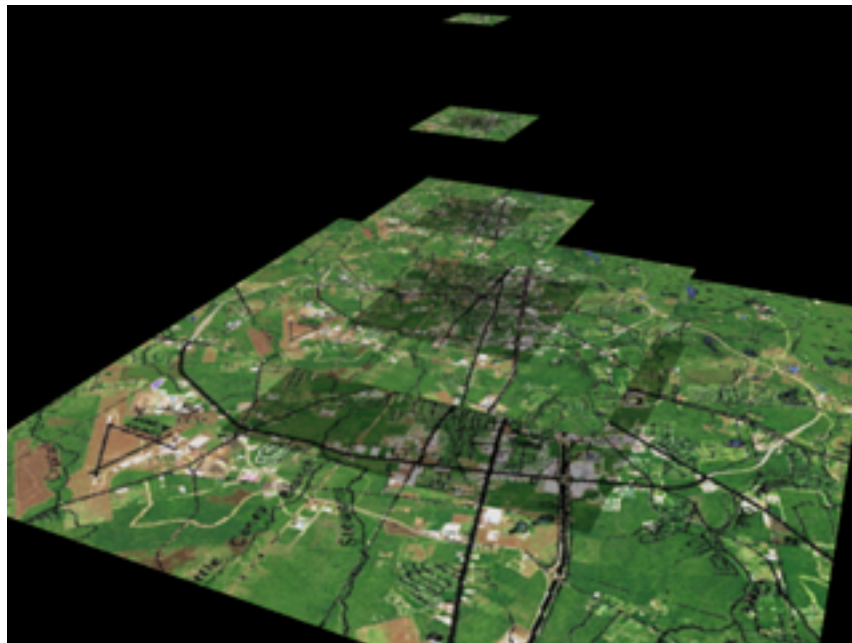
Now you have a tfw file.

Or:

```
$ img2md ossim_readme foo.tif foo_readme.txt
```

img2rr

This command creates reduced resolution images, also known as a pyramid image structure from the input image.



Reduced resolution layers are created by iteratively downsampling the full resolution image. The results are stored in a .ovr (overview) file. This structure improves the efficiency of arbitrary access to different spatial resolutions and areas of interest. The OSSIM library will automatically select the appropriate layer and area of interest for needed operations.

Usage: `img2rr [options] <input file>`

Options:

- `--disable-elev` Will disable the elevation
- `--disable-notify` Takes an argument. Arguments are ALL, WARN, NOTICE, INFO, FATAL, DEBUG. If you want multiple disables then just do multiple `--disable-notify` on the command line. All argument are case insensitive. Default is all are enabled.
- `--list-entries` Lists the entries within the image
- `--ossim-logfile` takes a logfile as an argument. All output messages are redirected to the specified log file. By default

- K there is no log file and all messages are enabled.
 specify individual keywords to add to the preferences
 keyword list: name=value
- P specify a preference file to load
- T specify the classes to trace, ex:
 ossimInit|ossimImage.*
 will trace ossimInit and all ossimImage classes
- a or --include-fullres Wants to include full res dataset as well as reduced
 res sets.
- e or --entry Give the entry(zero based) to build an overview for.
- h or --help Shows help

listgeo

from geoTiff

Usage: listgeo [-d] [-tfw] [-proj4] [-no_norm] [-t tabledir] filename

- d: report lat/long corners in decimal degrees instead of DMS.
- tfw: Generate a .tfw (ESRI TIFF World) file for the target file.
- proj4: Report PROJ.4 equivalent projection definition.
- no_norm: Don't report 'normalized' parameter values.
- filename: Name of the GeoTIFF file to report on.

mtrsPerDeg

Usage: mtrsPerDeg <latitude_in_decimal_degrees>

Outputs the meters per degree and meters per minute for a given latitude.

NOTE: Values are based on the geodetic radius of the WGS 84 ellipsoid.

mosaic

mosaic builds a mosaic from specified input

Usage:

mosaic [-h][-k <keywordlist>][-t <template_keywordlist>][-i <input_file1
input_file2...>][-o <output_file>][-m <mosaic_type>]

Optional argument list:

- h -- display Usage/Help

- i -- list of input images
- k -- keyword list to load from
- m -- Mosaic type (SIMPLE, BLEND, or FEATHER)
- o -- output image file
- t -- output a template

Please see the usage.txt file for more info.

mtrs2ft

converts from meters to feet. Also has a command line switch to calculate US survey feet. For example, state plane projections are often calculated using survey feet.

Usage: mtrs2ft [-u] <meters>

This will give you feet from meters.

Options:

- u -- Use US survey feet per meter. (0.3048006096 meter = one foot)

ossim_height

Queries a lat/lon point and returns the elevation at that point as calculated by OSSIM. Useful for validating that ossim_preferences and paths to elevation sets and geoids are set up properly.

Usage: ossim_height <lat degrees> <lon degrees>

Options:

- disable-elev Will disable the elevation
- disable-notify Takes an argument. Arguments are ALL, WARN, NOTICE, INFO, FATAL, DEBUG. If you want multiple disables then just do multiple --disable-notify on the command line. All argument are case insensitive. Default is all are enabled.
- ossim-logfile takes a logfile as an argument. All output messages are redirected to the specified log file. By default there is no log file and all messages are enabled.
- K specify individual keywords to add to the preferences keyword list: name=value
- P specify a preference file to load

- T specify the classes to trace, ex: ossimInit|ossimImage.*
will trace ossimInit and all ossimImage classes
- h or --help Shows help

orthoigen

Orthorectifies an image and is built on top of igen. It is better suited for scripting as many settings can be passed in as parameters and it supports but doesn't require a keyword list.

For orthoigen you must at a minimum specify an input and an output. This would actually be equivalent to an image copy.

Currently the output writer type is specified by the extension of the file-name. In most cases you will also be specifying a view.

SIMPLE

```
orthoigen <input> <output>
```

Assume we have input foo.tif and we wish to convert it to foo.jpg:

```
orthoigen foo.tif foo.jpg
```

PROJECTION

```
orthoigen --utm <input files> <output>
```

```
orthoigen --geo <input files> <output>
```

```
orthoigen --geo-scaled <latitude> <input files> <output>
```

```
orthoigen --input-proj <input files> <output>
```

```
orthoigen --view-template view_template/utm_8.kwl <input files> <output>
```

TILING_TEMPLATE

For now we have to enable a view when tiling

```
orthoigen --utm --tiling-template <template> <input files> <output>
```

EXAMPLES:

BLEND thumbnail

```
orthoigen /data/sanfran_ccf/foo.ccf /data/sanfran_map/sanfran_map.tif  
output/blend.jpg --combiner-type ossimBlendMosaic -t 512 --utm
```

1024x1024 tiling

```
orthoigen --chain-template chain_templates/landsat_projected_321.kwl  
--tiling-template tiling_templates/1024x1024.kwl --thumbnail 2048 --utm  
/data/p44r34/l71044034_03420000725_hrf.fst output/
```

SRTM 90 meter tiling

```
orthoigen --geo --tiling-template tiling_templates/orthoigen_srtm_3arc.kwl  
/data/ele1/DTED3arc/w100/n40.dt1 output/
```

```
orthoigen --view-template view_template/utm_8.kwl  
/data/sanfran_ccf/foo.ccf output/utm8.jpg --thumbnail 1024
```

orthoigen

Usage:

Options:

- chain-template Specify an external file that contains chain information
- combiner-template Specify an external file that contains combiner information
- combiner-type Specify what mosaic to use, ossimImageMosaic or ossimFeatherMosaic or osimBlendMosaic ... etc
- disable-elev Will disable the elevation
- disable-notify Takes an argument. Arguments are ALL, WARN, NOTICE, INF, FATAL, DEBUG. If you want multiple disables then just multiple --disable-notify on the command line. All argument are case insensitive. Default is all are enabled.
- geo Defaults to a geographic image chain with GSD = to the input. Origin of latitude is on the equator.
- geo-scaled Takes a latitude as an argument for purpose of scaling.

Specifies that no spec file was defined. Defaults to a scaled geographic image chain with GSD = to the input.

--input-proj Makes the view equal to the input. If more than one fi then the first is taken

--meters Specifies an override for the meters per pixel

--ossim-logfile takes a logfile as an argument. All output messages ar redirected to the specified log file. By default there is no log file and all messages are enabled.

--resample-type Specify what resampler to use, nearest neighbor, bilinear, bicubic

--slave-buffers number of slave tile buffers for mpi processing (default = 2)

--tiling-template Specify an external file that contains tiling informati

--utm Defaults to a utm image chain with GSD = to the input

--view-template Specify an external file that contains view information

--writer-template Specify an external file that contains tiling informati

-K specify individual keywords to add to the preferences
keyword list: name=value

-P specify a preference file to load

-T specify the classes to trace, ex: ossimInit|ossimImage.
will trace ossimInit and all ossimImage classes

-h or --help Display this information

-t or --thumbnail thumbnail resolution

pixelflip

converts pixel values

Usage: pixelflip [options] <output_type> <input_file> <output_file> <target_value> <replacement_value>

Options:

--disable-elev Will disable the elevation

--disable-notify Takes an argument. Arguments are ALL, WARN, NOTICE, INFO, FATAL, DEBUG. If you want multiple disables then just do multiple --disable-notify on the command line. All argument are case insensitive. Default is all are enabled.

--ossim-logfile takes a logfile as an argument. All output messages are redirected to the specified log file. By default

there is no log file and all messages are enabled.

-K specify individual keywords to add to the preferences
keyword list: name=value

-P specify a preference file to load

-T specify the classes to trace, ex:
ossimInit|ossimImage.*
will trace ossimInit and all ossimImage classes

-c or --clamp-value clamp values (any pixel with value larger than input
will be clamped to input)

-h or --help Display this information

-m Replacement mode (see notes below)

-o or --create-overview Creates and overview for the output image

-w output tile width(only valid with tiled output
types). Must be a multiply of 16

NOTES:

-m Replacement mode option explanation:

Valid modes = "all", "partial", and "full" (default=all)

If mode is "all" (default):

Any pixel with dn of target will be replaced.

If mode is "partial":

Target will be replaced only at least one subpixel(band) does
not have the target.

If mode is "full":

Target will be repaced only if all subpixels(bands) have the target.

Example:

target = 0

replacement = 1

Pixel at (0, 0) r=0, g=0, b=0

Pixel at (0, 1) r=0, g=30, b=21

Mode is "all":

Pixel at (0, 0) becomes r=1, g=1, b=1

Pixel at (0, 1) becomes r=1, g=30, b=21

Mode is "partial":

Pixel at (0, 0) remains r=0, g=0, b=0

Pixel at (0, 1) becomes r=1, g=30, b=21

Mode is "full":

Pixel at (0, 0) becomes r=1, g=1, b=1

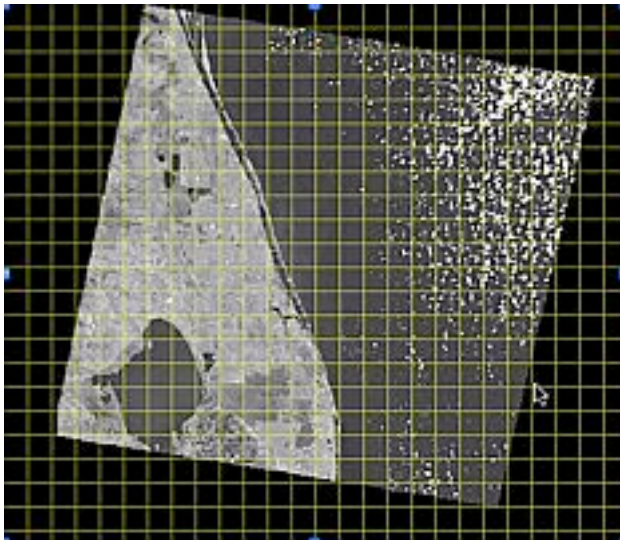
Pixel at (0, 1) remains r=0, g=30, b=21

Valid output writer types:

- tiff_strip
- tiff_strip_band_separate
- tiff_tiled
- tiff_tiled_band_separate
- jpeg
- general_raster_bip
- general_raster_bil
- general_raster_bsq
- general_raster_bip_envi
- general_raster_bil_envi
- general_raster_bsq_envi
- nitf_block_band_separate
- nitf_block_band_sequential

prune

The prune command was designed to be scripted against directories of files to determine which files were blank or contained only null values. As an example, large areas can get output as geographic or image based tiles. When operating on projected imagery it is possible that many of the individual tiles will contain only null values. The prune utility can be run against the images to determine those cases.



OSSIM can produce tiled output on geographic or pixel boundaries. prune can test for null or empty tiles.

prune: Displays if image is null or not.

Usage: prune

rpc2ogeom

converts from residual polynomial coefficients to an ossim geometry file.

rpc2ogeom <input file> [<output file>]

<input file> Currently we have tag readers
for nitf

<output file> Is an optional output file. It
will default to the input file and change
to a .geom extension.

shpbuilder

USAGE: shpbuilder <spec_file> <out_dir>

This program creates an ESRI shapefile from an EMET or OSSIM spec file.

NOTES:

- Remember to uncomment keywords (ie. // area.lat_lon)
- Polygon shape is created from bounding rectangle, not vertices

shpcutter

ESRI Shapefile cutter

USAGE: shputils <DescribeShape>

USAGE: shputils <InputShape> <AppendShape>

{ <SELECT> <Item> <valuelist> }

{ <UNSELECT> <Item> <valuelist> }

{ <CLIP> <xmin> <ymin> <xmax> <ymax> <TOUCH|INSIDE|CUT> }

{ <CLIP> <Theme> <BOUNDARY|POLYGON> <TOUCH|INSIDE|CUT> }

Clip functions for Cut and Polygon are not supported yet...

{ <ERASE> <xmin> <ymin> <xmax> <ymax> <TOUCH|INSIDE|CUT> }

{ <ERASE> <Theme> <BOUNDARY|POLYGON> <TOUCH|INSIDE|CUT> }

```
{ <UNIT> <FEET|METERS|factor> }  
{ <SHIFT> <xshift> <yshift> }
```

The program will append to an existing shape file or it will create a new file if needed.

Only the items in the first output file will be preserved.

When an item does not match with the append theme then the item might be placed to an existing item at the same position and type.

OTHER FUNCTIONS:

- Select a group of shapes from a comma separated selection list.
- UnSelect a group of shapes from a comma separated selection list.
- Clip boundary extent or by theme boundary.
 - Touch writes all the shapes that touch the boundary.
 - Inside writes all the shapes that are completely within the boundary.
 - *(N/A) Cut will cookie-cut shapes that are touching the boundary.
 - Boundary clips are only the min and max of a theme boundary.
 - *(N/A) Polygon clips use the polygons within a theme.
- Erase boundary extent or by theme boundary.
 - Erase is the direct opposite of the Clip function.
- Change coordinate value units between meters and feet.
 - There is no way to determine the input unit of a shape file.
 - Skip this function if the shape file is already in the correct unit.
 - Clip and Erase will be done before the unit is changed.
 - A shift will be done after the unit is changed.
- Shift X and Y coordinates.

Finally, There can only be one select or unselect in the command line.

There can only be one clip or erase in the command line.

There can only be one unit and only one shift in the command line.

```
EX: shputils in.shp out.shp CLIP 10 10 90 90 Touch UNIT Feet SHIFT 40 40  
shputils in.shp out.shp SELECT countycode 3,5,9,13,17,27
```

shpdump

lists a shape file

```
shpdump
```

space_imaging

A: makes a geometry file from space_imaging format

space_imaging [out_geom](#)

Note: out_geom is defaulted to output.kwl

swapbytes

swapbytes

USAGE: swapbytes [-h][-b <bytes_per_pixel>] input_file> <output_file>

Swaps bytes of input_file and outputs result to output_file.

Note:

- Data type of a short (two bytes per pixel) is the default.
- Supported bytes_per_pixel: 2, 4, and 8

tiffinfo

Provides info on the tiff tags from a tif file.

LIBTIFF, Version 3.7.1

Copyright (c) 1988-1996 Sam Leffler

Copyright (c) 1991-1996 Silicon Graphics, Inc.

usage: tiffinfo [options] input...

where options are:

- D read data
- i ignore read errors
- c display data for grey/color response curve or colormap
- d display raw/decoded image data
- f lsb2msb force lsb-to-msb FillOrder for input
- f msb2lsb force msb-to-lsb FillOrder for input
- j show JPEG tables
- o offset set initial directory offset
- r read/display raw image data instead of decoded data
- s display strip offsets and byte counts
- w display raw data in words rather than bytes
- z enable strip chopping
- # set initial directory (first directory is # 0)

tfw2ogeo

Convert a tiff world file to an ossim geometry file.

tfw2oggeom <template_proj> <tif world file> [<output file>]

Options:

-h Display usage.

-w <template_file> Write a template to template_file.

<template_proj> See template.kwl for descriptions

[<output file>] optional argumaent and if not supplied
 defaults to the tif world file with a
 .geom extension

thumbnail

libtiff utility thumbnail file generator

usage: thumbnail [options] input.tif output.tif

where options are:

-h # specify thumbnail image height (default is 274)

-w # specify thumbnail image width (default is 216)

-c linear use linear contrast curve

-c exp50 use 50% exponential contrast curve

-c exp60 use 60% exponential contrast curve

-c exp70 use 70% exponential contrast curve

-c exp80 use 80% exponential contrast curve

-c exp90 use 90% exponential contrast curve

-c exp use pure exponential contrast curve

toc_dump

table of contents listing.

usage:

toc_dump

vec2ras

vector to raster conversion

vec2ras [options] <vector file>

Options:

- k <kwl> Takes a keywordlist that describes the drawing techniques of the vector file and the output projection. Please see the -t option to generate template kwl to edit
- t <template_file> Generates a keywordlist for this app to take in with the -k option
- o <raster file> Raster output filename
currently only geotiff output
- d <file_name> dump vertices to file

<vector file> Currently we only support shape files
.shp .dbf .shx

Typical usage example:

Assuming you have file my_shape_file.shp to convert.

run the command:

```
vec2ras -t my_shape_file.kwl
```

The above command will output a my_shape_file.kwl which is a template.
Edit my_shape_file.kwl for desired output.

NOTE:

The meters_per_pixel keywords determine the file size.
If your shape file covers a large geographic area and you use
a meters_per_pixel of 1 you're going to get a huge output file.
After editing the my_shape.kwl.

run the command:

```
vec2ras -k my_shape_file.kwl -o my_shape_file.tif my_shape_file.shp
```

You now should have a rasterized shape file called my_shape_file.tif.

vector2kwl

converts a vector to a keyword list

```
vector2kwl -o <output-file> <vector-file>
```

<vector-file> the vector file
to convert to keywordlist
This must be last
<output-file> optional output file for keywordlist

General information:

This application is a start of a generic vector file to ossim Annotation keywordlist. Currently only shape files are supported and outputs only polygons and assumes geographic with a wgs84 ellipsoid.

Summary

This document provided a quick summary of the various command line applications, tools and utilities that are included in the OSSIM distribution. These tools can be used from the shell or terminal or scripted for more complex image processing flows. Refer to www.ossim.org for additional information and join the mailing list their for questions and assistance.