Table of Contents

Raster Commands

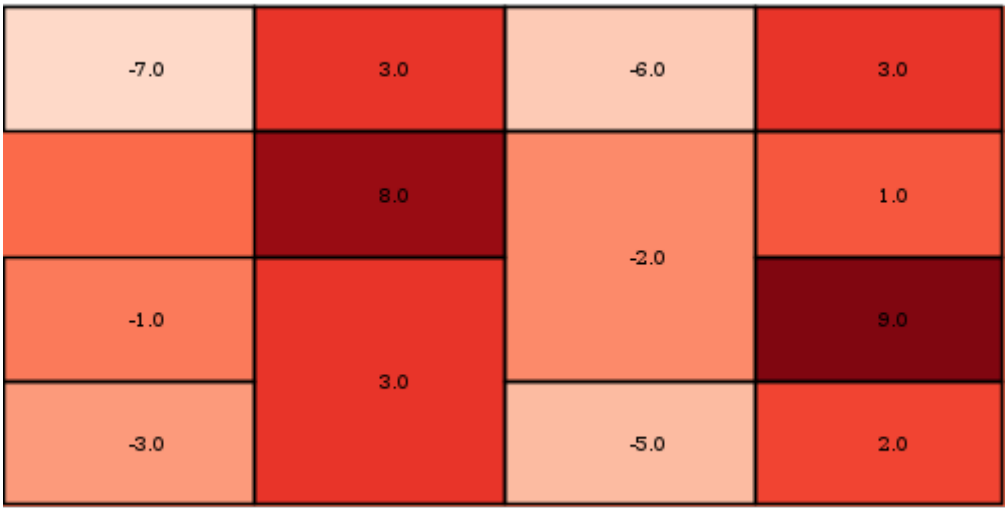
Absolute

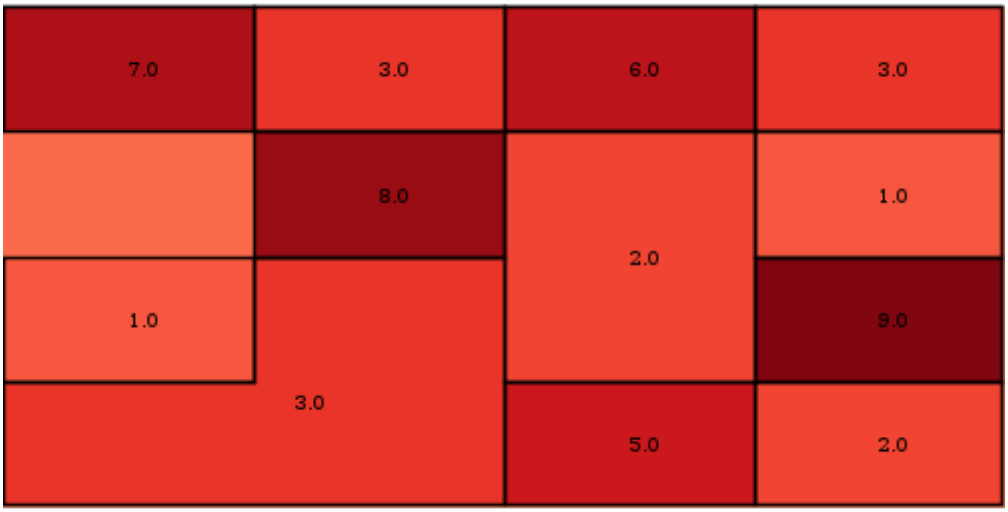
Calculate the absolute value of the values of a Raster.

Short Name	Long Name	Description
-o	--output-raster	The output raster
-f	--output-raster-format	The output raster format

Short Name	Long Name	Description
-i	--input-raster	The input raster
-l	--input-raster-name	The input raster name
-p	--input-projection	The input projection
	--help	Print the help message
	--web-help	Open help in a browser

```
geoc raster abs -i src/test/resources/absolute.tif -o target/absolute_abs.tif
```





Add Constant

Add a constant value to a Raster.

Short Name	Long Name	Description
-v	--value	The value
-o	--output-raster	The output raster
-f	--output-raster-format	The output raster format
-i	--input-raster	The input raster
-l	--input-raster-name	The input raster name
-p	--input-projection	The input projection
	--help	Print the help message
	--web-help	Open help in a browser

Get original value

```
geoc raster get value -i src/test/resources/pc.tif -x -121.799927 -y 46.867703
```

```
3069.0
```

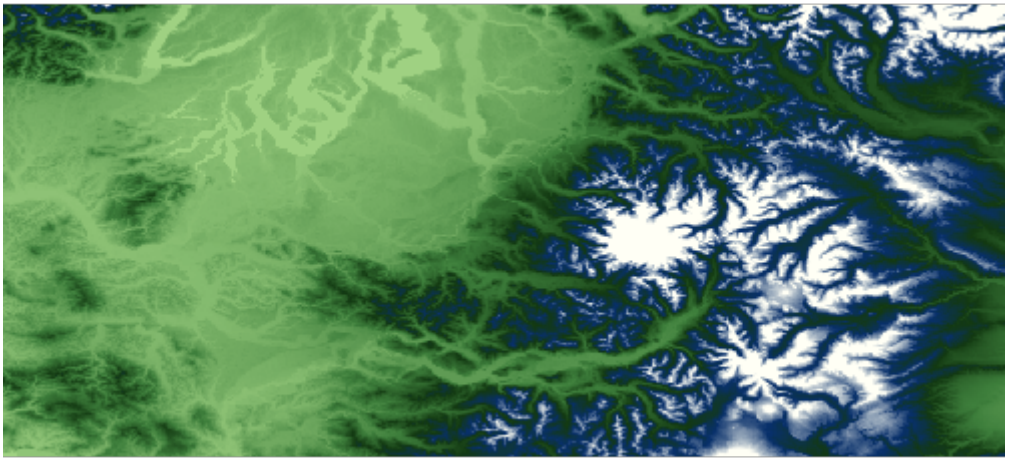
Add 100 to all cells

```
geoc raster add constant -i src/test/resources/pc.tif -v 100 -o target/pc_add.tif
```

Get new value

```
geoc raster get value -i target/pc_add.tif -x -121.799927 -y 46.867703
```

```
3169.0
```



Add

Add two Raster together.

Short Name	Long Name	Description
-k	--other-raster	The other raster
-y	--other-raster-name	The other raster name
-j	--other-projection	The other projection
-o	--output-raster	The output raster
-f	--output-raster-format	The output raster format
-i	--input-raster	The input raster
-l	--input-raster-name	The input raster name
-p	--input-projection	The input projection
	--help	Print the help message
	--web-help	Open help in a browser

```
geoc raster add -i src/test/resources/low.tif -k src/test/resources/high.tif -o
target/lowPlusHigh.tif
```

Low

13.0	14.0	15.0	16.0
9.0	10.0	11.0	12.0
5.0	6.0	7.0	8.0
1.0	2.0	3.0	4.0

High

17.0	18.0	19.0	20.0
13.0	14.0	15.0	16.0
9.0	10.0	11.0	12.0
5.0	6.0	7.0	8.0

Low + High

30.0	32.0	34.0	36.0
22.0	24.0	26.0	28.0
14.0	16.0	18.0	20.0
6.0	8.0	10.0	12.0

Animated GIF

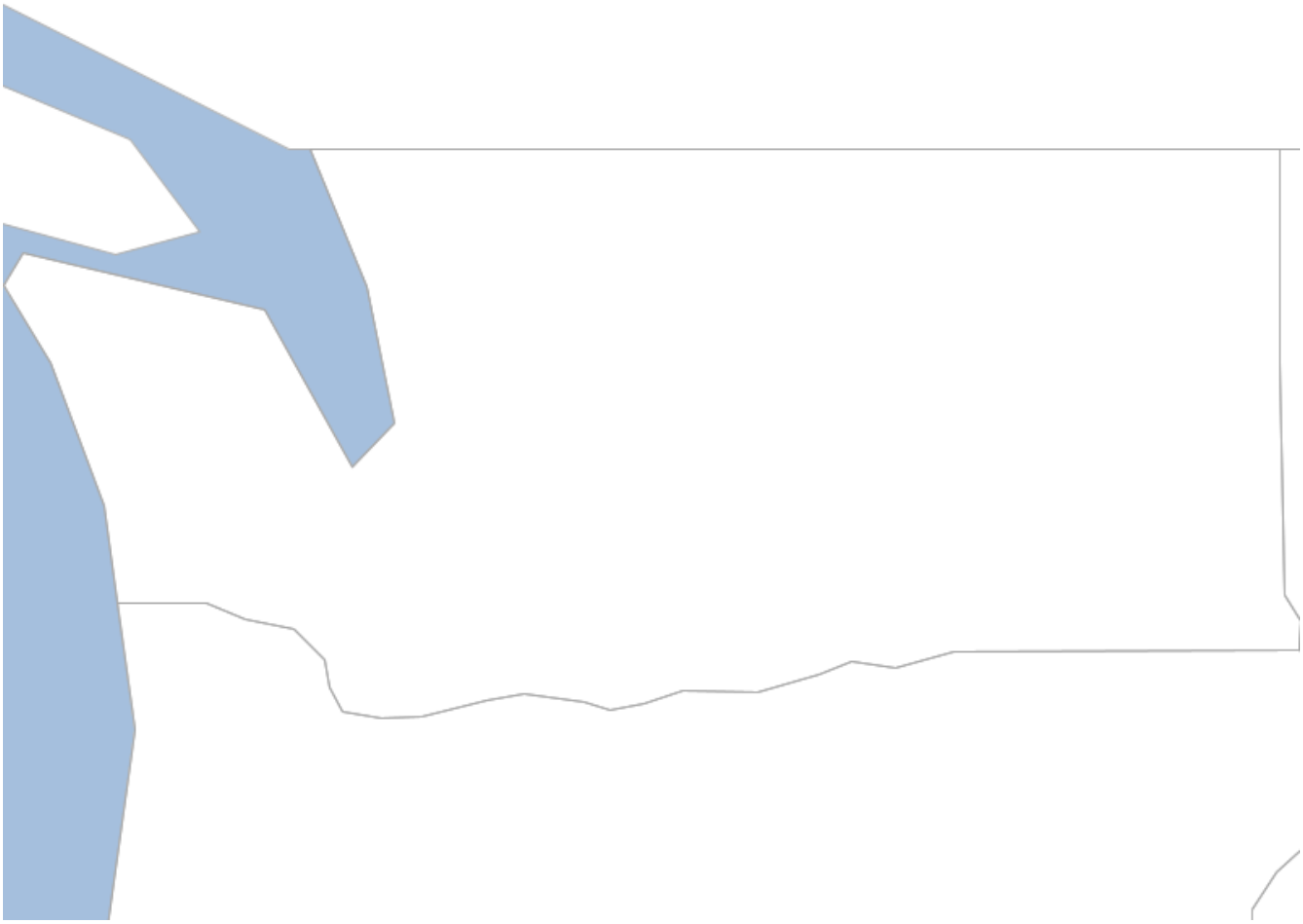
Create an animated GIF from a list of GIFs.

Short Name	Long Name	Description
-f	--file	The GIF file
-o	--output-file	The output animated GIF file
-d	--delay	The delay between images
-r	--repeat	Whether to repeat the animation or not
	--help	Print the help message
	--web-help	Open help in a browser

First, lets create individual maps of 3 states.

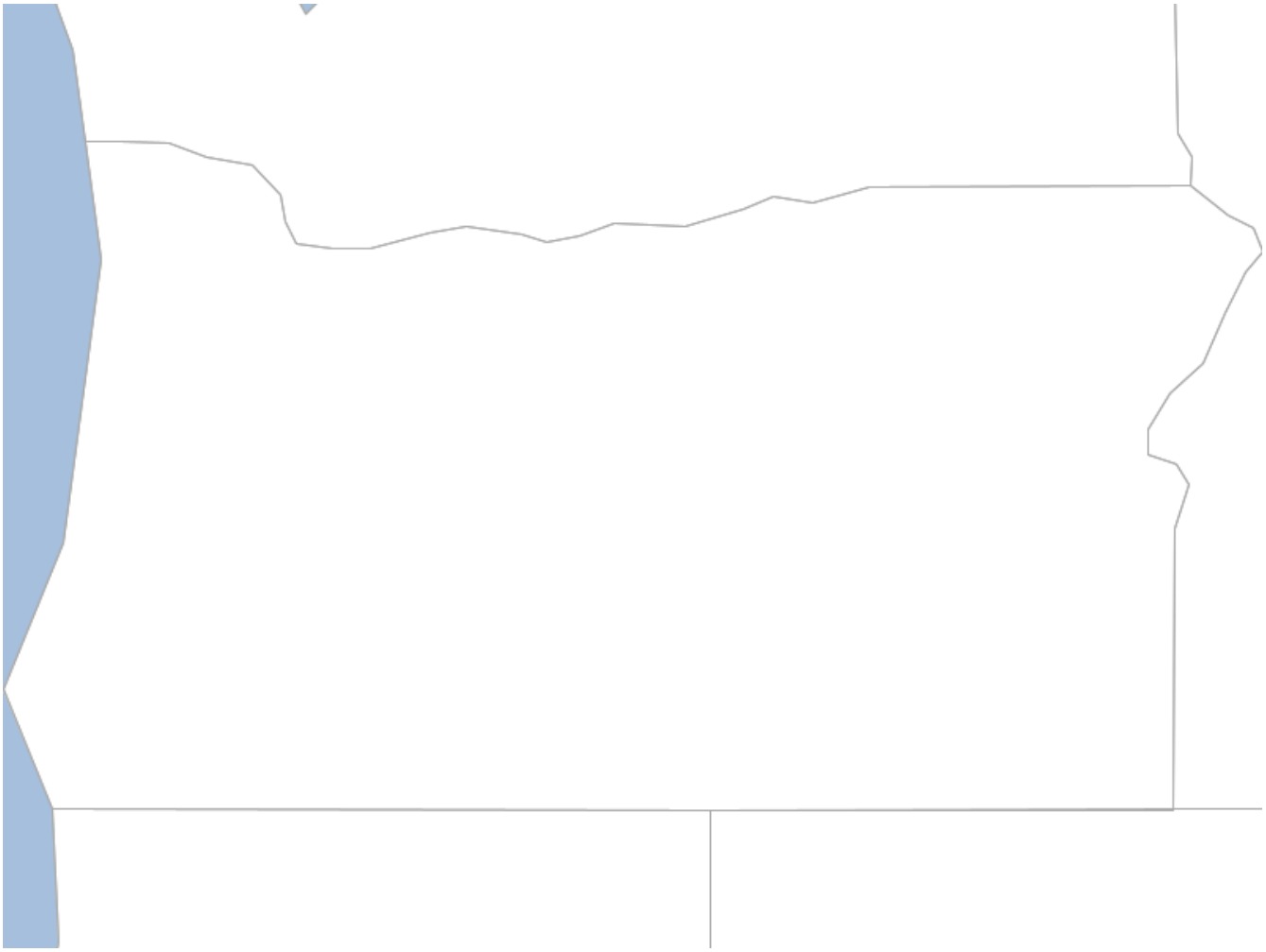
Washington

```
geoc map draw -l "layertype=layer file=src/test/resources/data.gpkg layername=ocean
style=src/test/resources/ocean.sld" -l "layertype=layer
file=src/test/resources/data.gpkg layername=countries
style=src/test/resources/countries.sld" -l "layertype=layer
file=src/test/resources/data.gpkg layername=states
style=src/test/resources/states.sld" -b -124.68721008300781,45.59199778907822,
-116.90652787968992,49.000885321643864 -f target/state_washington.png
```



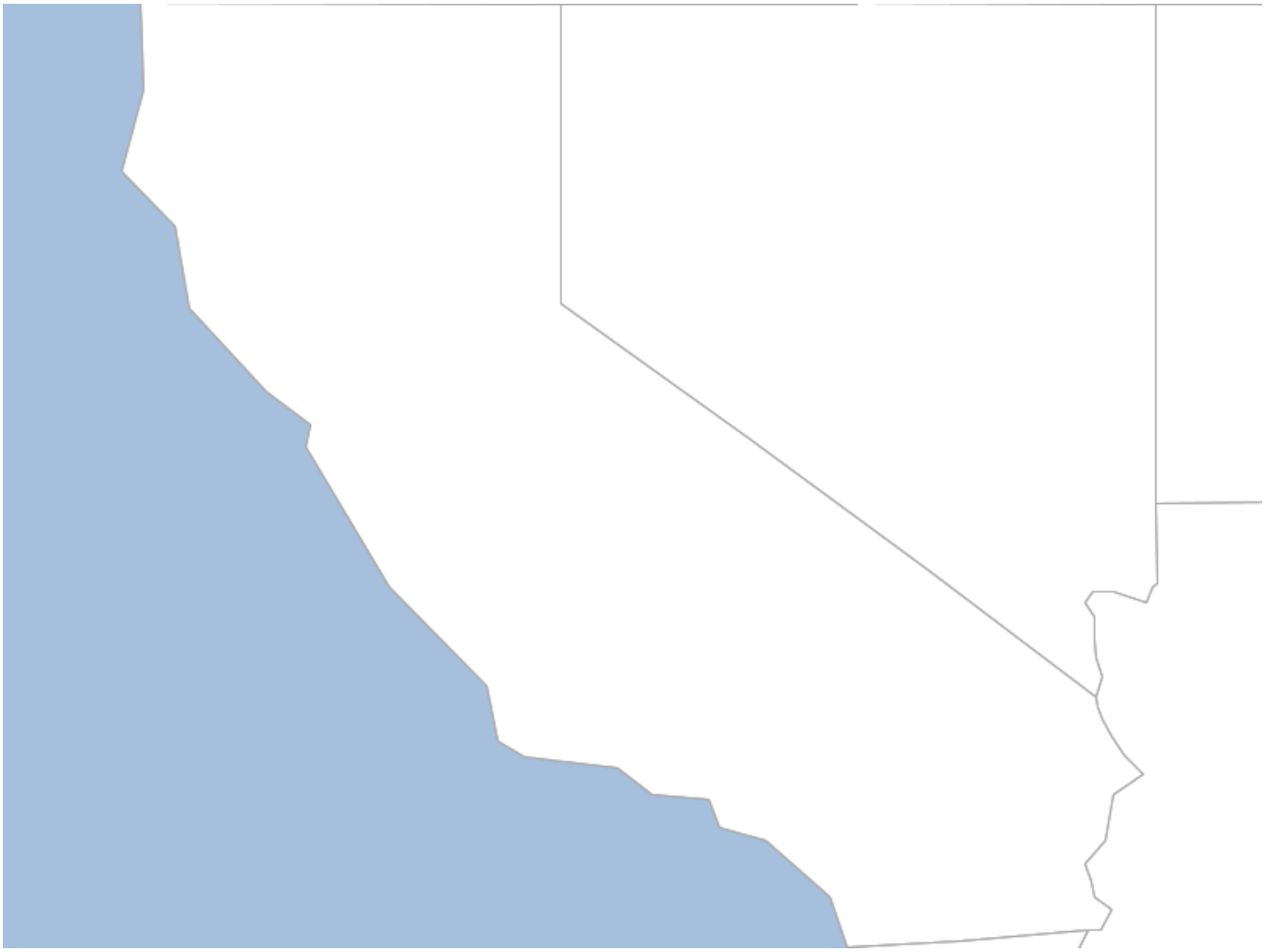
Oregon

```
geoc map draw -l "layertype=layer file=src/test/resources/data.gpkg layername=ocean
style=src/test/resources/ocean.sld" -l "layertype=layer
file=src/test/resources/data.gpkg layername=countries
style=src/test/resources/countries.sld" -l "layertype=layer
file=src/test/resources/data.gpkg layername=states
style=src/test/resources/states.sld" -b -124.53283999999996,41.99260508886846,
-116.45779557988342,46.2830694871044 -f target/state_oregon.png
```



California

```
geoc map draw -l "layertype=layer file=src/test/resources/data.gpkg layername=ocean
style=src/test/resources/ocean.sld" -l "layertype=layer
file=src/test/resources/data.gpkg layername=countries
style=src/test/resources/countries.sld" -l "layertype=layer
file=src/test/resources/data.gpkg layername=states
style=src/test/resources/states.sld" -b -124.39795772362243,32.535327053348965,
-114.16597164595498,41.99947805436335 -f target/state_california.png
```



Now lets stitch them together into an animated GIF.

```
geoc raster animatedgif -f target/state_washington.png -f target/state_oregon.png -f
target/state_california.png -o target/states.gif
```

[geoc animatedgif] | *geoc_animatedgif.gif*

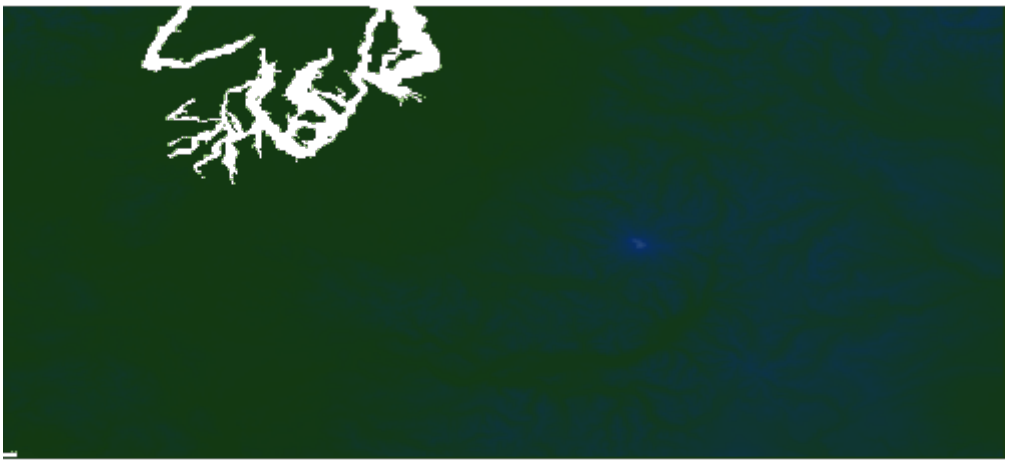
Convolve

Convolve the values of a Raster.

Short Name	Long Name	Description
-w	--width	The kernel width
-h	--height	The kernel height
-o	--output-raster	The output raster
-f	--output-raster-format	The output raster format
-i	--input-raster	The input raster
-l	--input-raster-name	The input raster name
-p	--input-projection	The input projection

Short Name	Long Name	Description
	--help	Print the help message
	--web-help	Open help in a browser

```
geoc raster convolve -i src/test/resources/pc.tif -o target/pc_convolve.tif -w 2 -h 2
```



Original

```
geoc raster info -i src/test/resources/pc.tif
```

```
Format: GeoTIFF
Size: 800, 400
Projection ID: EPSG:4326
Projection WKT: GEOGCS["WGS 84",
  DATUM["World Geodetic System 1984",
    SPHEROID["WGS 84", 6378137.0, 298.257223563, AUTHORITY["EPSG","7030"]],
    AUTHORITY["EPSG","6326"]],
  PRIMEM["Greenwich", 0.0, AUTHORITY["EPSG","8901"]],
  UNIT["degree", 0.017453292519943295],
  AXIS["Geodetic longitude", EAST],
  AXIS["Geodetic latitude", NORTH],
  AUTHORITY["EPSG","4326"]]
Extent: -123.55291606131708, 46.25375026634816, -120.73958272798374,
47.522916933014834
Pixel Size: 0.0035166666666666658, 0.0031729166666666763
Block Size: 800, 5
Bands:
   GRAY_INDEX
      Min Value: -23.0 Max Value: 4370.0
```

Convolved

```
geoc raster info -i target/pc_convolve.tif
```

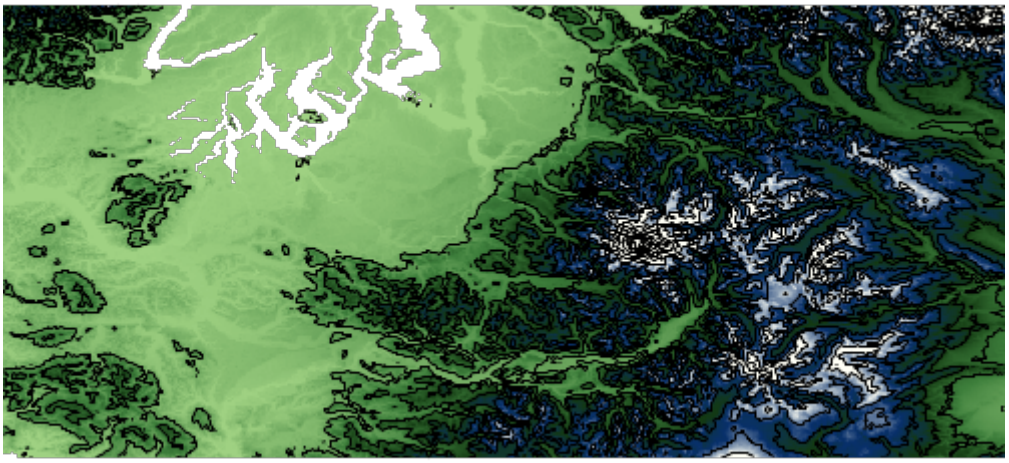
```
Format: GeoTIFF
Size: 800, 400
Projection ID: EPSG:4326
Projection WKT: GEOGCS["WGS 84",
  DATUM["World Geodetic System 1984",
    SPHEROID["WGS 84", 6378137.0, 298.257223563, AUTHORITY["EPSG","7030"]],
    AUTHORITY["EPSG","6326"]],
  PRIMEM["Greenwich", 0.0, AUTHORITY["EPSG","8901"]],
  UNIT["degree", 0.017453292519943295],
  AXIS["Geodetic longitude", EAST],
  AXIS["Geodetic latitude", NORTH],
  AUTHORITY["EPSG","4326"]]
Extent: -123.55291606131708, 46.25375026634816, -120.73958272798374,
47.522916933014834
Pixel Size: 0.0035166666666666658, 0.0031729166666666763
Block Size: 800, 10
Bands:
   GRAY_INDEX
      Min Value: -32767.0 Max Value: 17278.0
```

Contour

Create contours from a Raster.

Short Name	Long Name	Description
-b	--band	The band
-v	--level	A level or interval
-s	--simplify	Whether to simplify
-m	--smooth	Whether to smooth
-n	--bounds	The bounds
-o	--output-workspace	The output workspace
-r	--output-layer	The output layer
-i	--input-raster	The input raster
-l	--input-raster-name	The input raster name
-p	--input-projection	The input projection
	--help	Print the help message
	--web-help	Open help in a browser

```
geoc raster contour -i src/test/resources/pc.tif -b 0 -v 300 -s -m -o
target/contours.shp
```

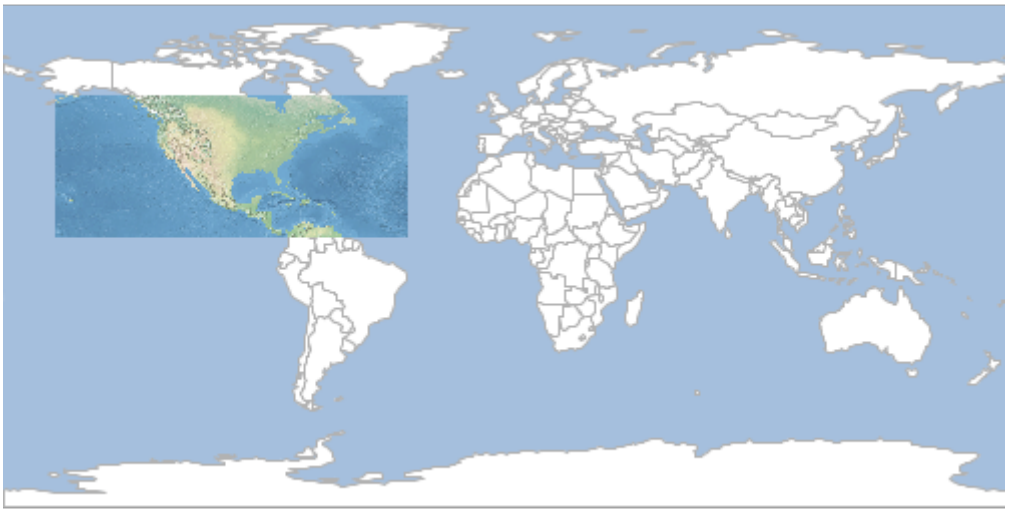


Crop with Bounds

Crop a Raster with Bounds.

Short Name	Long Name	Description
-b	--bound	The Bounds
-x	--pixel	Whether the Bounds is pixel or geographic
-o	--output-raster	The output raster
-f	--output-raster-format	The output raster format
-i	--input-raster	The input raster
-l	--input-raster-name	The input raster name
-p	--input-projection	The input projection
	--help	Print the help message
	--web-help	Open help in a browser

```
geoc raster crop -i src/test/resources/earth.tif -b -160.927734,6.751896,
-34.716797,57.279043 -o target/earth_cropped.tif
```

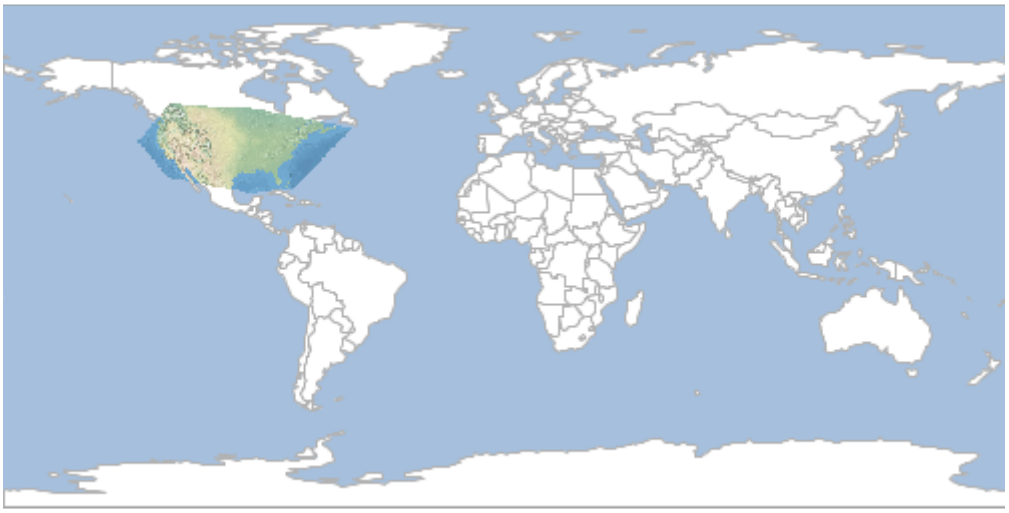


Crop with Geometry

Crop a Raster with Geometry.

Short Name	Long Name	Description
-g	--geometry	The Geometry
-o	--output-raster	The output raster
-f	--output-raster-format	The output raster format
-i	--input-raster	The input raster
-l	--input-raster-name	The input raster name
-p	--input-projection	The input projection
	--help	Print the help message
	--web-help	Open help in a browser

```
geoc raster crop with geometry -i src/test/resources/earth.tif -g "POLYGON ((-
120.06886118446164 54.657570186377484, -131.4744345802818 40.88641840854305,
-120.66873293244274 27.841500134049014, -91.23852896646747 22.376168381822453,
-75.66538001484537 23.99772020337508, -54.66444615739175 45.994788780815526,
-91.94198075352523 53.20175611636799, -120.06886118446164 54.657570186377484))" -o
target/earth_cropped.tif
```



Crop with Layer

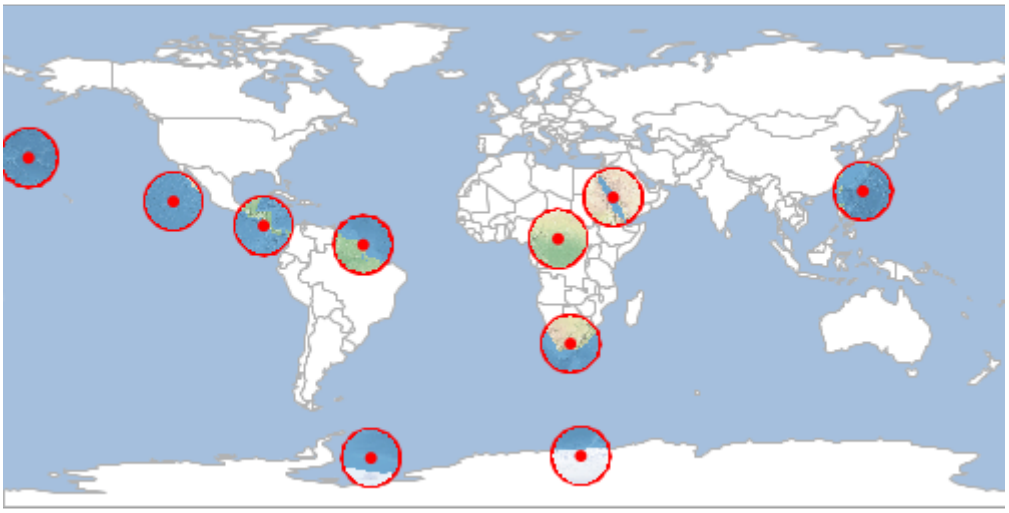
Crop a Raster with a Layer.

Short Name	Long Name	Description
-w	--input-workspace	The input workspace
-y	--input-layer	The input layer
-o	--output-raster	The output raster
-f	--output-raster-format	The output raster format
-i	--input-raster	The input raster
-l	--input-raster-name	The input raster name
-p	--input-projection	The input projection
	--help	Print the help message
	--web-help	Open help in a browser

```
geoc vector randompoints -n 10 -g -180,-90,180,90 -o target/locations.shp
```

```
geoc vector buffer -d 10 -i target/locations.shp -o target/buffers.shp
```

```
geoc raster crop with layer -i src/test/resources/earth.tif -o
target/earth_cropped.tif -w target/buffers.shp
```

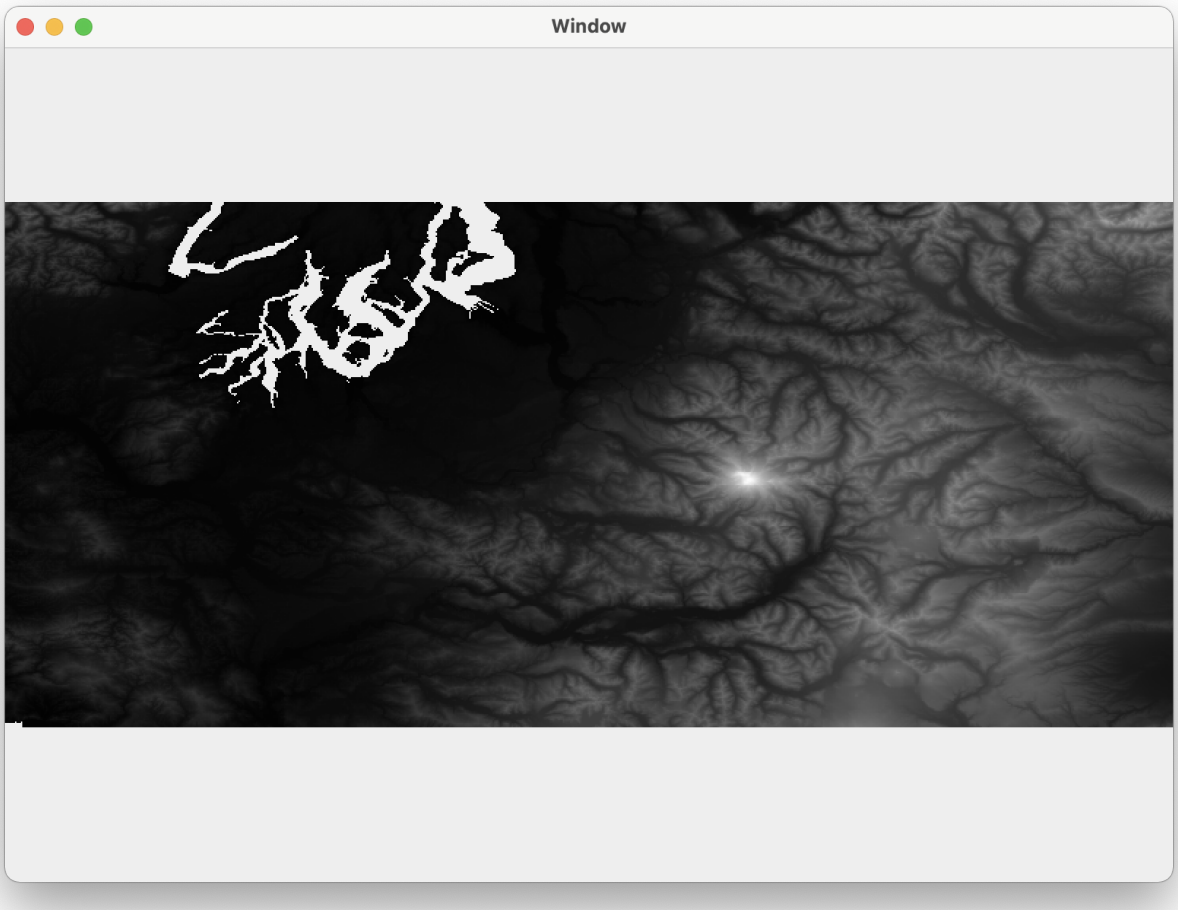


Display

Display a Raster in a simple GUI Window.

Short Name	Long Name	Description
-w	--width	The width
-h	--height	The height
-s	--sld-file	The sld file
-b	--bounds	The bounds
-m	--layer	The map layer
-g	--background-color	The background color
-i	--input-raster	The input raster
-l	--input-raster-name	The input raster name
-p	--input-projection	The input projection
	--help	Print the help message
	--web-help	Open help in a browser

```
geoc raster display -i src/test/resources/pc.tif
```



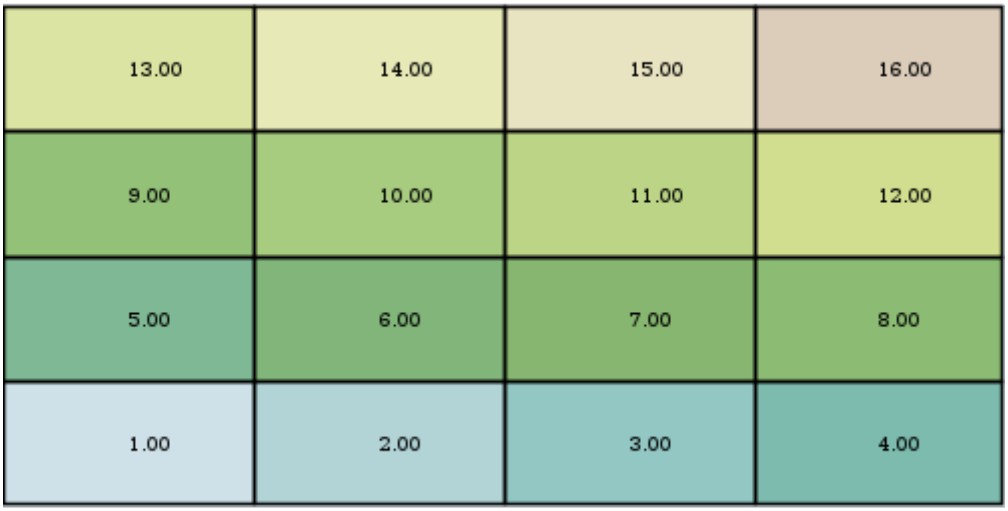
Divide

Divide one Raster by another Raster.

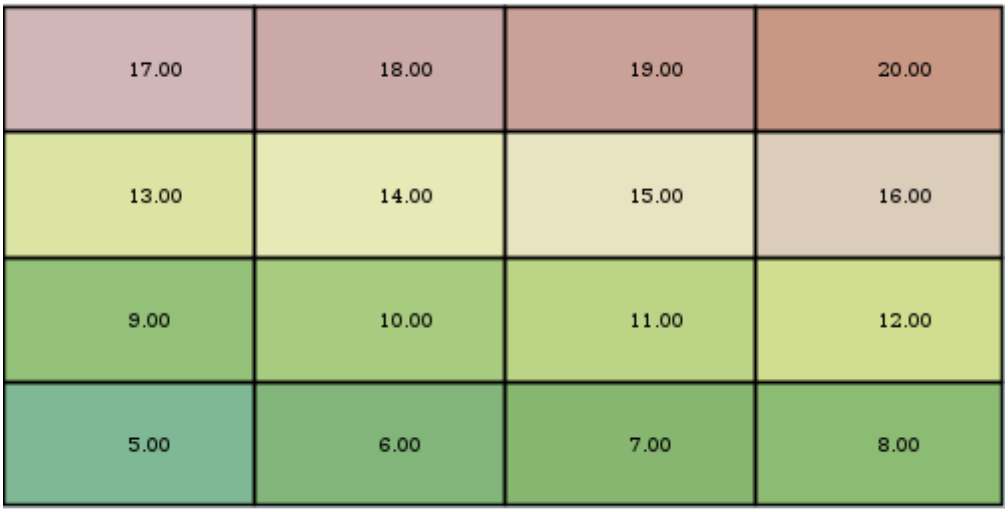
Short Name	Long Name	Description
-k	--other-raster	The other raster
-y	--other-raster-name	The other raster name
-j	--other-projection	The other projection
-o	--output-raster	The output raster
-f	--output-raster-format	The output raster format
-i	--input-raster	The input raster
-l	--input-raster-name	The input raster name
-p	--input-projection	The input projection
	--help	Print the help message
	--web-help	Open help in a browser

```
geoc raster divide -i src/test/resources/high.tif -k src/test/resources/low.tif -o
target/divided.tif
```

Low



High



High / Low

1.31	1.29	1.27	1.25
1.44	1.40	1.36	1.33
1.80	1.67	1.57	1.50
5.00	3.00	2.33	2.00

Divide Constant

Divide a Raster by a constant value.

Short Name	Long Name	Description
-v	--value	The value
-o	--output-raster	The output raster
-f	--output-raster-format	The output raster format
-i	--input-raster	The input raster
-l	--input-raster-name	The input raster name
-p	--input-projection	The input projection
	--help	Print the help message
	--web-help	Open help in a browser

```
geoc raster divide constant -i src/test/resources/high.tif -v 2.1 -o
target/divided.tif
```

Raster

17.00	18.00	19.00	20.00
13.00	14.00	15.00	16.00
9.00	10.00	11.00	12.00
5.00	6.00	7.00	8.00

Raster / 2.1

8.10	8.57	9.05	9.52
6.19	6.67	7.14	7.62
4.29	4.76	5.24	5.71
2.38	2.86	3.33	3.81

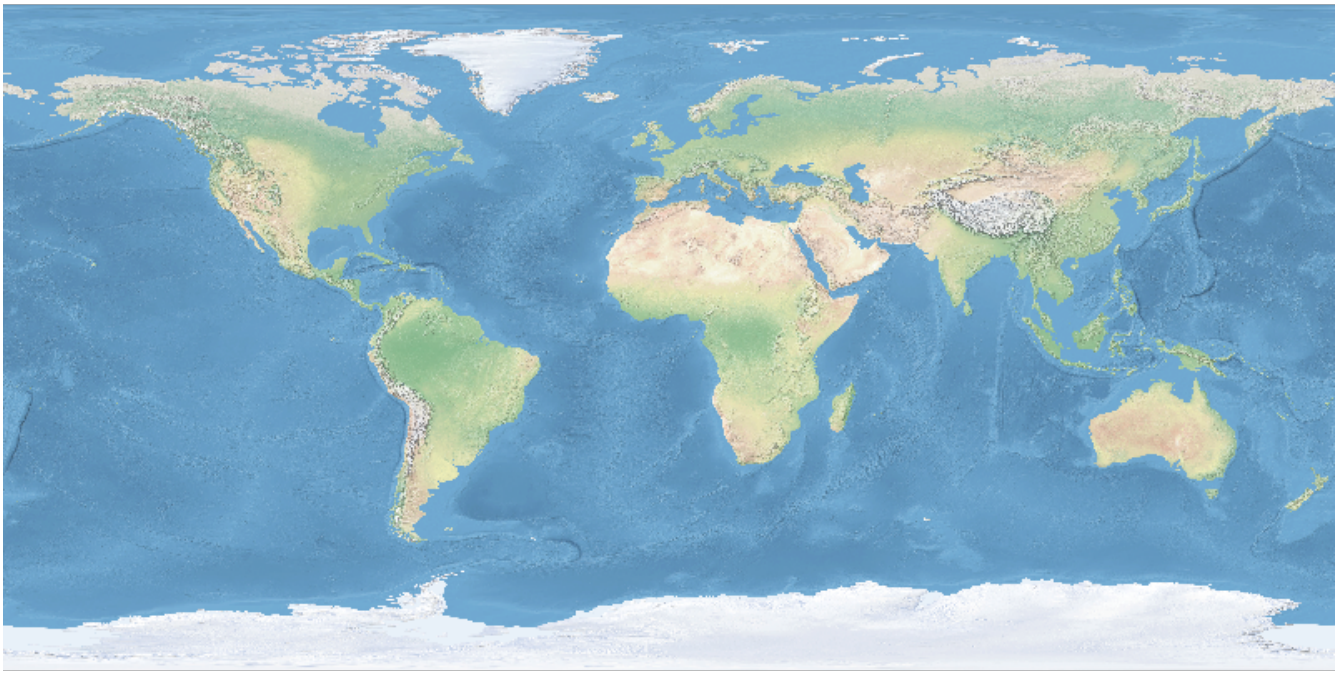
Draw

Draw a Raster to an image.

Short Name	Long Name	Description
-f	--file	The output file
-t	--type	The type of document
-w	--width	The width
-h	--height	The height
-s	--sld-file	The sld file
-b	--bounds	The bounds
-m	--layer	The map layer

Short Name	Long Name	Description
-i	--input-raster	The input raster
-l	--input-raster-name	The input raster name
-p	--input-projection	The input projection
	--help	Print the help message
	--web-help	Open help in a browser

```
geoc raster draw -i src/test/resources/earth.tif -f target/image.png
```



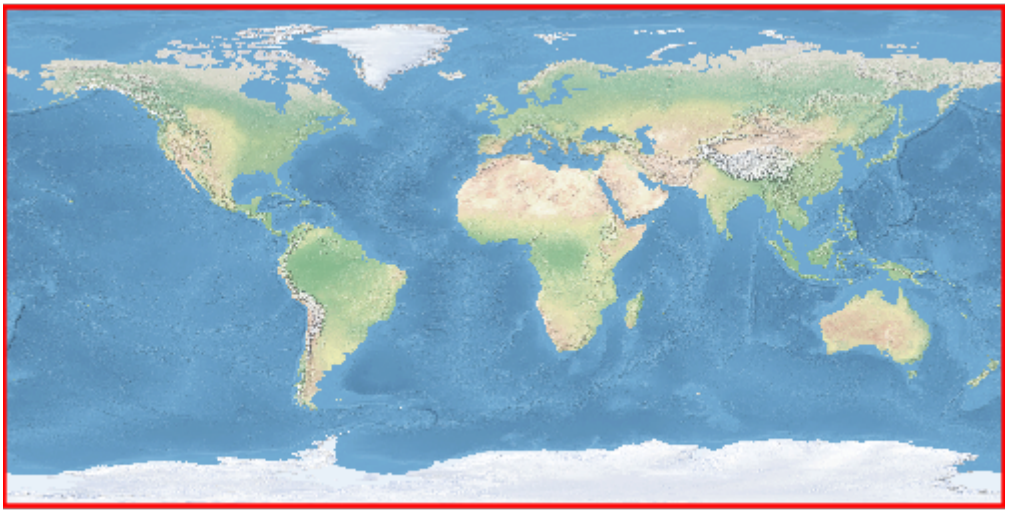
Envelope

Get the Envelope of a Raster as a Vector Layer.

Short Name	Long Name	Description
-o	--output-workspace	The output workspace
-r	--output-layer	The output layer
-i	--input-raster	The input raster
-l	--input-raster-name	The input raster name

Short Name	Long Name	Description
-p	--input-projection	The input projection
	--help	Print the help message
	--web-help	Open help in a browser

```
geoc raster envelope -i src/test/resources/earth.tif -o target/earth_envelope.shp
```



Exponent

Calculate the exponent for each cell..

Short Name	Long Name	Description
-o	--output-raster	The output raster
-f	--output-raster-format	The output raster format
-i	--input-raster	The input raster
-l	--input-raster-name	The input raster name
-p	--input-projection	The input projection
	--help	Print the help message
	--web-help	Open help in a browser

```
geoc raster exp -i src/test/resources/pc.tif -o target/pc_exp.tif
```

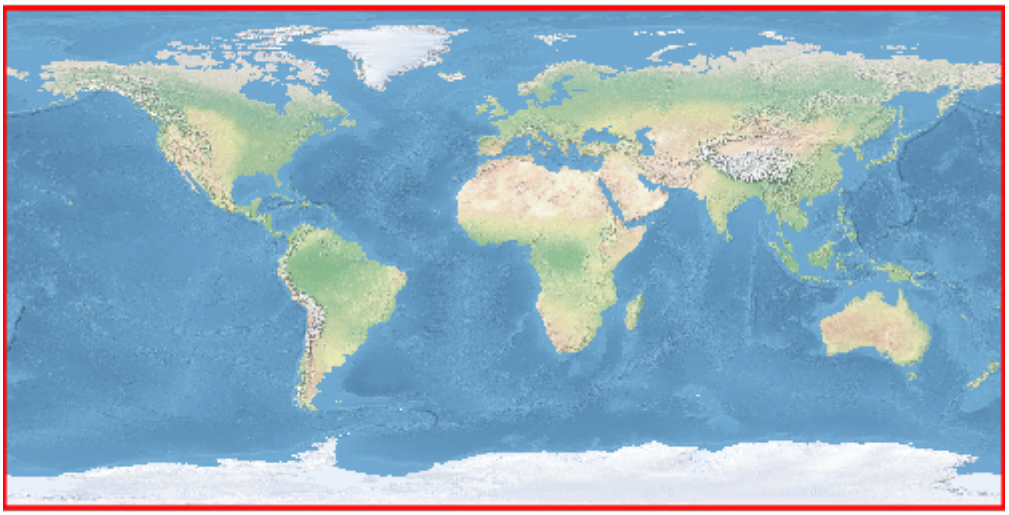
Extract Footprint

Extract the footprint of the Raster as a Vector Layer.

Short Name	Long Name	Description
-e	--exclusion-range	A comma delimited range of values to exclude from the search.
-t	--threshold-area	A number used to exclude small Polygons. The default is 5.
-f	--compute-simplified-footprint	Whether to compute a simplified footprint or not. The default is false.
-s	--simplifier-factor	A number used to simplify the geometry. The default is 2.
-c	--remove-collinear	Whether to remove collinear coordinates. The default is true.
-v	--force-valid	Whether to force creation of valid polygons. The default is true.
-y	--loading-type	The image loading type (Deferred or Immediate). Immediate is the default.
-o	--output-workspace	The output workspace
-r	--output-layer	The output layer
-i	--input-raster	The input raster
-l	--input-raster-name	The input raster name

Short Name	Long Name	Description
-p	--input-projection	The input projection
	--help	Print the help message
	--web-help	Open help in a browser

```
geoc raster extractfootprint -i src/test/resources/earth.tif -o
target/earth_footprint.shp
```



Info

Get information about a Raster.

Short Name	Long Name	Description
-i	--input-raster	The input raster
-l	--input-raster-name	The input raster name
-p	--input-projection	The input projection
	--help	Print the help message
	--web-help	Open help in a browser

```
geoc raster info -i src/test/resources/earth.tif
```

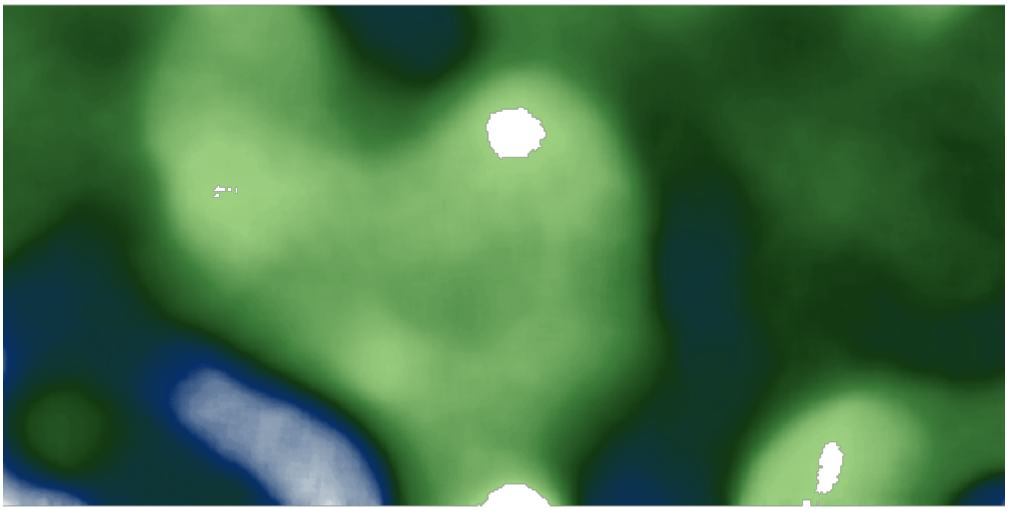
```
Format: GeoTIFF
Size: 800, 400
Projection ID: EPSG:4326
Projection WKT: GEOGCS["WGS 84",
  DATUM["World Geodetic System 1984",
    SPHEROID["WGS 84", 6378137.0, 298.257223563, AUTHORITY["EPSG","7030"]],
    AUTHORITY["EPSG","6326"]],
  PRIMEM["Greenwich", 0.0, AUTHORITY["EPSG","8901"]],
  UNIT["degree", 0.017453292519943295],
  AXIS["Geodetic longitude", EAST],
  AXIS["Geodetic latitude", NORTH],
  AUTHORITY["EPSG","4326"]]
Extent: -179.99999999999997, -89.99999999998205, 179.99999999996405, 90.0
Pixel Size: 0.44999999999995505, 0.4499999999999551
Block Size: 800, 8
Bands:
   RED_BAND
      Min Value: 56.0 Max Value: 255.0
   GREEN_BAND
      Min Value: 84.0 Max Value: 255.0
   BLUE_BAND
      Min Value: 91.0 Max Value: 255.0
```

Invert

Invert the values of a Raster.

Short Name	Long Name	Description
-o	--output-raster	The output raster
-f	--output-raster-format	The output raster format
-i	--input-raster	The input raster
-l	--input-raster-name	The input raster name
-p	--input-projection	The input projection
	--help	Print the help message
	--web-help	Open help in a browser

```
geoc raster invert -i src/test/resources/raster.tif -o target/inverted.tif
```



Get Projection

Get the Raster Projection.

Short Name	Long Name	Description
-t	--type	The output type (epsg, id, srs, wkt)
-i	--input-raster	The input raster
-l	--input-raster-name	The input raster name
-p	--input-projection	The input projection
	--help	Print the help message
	--web-help	Open help in a browser

```
geoc raster projection -i src/test/resources/earth.tif
```

```
EPSG:4326
```

Get Size

Get the Raster size (width,height).

Short Name	Long Name	Description
-i	--input-raster	The input raster
-l	--input-raster-name	The input raster name
-p	--input-projection	The input projection

Short Name	Long Name	Description
	--help	Print the help message
	--web-help	Open help in a browser

```
geoc raster size -i src/test/resources/earth.tif
```

```
800,400
```

Get Value

Get a value from a Raster

Short Name	Long Name	Description
-x	--x-coordinate	The x coordinate
-y	--y-coordinate	The y coordinate
-t	--type	The type can be point or pixel
-b	--band	The band to get a value from
-i	--input-raster	The input raster
-l	--input-raster-name	The input raster name
-p	--input-projection	The input projection
	--help	Print the help message
	--web-help	Open help in a browser

```
geoc raster get value -i src/test/resources/pc.tif -x -121.799927 -y 46.867703
```

```
3069.0
```

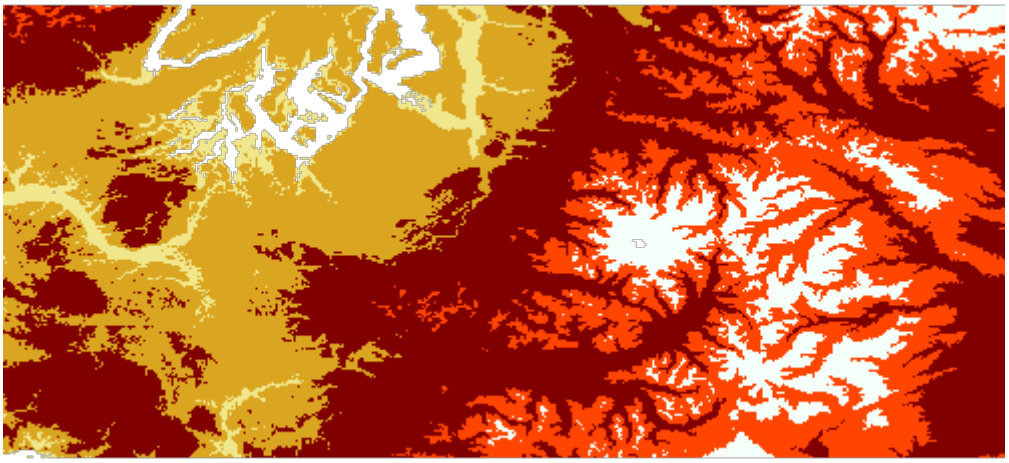
Reclassify

Reclassify a Raster.

Short Name	Long Name	Description
-b	--band	The band
-n	--nodata	The NODATA value
-r	--range	A range: from-to=value or 1-10=5

Short Name	Long Name	Description
-o	--output-raster	The output raster
-f	--output-raster-format	The output raster format
-i	--input-raster	The input raster
-l	--input-raster-name	The input raster name
-p	--input-projection	The input projection
	--help	Print the help message
	--web-help	Open help in a browser

```
geoc raster reclassify -i src/test/resources/pc.tif -o target/pc_reclass.tif -r 0-0=1
-r 0-50=2 -r 50-200=3 -r 200-1000=5 -r 1000-1500=4 -r 1500-4000=6
```



Style Default

Create a default Style for a Raster.

Short Name	Long Name	Description
-o	--opacity	The opacity
	--help	Print the help message
	--web-help	Open help in a browser

```
geoc raster style default
```

```
<?xml version="1.0" encoding="UTF-8"?><sld:StyledLayerDescriptor xmlns=
"http://www.opengis.net/sld" xmlns:sld="http://www.opengis.net/sld" xmlns:gml=
"http://www.opengis.net/gml" xmlns:ogc="http://www.opengis.net/ogc" version="1.0.0">
  <sld:UserLayer>
    <sld:LayerFeatureConstraints>
      <sld:FeatureTypeConstraint/>
    </sld:LayerFeatureConstraints>
    <sld:UserStyle>
      <sld:Name>Default Styler</sld:Name>
      <sld:FeatureTypeStyle>
        <sld:Name>name</sld:Name>
        <sld:Rule>
          <sld:RasterSymbolizer>
            <sld:Geometry>
              <ogc:Literal>grid</ogc:Literal>
            </sld:Geometry>
            <sld:ContrastEnhancement/>
          </sld:RasterSymbolizer>
        </sld:Rule>
      </sld:FeatureTypeStyle>
    </sld:UserStyle>
  </sld:UserLayer>
</sld:StyledLayerDescriptor>
```

Subtract Constant

Subtract a constant value from a Raster.

Short Name	Long Name	Description
-v	--value	The value
-m	--from	Whether to subtract the Raster from the constant or vice verse
-o	--output-raster	The output raster
-f	--output-raster-format	The output raster format
-i	--input-raster	The input raster
-l	--input-raster-name	The input raster name
-p	--input-projection	The input projection
	--help	Print the help message
	--web-help	Open help in a browser

Get original value

```
geoc raster get value -i src/test/resources/pc.tif -x -121.799927 -y 46.867703
```

```
3069.0
```

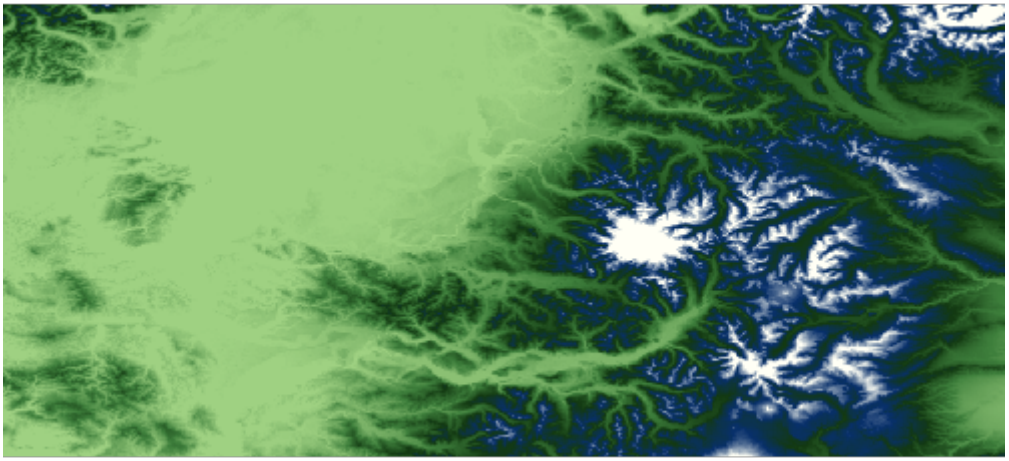
Subtract 100 from all cells

```
geoc raster subtract constant -i src/test/resources/pc.tif -v 100 -o
target/pc_subtract.tif
```

Get new value

```
geoc raster get value -i target/pc_subtract.tif -x -121.799927 -y 46.867703
```

```
2969.0
```



Subtract

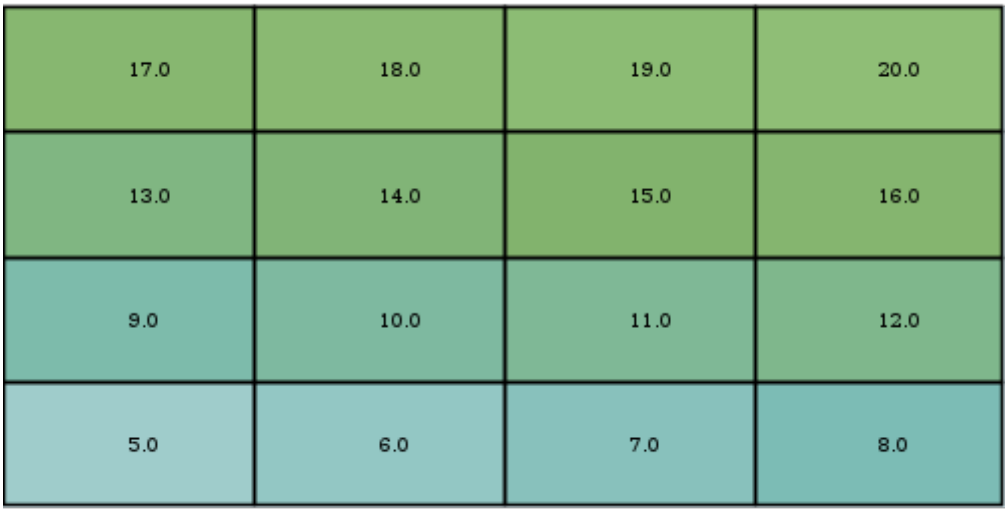
Subtract one Raster from another.

Short Name	Long Name	Description
-k	--other-raster	The other raster
-y	--other-raster-name	The other raster name
-j	--other-projection	The other projection
-o	--output-raster	The output raster
-f	--output-raster-format	The output raster format
-i	--input-raster	The input raster
-l	--input-raster-name	The input raster name

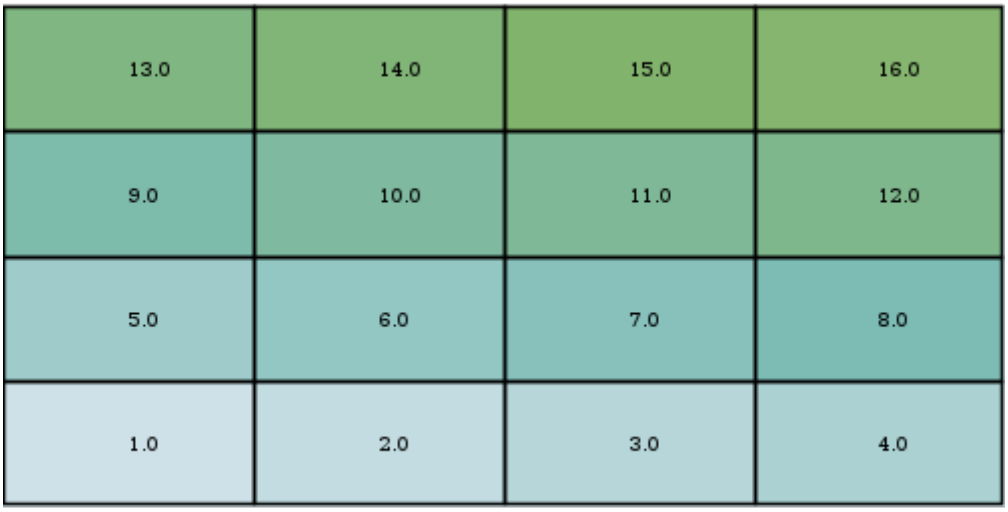
Short Name	Long Name	Description
-p	--input-projection	The input projection
	--help	Print the help message
	--web-help	Open help in a browser

```
geoc raster subtract -i src/test/resources/high.tif -k src/test/resources/low.tif -o
target/highMinusLow.tif
```

High



Low



High - Low

To

Convert a Raster from one format to another.

Short Name	Long Name	Description
-o	--output-raster	The output raster
-f	--output-raster-format	The output raster format
-i	--input-raster	The input raster
-l	--input-raster-name	The input raster name
-p	--input-projection	The input projection
	--help	Print the help message
	--web-help	Open help in a browser

```
geoc raster to -i src/test/resources/raster.tif -o target/raster.png -f worldimage
```

World File

Create a Raster world file

Short Name	Long Name	Description
-b	--bounds	The bounds
-s	--size	The size
-f	--file	The world file
	--help	Print the help message
	--web-help	Open help in a browser

```
geoc raster worldfile -b 10,11,20,21 -s 800,751
```

```
0.0125
0.0
0.0
-0.013315579227696404
10.00625
20.993342210386153
```