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# Vector Commands

## Add

Add a Feature to a Layer.

Short Name	Long Name	Description
-v	--value	A value 'field=value'
-i	--input-workspace	The input workspace
-l	--input-layer	The input layer
	--help	Print the help message
	--web-help	Open help in a browser

```
geoc vector add -i target/locations.shp -v id=1 -v name=Seattle -v "the_geom=POINT (-122.334758 47.578364)"
```

the_geom	name	id
POINT (-122.334758 47.578364)	Seattle	1



## Add Fields

Add one or more Fields to a Layer

Short Name	Long Name	Description
-f	--field	A Field in the format 'name=type'
-o	--output-workspace	The output workspace
-r	--output-layer	The output layer
-i	--input-workspace	The input workspace
-l	--input-layer	The input layer
	--help	Print the help message
	--web-help	Open help in a browser

```
geoc vector addfields -i target/locations.shp -o target/locations_idname.shp -f id=int
-f name=string
```

### Schema

Name	Type
the_geom	Point
name	String
id	Integer

## Add Area Field

Add an area Field.

Short Name	Long Name	Description
-f	--area-fieldname	The name for the area Field
-o	--output-workspace	The output workspace
-r	--output-layer	The output layer
-i	--input-workspace	The input workspace
-l	--input-layer	The input layer
	--help	Print the help message
	--web-help	Open help in a browser

```
geoc vector addareafield -i src/test/resources/states.shp -o target/states_area.shp
```

### Schema

Name	Type
the_geom	MultiPolygon
STATE_NAME	String
SUB_REGION	String
STATE_ABBR	String
AREA	Double

### Values

STATE_NAME	SUB_REGION	STATE_ABBR	AREA
Illinois	E N Cen	IL	15.396467068063995
District of Columbia	S Atl	DC	0.017769720828999
Delaware	S Atl	DE	0.553317799081003
West Virginia	S Atl	WV	6.493194953114009
Maryland	S Atl	MD	2.625116892757991

## Add Length Field

Add an Length Field.

Short Name	Long Name	Description
-f	--length-fieldname	The name for the length Field
-o	--output-workspace	The output workspace
-r	--output-layer	The output layer
-i	--input-workspace	The input workspace
-l	--input-layer	The input layer
	--help	Print the help message
	--web-help	Open help in a browser

```
geoc vector addlengthfield -i src/test/resources/data.gpkg -l rivers -o
target/rivers_length.shp -f length
```

### Schema

Name	Type
the_geom	MultiLineString
name	String
label	String

Name	Type
length	Double

#### Values

name	label	length
Brahmaputra	Brahmaputra	25.21241966609205
Mekong	Mekong	34.97738061177052
Ob	Ob	48.39570358268261
Peace	Peace	44.84258394589285
Donau	Donau	26.67902946932429

## Add ID Field

Add an ID Field.

Short Name	Long Name	Description
-f	--id-fieldname	The name for the ID Field
-s	--start	The number of start at
-o	--output-workspace	The output workspace
-r	--output-layer	The output layer
-i	--input-workspace	The input workspace
-l	--input-layer	The input layer
	--help	Print the help message
	--web-help	Open help in a browser

```
geoc vector addidfield -i src/test/resources/data.gpkg -l places -o
target/places_id.shp
```

#### Schema

Name	Type
the_geom	Point
NAME	String
ID	Integer

#### Values

NAME	ID
Vatican City	1
San Marino	2
Vaduz	3
Lobamba	4
Luxembourg	5

## Add XY Fields

Add XY Fields.

Short Name	Long Name	Description
-x	--x-fieldname	The name for the X Field
-y	--y-fieldname	The name for the Y Field
-a	--algorithm	The XY generation algorithm (centroid or interiorpoint)
-o	--output-workspace	The output workspace
-r	--output-layer	The output layer
-i	--input-workspace	The input workspace
-l	--input-layer	The input layer
	--help	Print the help message
	--web-help	Open help in a browser

```
geoc vector addxyfields -i src/test/resources/data.gpkg -l places -o
target/places_xy.shp -x x_coord -y y_coord -a centroid
```

### Schema

Name	Type
the_geom	Point
NAME	String
x_coord	Double
y_coord	Double

### Values

NAME	x_coord	y_coord
Vatican City	12.4533865	41.9032822

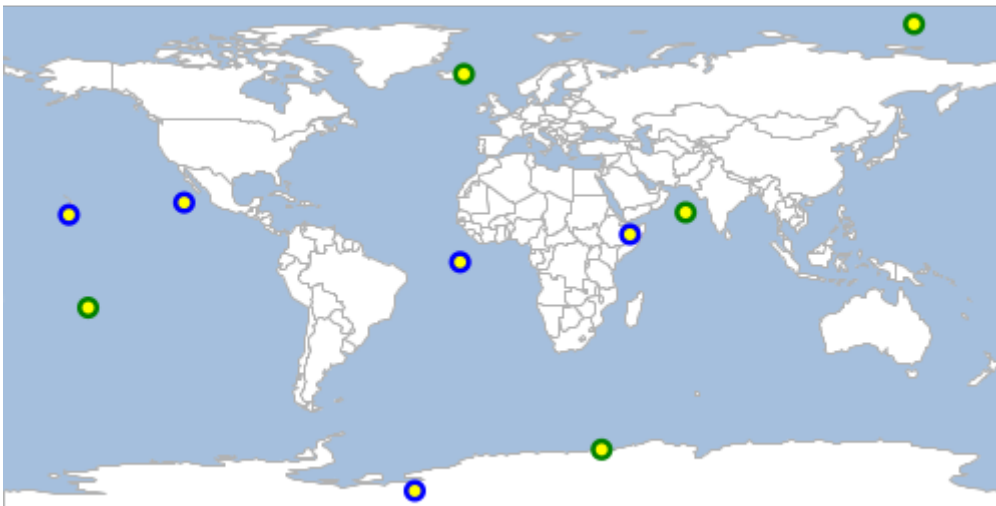
NAME	x_coord	y_coord
San Marino	12.4417702	43.9360958
Vaduz	9.5166695	47.1337238
Lobamba	31.1999971	-26.4666675
Luxembourg	6.1300028	49.6116604

## Append

Add a Features from one layer to another Layer.

Short Name	Long Name	Description
-k	--other-workspace	The other workspace
-y	--other-layer	The other layer
-i	--input-workspace	The input workspace
-l	--input-layer	The input layer
	--help	Print the help message
	--web-help	Open help in a browser

```
geoc vector append -i target/points1.shp -k target/points2.shp
```



## Buffer

Buffer all of the features in a Layer.

Short Name	Long Name	Description
-d	--distance	The buffer distance

Short Name	Long Name	Description
-q	--quadrantsegments	The number of quadrant segments
-s	--singlesided	Whether buffer should be single sided or not
-c	--capstyle	The cap style
-o	--output-workspace	The output workspace
-r	--output-layer	The output layer
-i	--input-workspace	The input workspace
-l	--input-layer	The input layer
	--help	Print the help message
	--web-help	Open help in a browser

```
geoc vector buffer -i src/test/resources/data.gpkg -l places -o
target/places_buffer.shp -d 10
```



## Centroid

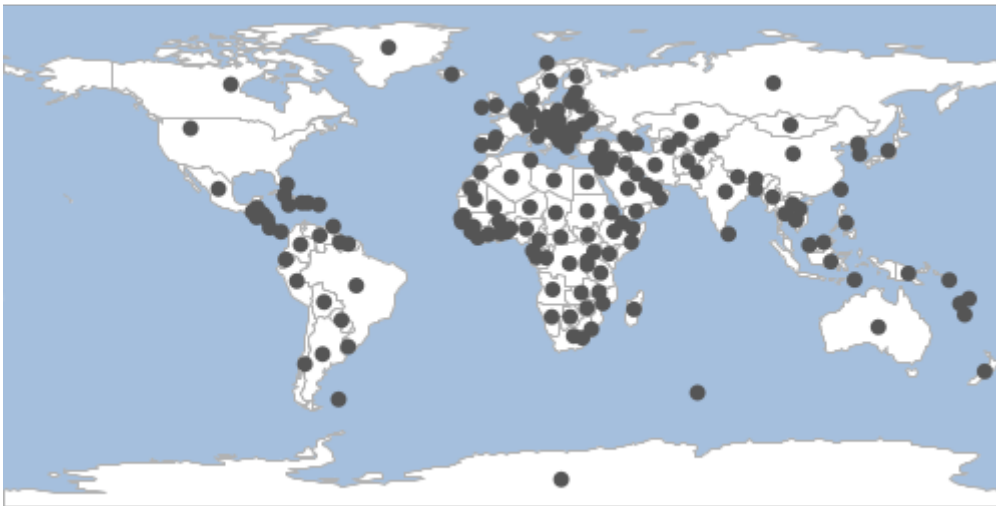
Calculate the centroid of all the features in a Layer.

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



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

```
geoc vector centroid -i src/test/resources/data.gpkg -l countries -o
target/countries_centroids.shp
```

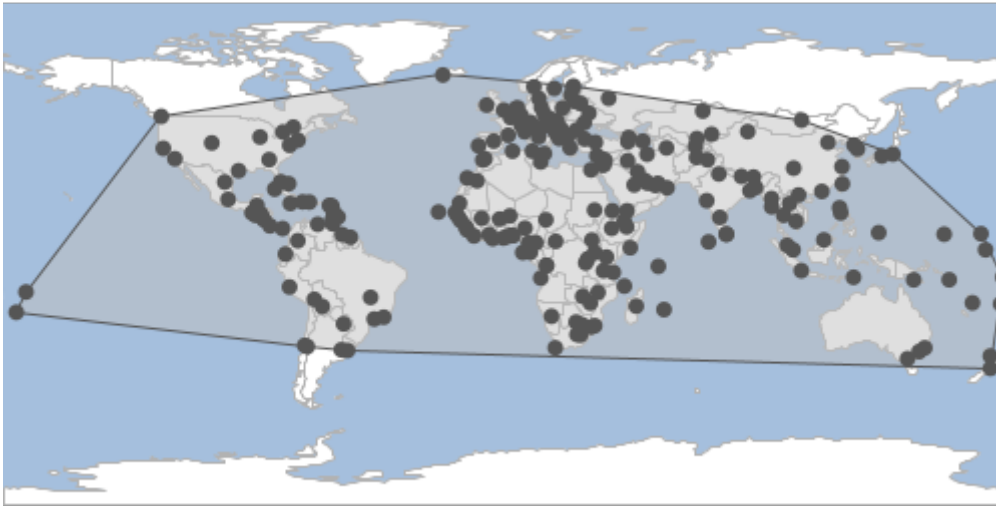


## Convexhull

Calculate the convexhull of all the features in a Layer.

Short Name	Long Name	Description
-o	--output-workspace	The output workspace
-r	--output-layer	The output layer
-i	--input-workspace	The input workspace
-l	--input-layer	The input layer
	--help	Print the help message
	--web-help	Open help in a browser

```
geoc vector convexhull -i src/test/resources/data.gpkg -l places -o
target/convexhull.shp
```



## Convexhulls

Calculate the convexhulls for each feature in a Layer.

Short Name	Long Name	Description
-o	--output-workspace	The output workspace
-r	--output-layer	The output layer
-i	--input-workspace	The input workspace
-l	--input-layer	The input layer
	--help	Print the help message
	--web-help	Open help in a browser

```
geoc vector convexhulls -i src/test/resources/data.gpkg -l countries -o
target/convexhulls.shp
```

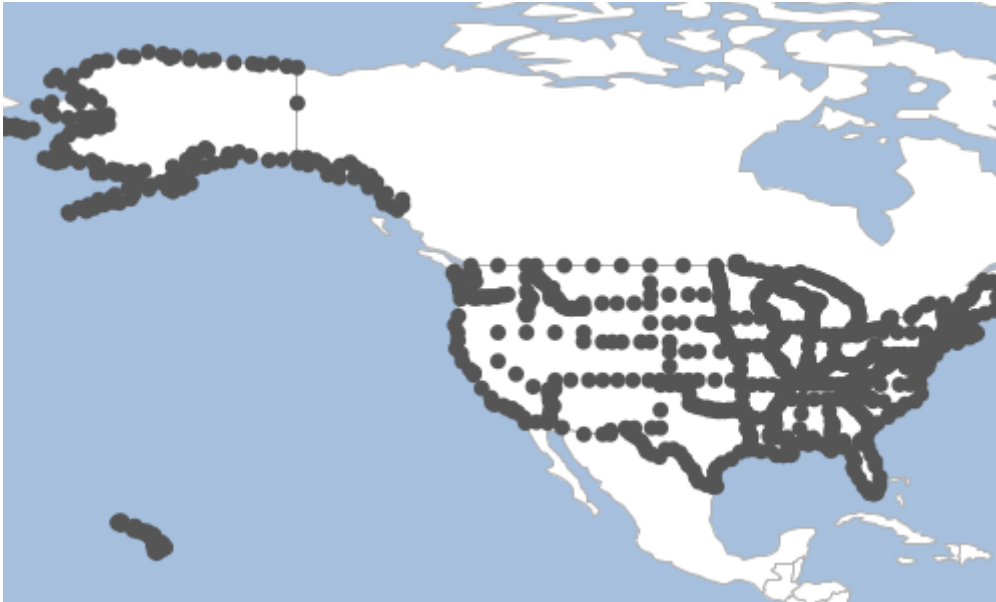


## Coordinates

Extract coordinates from the input Layer and save them to the output Layer.

Short Name	Long Name	Description
-o	--output-workspace	The output workspace
-r	--output-layer	The output layer
-i	--input-workspace	The input workspace
-l	--input-layer	The input layer
	--help	Print the help message
	--web-help	Open help in a browser

```
geoc vector coordinates -i src/test/resources/data.gpkg -l states -o  
target/coordinates.shp
```



## Count

Count the Features in a Layer.

Short Name	Long Name	Description
-t	--type	Count features, geometries, or points
-i	--input-workspace	The input workspace
-l	--input-layer	The input layer
	--help	Print the help message
	--web-help	Open help in a browser

```
geoc vector count -i src/test/resources/data.gpkg -l places
```

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## Create

Create a new Layer.

Short Name	Long Name	Description
-f	--field	A Field in the format 'name=type'
-o	--output-workspace	The output workspace
-r	--output-layer	The output layer
	--help	Print the help message

Short Name	Long Name	Description
	--web-help	Open help in a browser

```
geoc vector create -o target/locations.shp -f "the_geom=POINT EPSG:4326" -f id=integer
-f name=string
```

Name	Type
the_geom	Point
name	String
id	Integer

## Default Style

Get the default style for a Layer.

Short Name	Long Name	Description
-g	--geometry-type	The geometry type
-c	--color	The base color
-o	--opacity	The opacity (defaults to 1.0)
-i	--input-workspace	The input workspace
-l	--input-layer	The input layer
	--help	Print the help message
	--web-help	Open help in a browser

```
geoc vector defaultstyle -i src/test/resources/data.gpkg -l places -c cornflowerblue
```

```

<?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:PointSymbolizer>
            <sld:Graphic>
              <sld:Mark>
                <sld:WellKnownName>circle</sld:WellKnownName>
                <sld:Fill>
                  <sld:CssParameter name="fill">#6495ed</sld:CssParameter>
                </sld:Fill>
                <sld:Stroke>
                  <sld:CssParameter name="stroke">#4668a5</sld:CssParameter>
                  <sld:CssParameter name="stroke-width">0.1</sld:CssParameter>
                </sld:Stroke>
              </sld:Mark>
              <sld:Size>6</sld:Size>
            </sld:Graphic>
          </sld:PointSymbolizer>
        </sld:Rule>
      </sld:FeatureTypeStyle>
    </sld:UserStyle>
  </sld:UserLayer>
</sld:StyledLayerDescriptor>

```

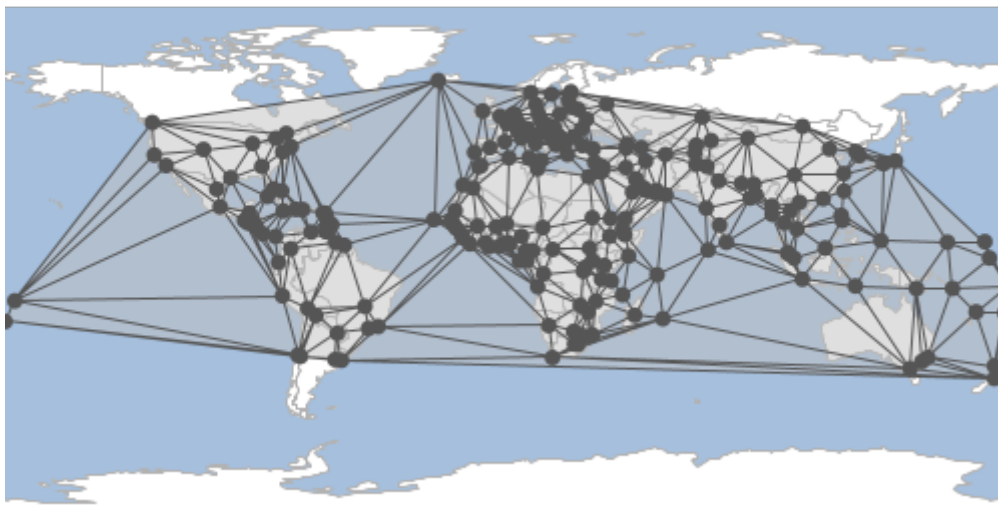


# Delaunay

Calculate a delaunay diagram of all the features in a Layer.

Short Name	Long Name	Description
-o	--output-workspace	The output workspace
-r	--output-layer	The output layer
-i	--input-workspace	The input workspace
-l	--input-layer	The input layer
	--help	Print the help message
	--web-help	Open help in a browser

```
geoc vector delaunay -i src/test/resources/data.gpkg -l places -o target/delaunay.shp
```



# Geometry Reader

Convert a text stream of WKT geometries to a Layer.

Short Name	Long Name	Description
-t	--text	The text
-o	--output-workspace	The output workspace
-r	--output-layer	The output layer
	--help	Print the help message
	--web-help	Open help in a browser

places.txt

```
POINT (95.93096088300103 -21.052562876111054)
POINT (108.68699242651462 31.906673138178704)
POINT (67.21295358024213 37.71179581778536)
POINT (134.80355671499728 -81.23567389016853)
POINT (140.6972351264812 63.79594874701479)
```

```
cat places.txt | geoc vector geomr -o target/places.shp
```



## Geometry Writer

Convert the input layer to a text stream of WKT geometries that can be read by the [geom commands](#).

Short Name	Long Name	Description
-i	--input-workspace	The input workspace
-l	--input-layer	The input layer
	--help	Print the help message
	--web-help	Open help in a browser

```
geoc vector geomw -i target/locations.shp
```

```
POINT (-50.75220539415625 52.94815911215653)
POINT (-165.6923704313019 65.38925447599544)
POINT (35.422424094006004 -33.02612915832001)
POINT (-149.38910292875147 31.9154005395406)
POINT (62.67724158168676 83.14660626453079)
```



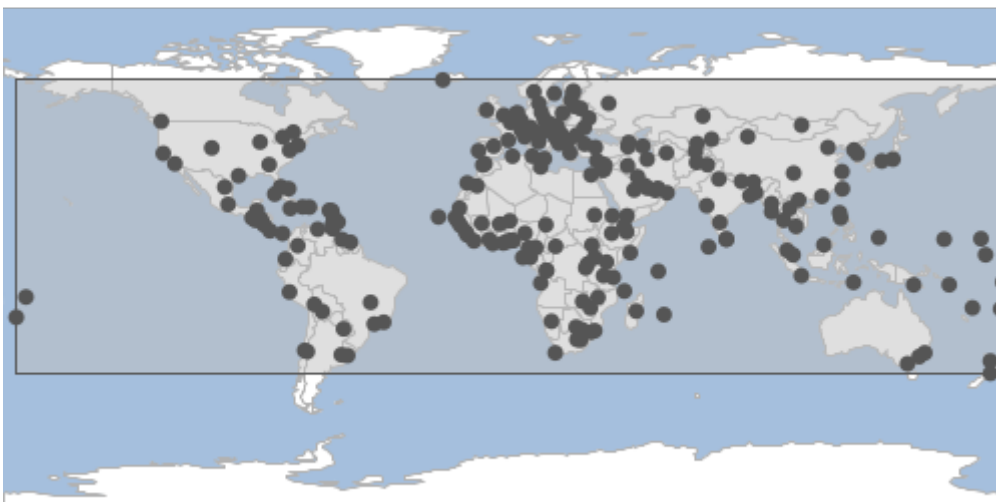


## Envelope

Calculate the envelope of all the features in a Layer.

Short Name	Long Name	Description
-o	--output-workspace	The output workspace
-r	--output-layer	The output layer
-i	--input-workspace	The input workspace
-l	--input-layer	The input layer
	--help	Print the help message
	--web-help	Open help in a browser

```
geoc vector envelope -i src/test/resources/data.gpkg -l places -o target/envelope.shp
```

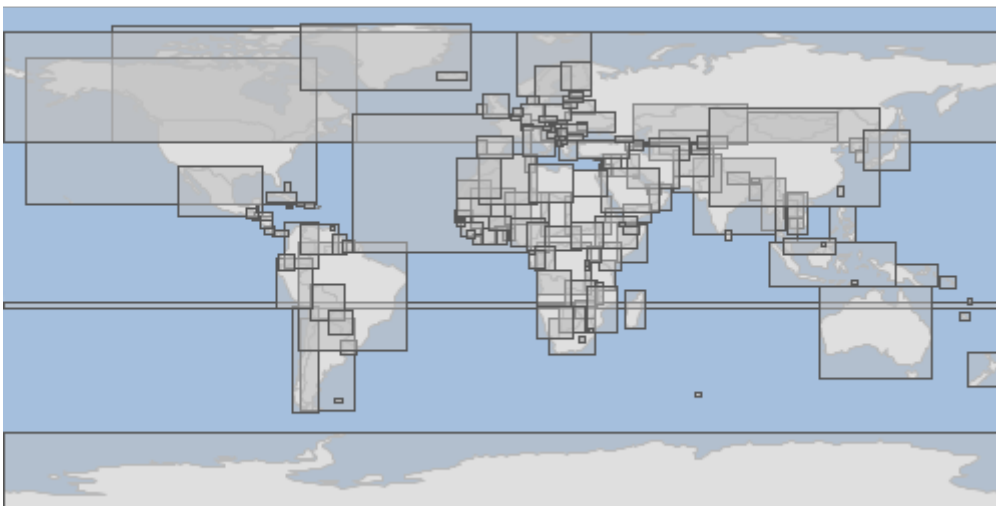


# Envelopes

Calculate the envelopes for each feature in a Layer.

Short Name	Long Name	Description
-o	--output-workspace	The output workspace
-r	--output-layer	The output layer
-i	--input-workspace	The input workspace
-l	--input-layer	The input layer
	--help	Print the help message
	--web-help	Open help in a browser

```
geoc vector envelopes -i src/test/resources/data.gpkg -l countries -o  
target/envelopes.shp
```



## From

Create a Layer from a string of KML, CSV, GML, GEORSS, GEOBUF, GPX or GeoJSON.

Short Name	Long Name	Description
-t	--text	The text
-f	--format	The string format (CSV, GeoJSON, KML, GML)
-g	--geometry-type	The geometry type
-p	--format-options	A format options 'key=value'
-o	--output-workspace	The output workspace

Short Name	Long Name	Description
-r	--output-layer	The output layer
	--help	Print the help message
	--web-help	Open help in a browser

## GeoJSON

### points.json

```
{
  "type": "FeatureCollection",
  "features": [
    {
      "type": "Feature",
      "geometry": {
        "type": "Point",
        "coordinates": [-152.5624, 68.3756]
      },
      "properties": {
        "id": 0,
        "id": "randompoints.1"
      }
    },
    {
      "type": "Feature",
      "geometry": {
        "type": "Point",
        "coordinates": [147.7367, -51.5737]
      },
      "properties": {
        "id": 1,
        "id": "randompoints.2"
      }
    },
    {
      "type": "Feature",
      "geometry": {
        "type": "Point",
        "coordinates": [44.5163, 20.6191]
      },
      "properties": {
        "id": 2,
        "id": "randompoints.3"
      }
    },
    {
      "type": "Feature",
      "geometry": {
        "type": "Point",
        "coordinates": [168.3998, -7.614]
      },
      "properties": {
        "id": 3,
        "id": "randompoints.4"
      }
    },
    {
      "type": "Feature",
      "geometry": {
        "type": "Point",
        "coordinates": [-124.426, 41.7174]
      },
      "properties": {
        "id": 4,
        "id": "randompoints.5"
      }
    }
  ]
}
```

```
cat points.json | geoc vector from -f csv
```



## CSV

### points.csv

```
"the_geom:Point:EPSG:4326","id:Integer"
"POINT (73.62200650564105 -47.5712085764364)","0"
"POINT (-103.86576369476082 36.129130059308196)","1"
"POINT (-94.71796526378499 88.2274713026701)","2"
"POINT (107.74423432785295 -63.52457316766173)","3"
"POINT (61.427275867053396 -73.06526229496278)","4"
```

```
cat points.csv | geoc vector from -f csv
```



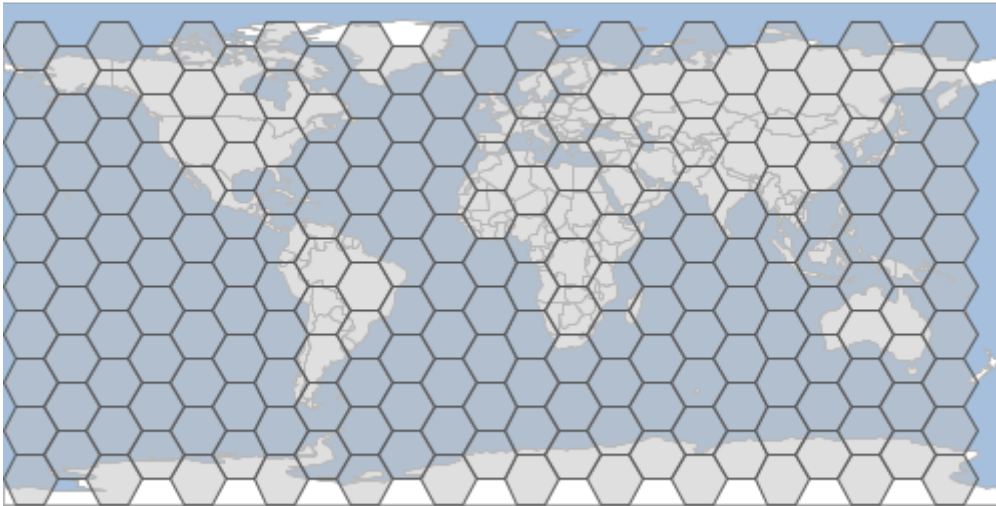
## Graticule

### Hexagon

Create hexagon graticules.

Short Name	Long Name	Description
-g	--geometry	The geometry
-l	--length	The length
-s	--spacing	The spacing (defaults to -1)
-t	--orientation	The orientation (flat or angled).
-o	--output-workspace	The output workspace
-r	--output-layer	The output layer
	--help	Print the help message
	--web-help	Open help in a browser

```
geoc vector graticule hexagon -g -180,-90,180,90 -l 10 -o target/hexagons.shp
```

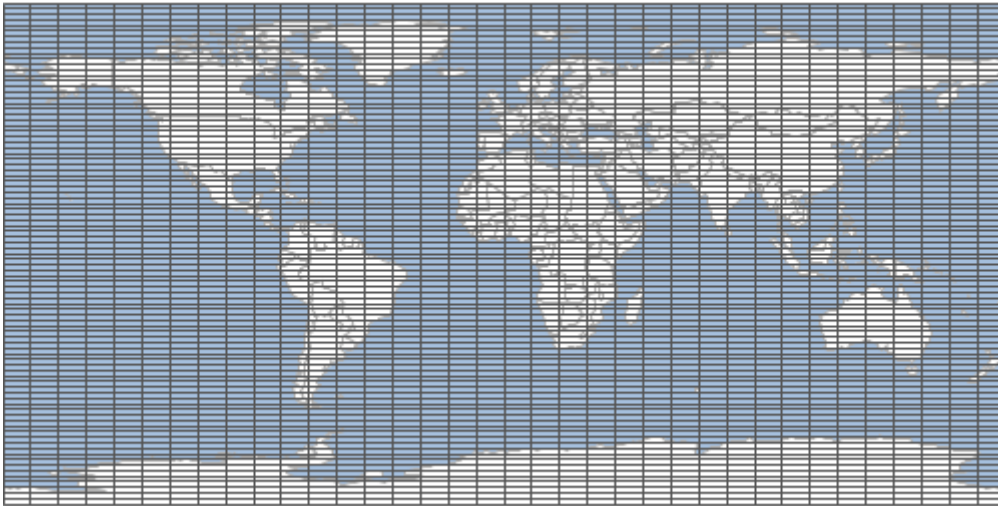


## Line

Create line graticules.

Short Name	Long Name	Description
-g	--geometry	The geometry
-s	--spacing	The spacing (defaults to -1)
-l	--line-definition	Each line definition has comma delimited orientation (vertical or horizontal), level, and spacing)
-o	--output-workspace	The output workspace
-r	--output-layer	The output layer
	--help	Print the help message
	--web-help	Open help in a browser

```
geoc vector graticule line -g -180,-90,180,90 -l vertical,2,10 -l horizontal,1,2 -o
target/lines.shp
```

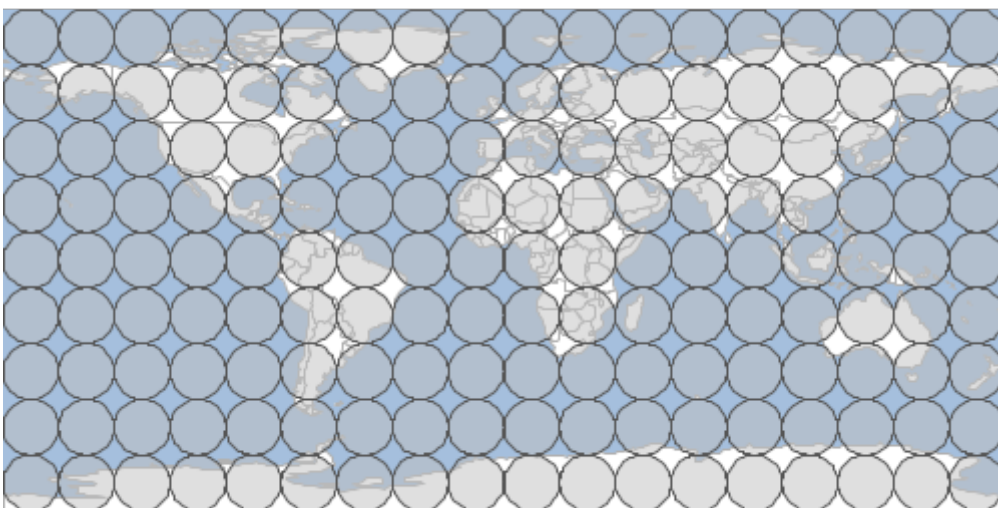


## Oval

Create oval graticules.

Short Name	Long Name	Description
-g	--geometry	The geometry
-l	--length	The length
-o	--output-workspace	The output workspace
-r	--output-layer	The output layer
	--help	Print the help message
	--web-help	Open help in a browser

```
geoc vector graticule oval -g -180,-90,180,90 -l 20 -o target/ovals.shp
```

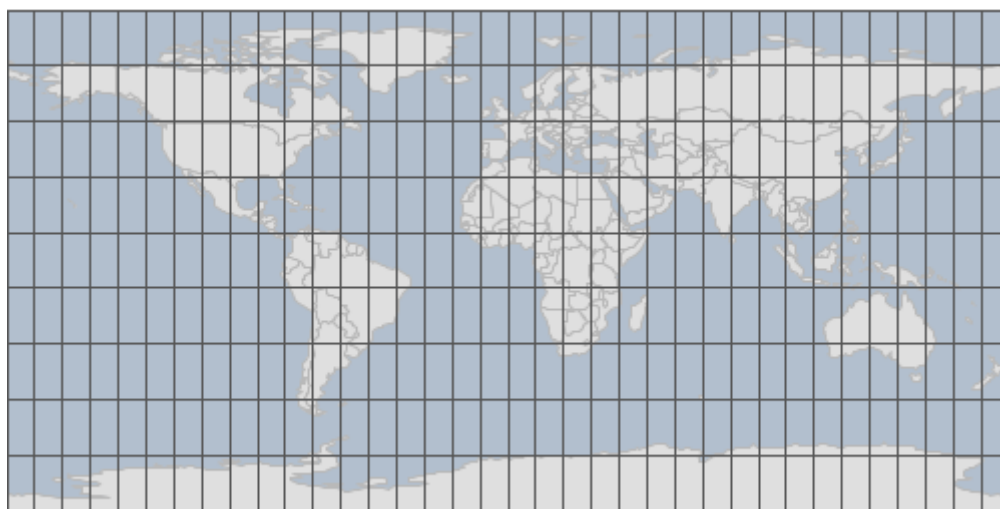


## Rectangle

Create rectangle graticules.

Short Name	Long Name	Description
-g	--geometry	The geometry
-w	--width	The width
-h	--height	The height
-s	--spacing	The spacing (defaults to -1)
-o	--output-workspace	The output workspace
-r	--output-layer	The output layer
	--help	Print the help message
	--web-help	Open help in a browser

```
geoc vector graticule rectangle -g -180,-90,180,90 -w 10 -h 20 -o  
target/rectangles.shp
```



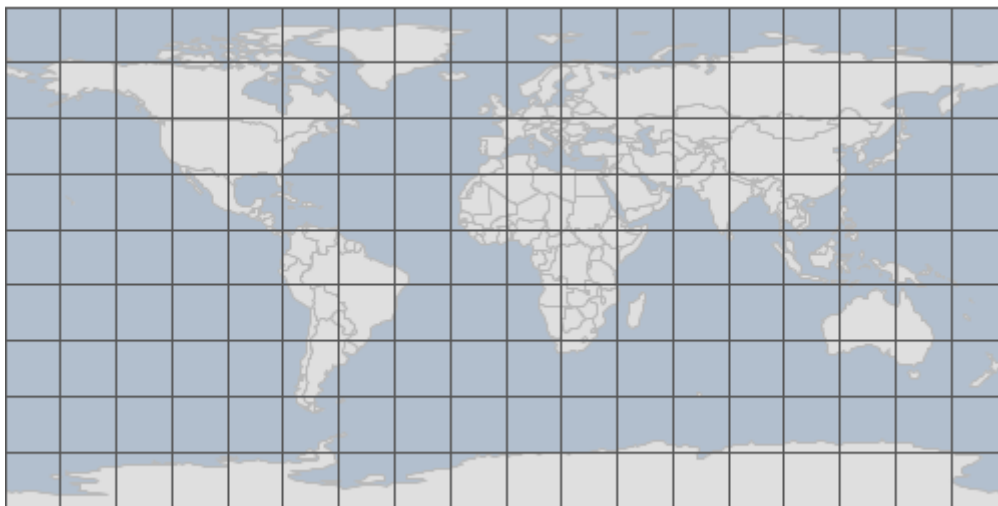
## Square

Create square graticules.

Short Name	Long Name	Description
-g	--geometry	The geometry
-l	--length	The length
-s	--spacing	The spacing (defaults to -1)
-o	--output-workspace	The output workspace
-r	--output-layer	The output layer

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

```
geoc vector graticule square -g -180,-90,180,90 -l 20 -o target/squares.shp
```



## Info

Get information about a Layer.

Short Name	Long Name	Description
-i	--input-workspace	The input workspace
-l	--input-layer	The input layer
	--help	Print the help message
	--web-help	Open help in a browser

```
geoc vector info -i src/test/resources/data.gpkg -l countries
```



```

Name: countries
Geometry: MultiPolygon
Extent: -180.0, -90.0, 180.00000000000006, 83.64513000000001
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"]]
Feature Count: 177
Fields:
the_geom: MultiPolygon
featurecla: String
scalerank: Integer
LABELRANK: Integer
SOVEREIGNT: String
SOV_A3: String
ADM0_DIF: Integer
...

```

## Interior Point

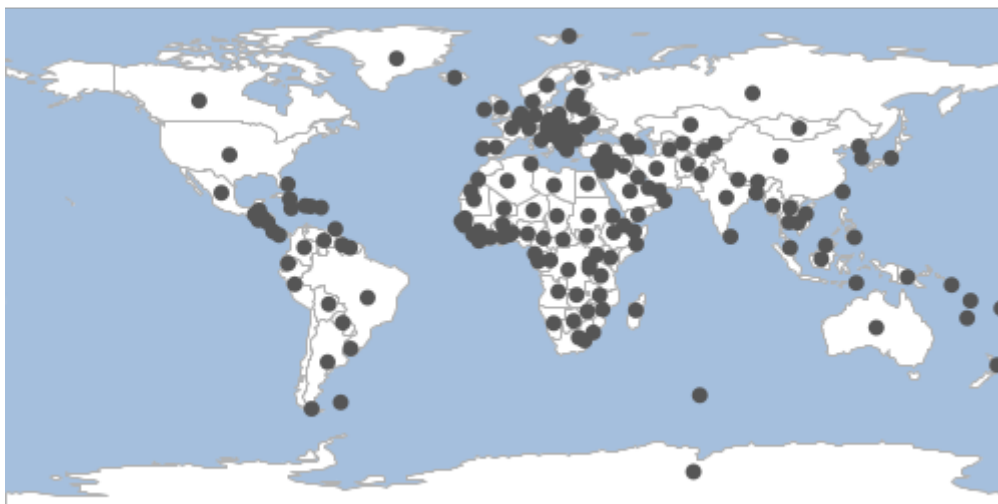
Calculate the interior point of all the features in a Layer.

Short Name	Long Name	Description
-o	--output-workspace	The output workspace
-r	--output-layer	The output layer
-i	--input-workspace	The input workspace
-l	--input-layer	The input layer
	--help	Print the help message
	--web-help	Open help in a browser

```

geoc vector interiorPoint -i src/test/resources/data.gpkg -l countries -o
target/countries_interiorpoints.shp

```



## Layer List

List the Layers in a Workspace.

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

```
geoc vector list layers -i src/test/resources/data.gpkg
```

```
countries
graticules
ocean
places
rivers
states
```

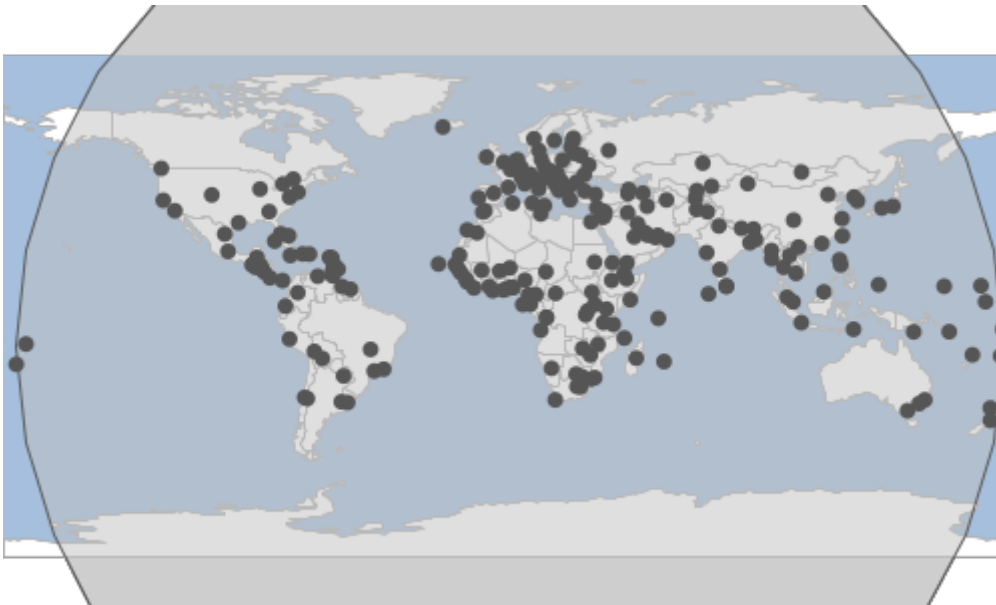
## Minimum Bounding Circle

Calculate the minimum bounding circle of all the features in a Layer.

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

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

```
geoc vector mincircle -i src/test/resources/data.gpkg -l places -o
target/mincircle.shp
```

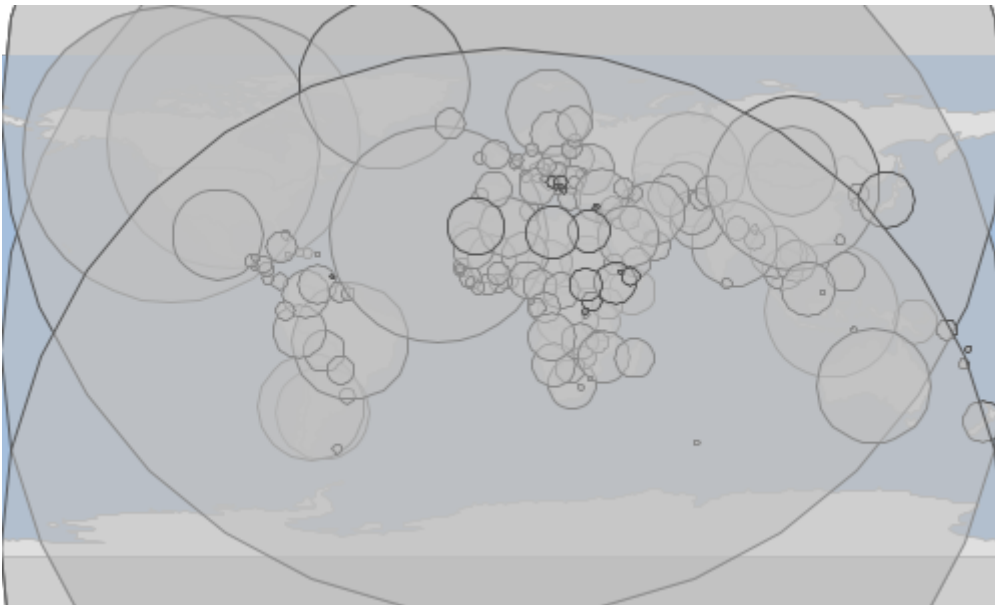


## Minimum Bounding Circles

Calculate the minimum bounding circle for each feature in a Layer.

Short Name	Long Name	Description
-o	--output-workspace	The output workspace
-r	--output-layer	The output layer
-i	--input-workspace	The input workspace
-l	--input-layer	The input layer
	--help	Print the help message
	--web-help	Open help in a browser

```
geoc vector mincircles -i src/test/resources/data.gpkg -l countries -o
target/mincircles.shp
```

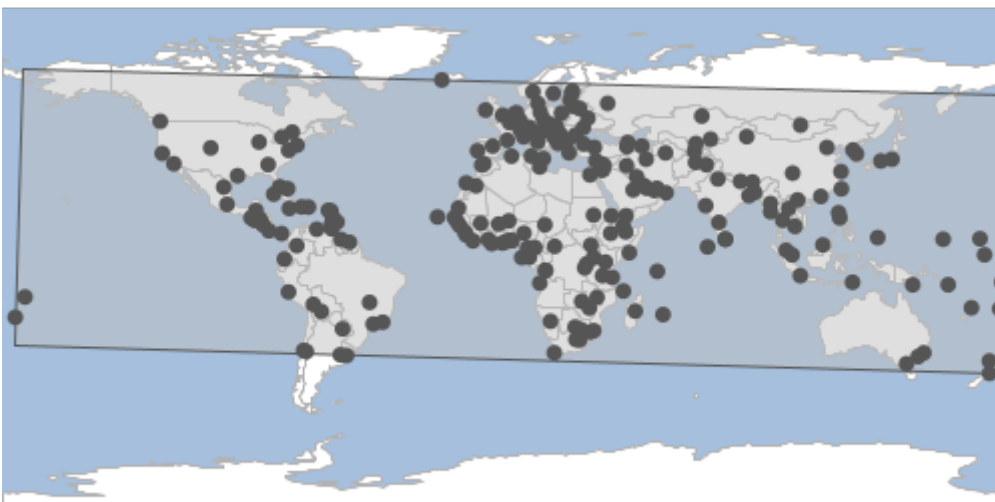


## Minimum Bounding Rectangle

Calculate the minimum bounding rectangle of all the features in a Layer.

Short Name	Long Name	Description
-o	--output-workspace	The output workspace
-r	--output-layer	The output layer
-i	--input-workspace	The input workspace
-l	--input-layer	The input layer
	--help	Print the help message
	--web-help	Open help in a browser

```
geoc vector minrect -i src/test/resources/data.gpkg -l places -o target/minrect.shp
```

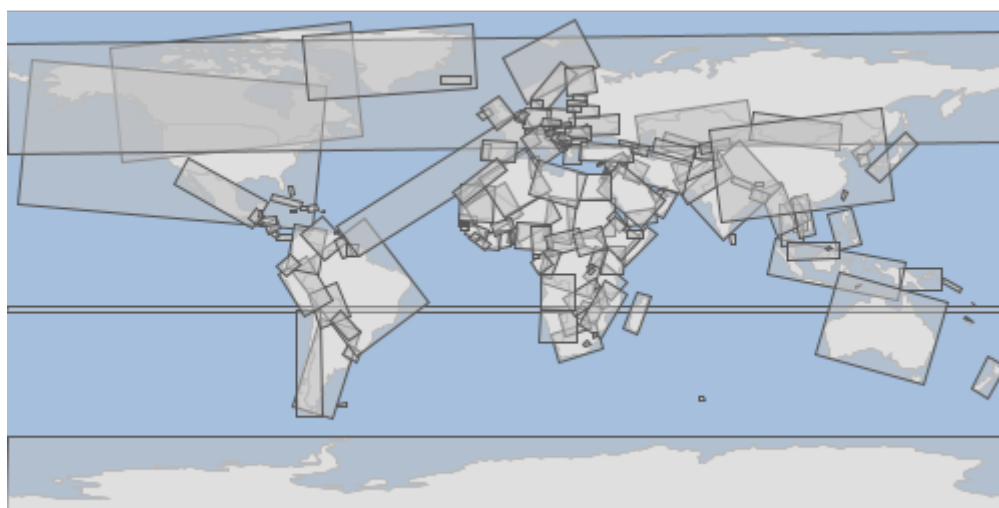


## Minimum Bounding rects

Calculate the minimum bounding rectangle for each feature in a Layer.

Short Name	Long Name	Description
-o	--output-workspace	The output workspace
-r	--output-layer	The output layer
-i	--input-workspace	The input workspace
-l	--input-layer	The input layer
	--help	Print the help message
	--web-help	Open help in a browser

```
geoc vector minrects -i src/test/resources/data.gpkg -l countries -o  
target/minrects.shp
```

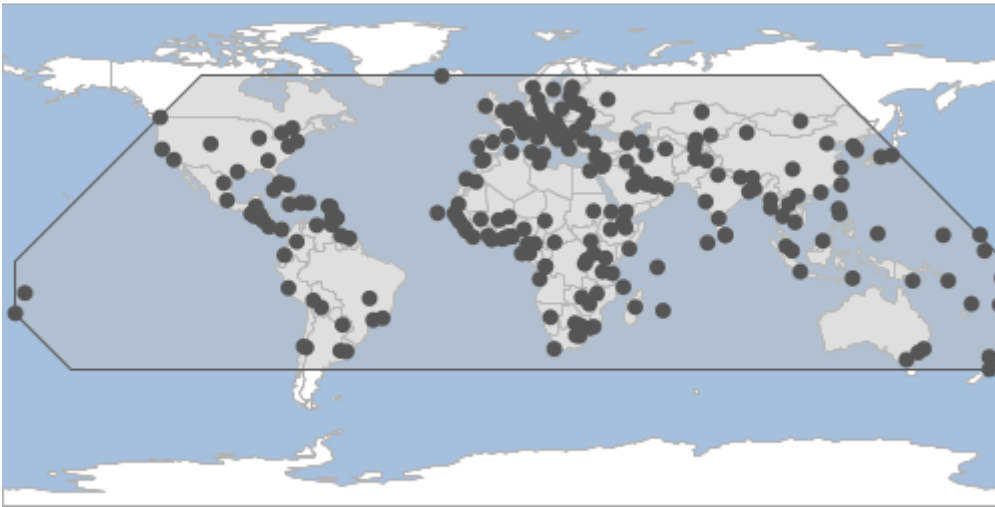


## Octagonal Envelope

Calculate the octagonal envelope of the input Layer and save it to the output Layer.

Short Name	Long Name	Description
-o	--output-workspace	The output workspace
-r	--output-layer	The output layer
-i	--input-workspace	The input workspace
-l	--input-layer	The input layer
	--help	Print the help message
	--web-help	Open help in a browser

```
geoc vector octagonalenvelope -i src/test/resources/data.gpkg -l places -o
target/octagonalenvelope.shp
```



## Octagonal Envelopes

Calculate the octagonal envelope for each Feature of the input Layer and save it to the output Layer.

Short Name	Long Name	Description
-o	--output-workspace	The output workspace
-r	--output-layer	The output layer
-i	--input-workspace	The input workspace
-l	--input-layer	The input layer
	--help	Print the help message
	--web-help	Open help in a browser

```
geoc vector octagonalenvelopes -i src/test/resources/data.gpkg -l countries -o
target/octagonalenvelopes.shp
```



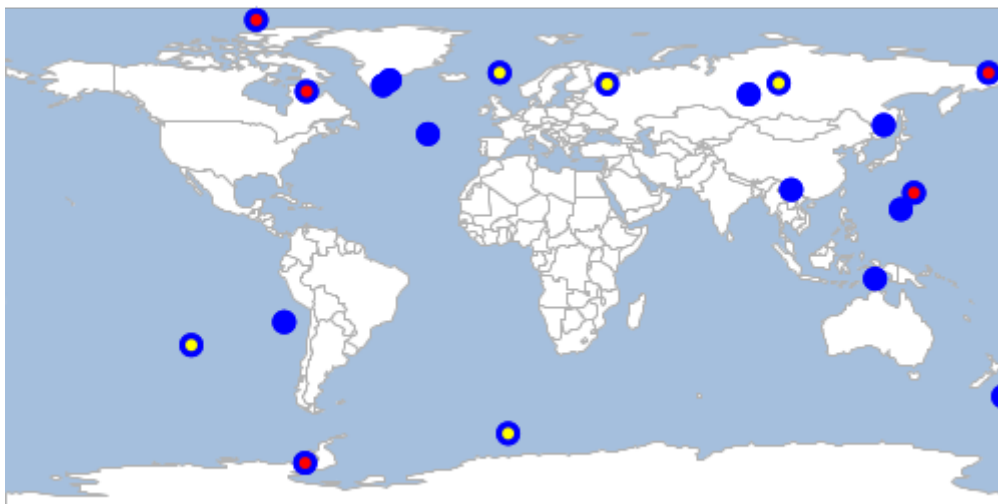
## Page

Page through Feature in the input Layer.

Short Name	Long Name	Description
-m	--max	The maximum number of Features to include
-t	--start	The 0 based index of the Feature to start at
-o	--output-workspace	The output workspace
-r	--output-layer	The output layer
-i	--input-workspace	The input workspace
-l	--input-layer	The input layer
	--help	Print the help message
	--web-help	Open help in a browser

```
geoc vector page -i target/locations.shp -o target/locations_1_5.shp -t 0 -m 5
```

```
geoc vector page -i target/locations.shp -o target/locations_6_10.shp -t 5 -m 5
```



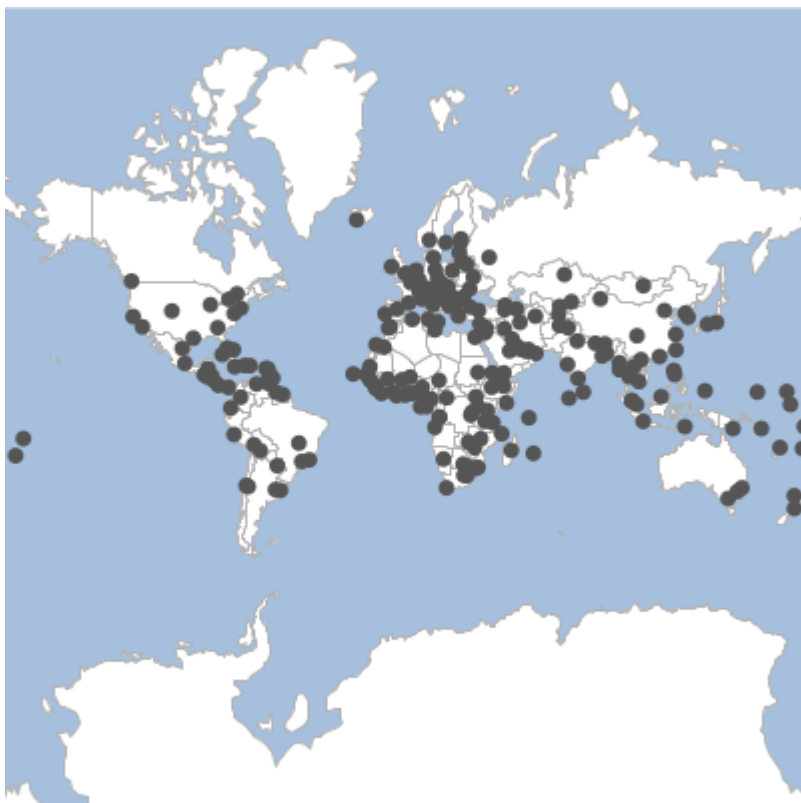
## Project

Project the input Layer to another Projection and save it as the output Layer.

Short Name	Long Name	Description
-s	--source-projection	The source projection
-t	--target-projection	The target projection
-o	--output-workspace	The output workspace
-r	--output-layer	The output layer
-i	--input-workspace	The input workspace
-l	--input-layer	The input layer
	--help	Print the help message
	--web-help	Open help in a browser

```
geoc vector project -i src/test/resources/data.gpkg -l places -o target/mercator.gpkg
-r places -s EPSG:4326 -t EPSG:3857
```



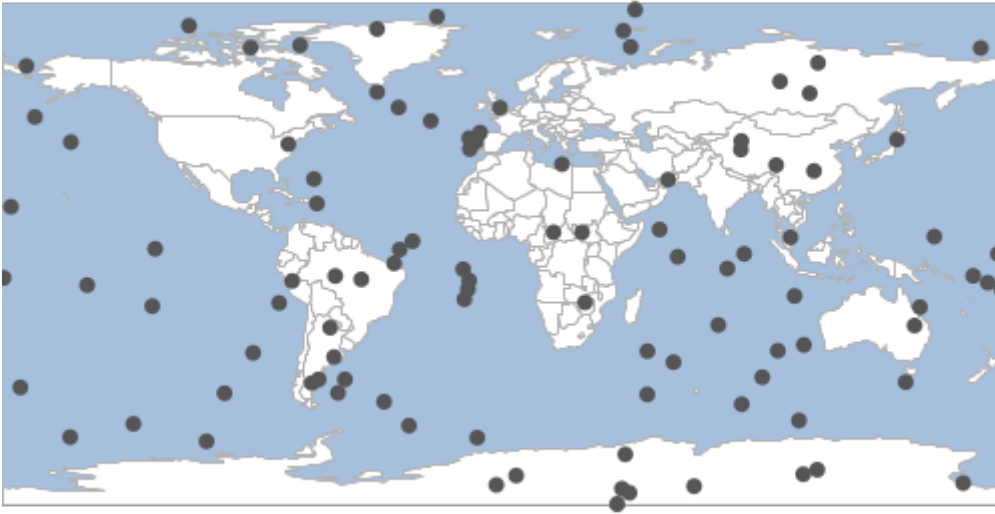


## Random Points

Generate random points.

Short Name	Long Name	Description
-n	--number	The number of points
-p	--projection	The projection
-g	--geometry	The geometry
-d	--grid	Whether to create random points in grid
-c	--constrained-to-circle	Whether the points should be constrained to a circle or not
-f	--gutter-fraction	The size of the gutter between cells
-e	--geom-fieldname	The geometry field name
-u	--id-fieldname	The id field name
-o	--output-workspace	The output workspace
-r	--output-layer	The output layer
	--help	Print the help message
	--web-help	Open help in a browser

```
geoc vector randompoints -n 100 -g -180,-90,180,90 -o target/randompoints.shp
```



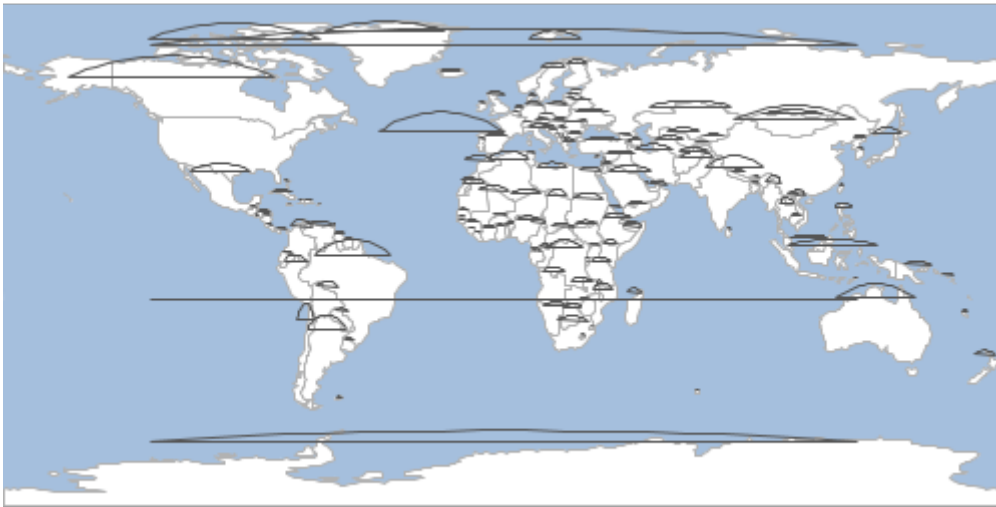
## Shapes

### Arc

Create a arc shape around each feature of the input Layer.

Short Name	Long Name	Description
-s	--start-angle	The start angle
-e	--end-angle	The end angle
-g	--geometry	The geometry expression
-w	--width	The width of the bounds
-h	--height	The height of the bounds
-p	--num-points	The number of points
-a	--rotation	The angle of rotation
-u	--unit	The unit can either be degrees(d) or radians(r). The default is degrees.
-o	--output-workspace	The output workspace
-r	--output-layer	The output layer
-i	--input-workspace	The input workspace
-l	--input-layer	The input layer
	--help	Print the help message
	--web-help	Open help in a browser

```
geoc vector arc -i src/test/resources/data.gpkg -l countries -o
target/country_arcs.shp -s 45 -e 90
```

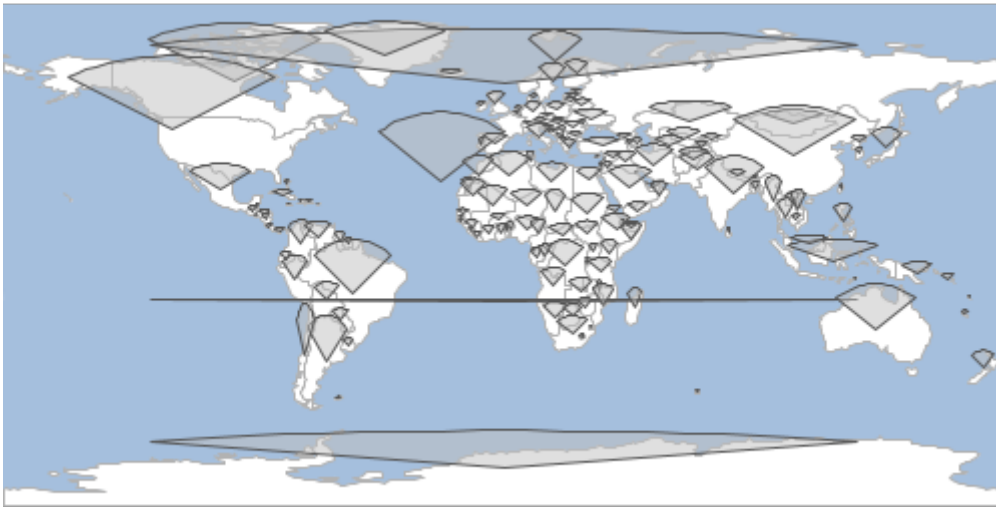


## Arc Polygon

Create a arc polygon shape around each feature of the input Layer.

Short Name	Long Name	Description
-s	--start-angle	The start angle
-e	--end-angle	The end angle
-g	--geometry	The geometry expression
-w	--width	The width of the bounds
-h	--height	The height of the bounds
-p	--num-points	The number of points
-a	--rotation	The angle of rotation
-u	--unit	The unit can either be degrees(d) or radians(r). The default is degrees.
-o	--output-workspace	The output workspace
-r	--output-layer	The output layer
-i	--input-workspace	The input workspace
-l	--input-layer	The input layer
	--help	Print the help message
	--web-help	Open help in a browser

```
geoc vector arcpolygon -i src/test/resources/data.gpkg -l countries -o
target/country_arcs.shp -s 45 -e 90
```

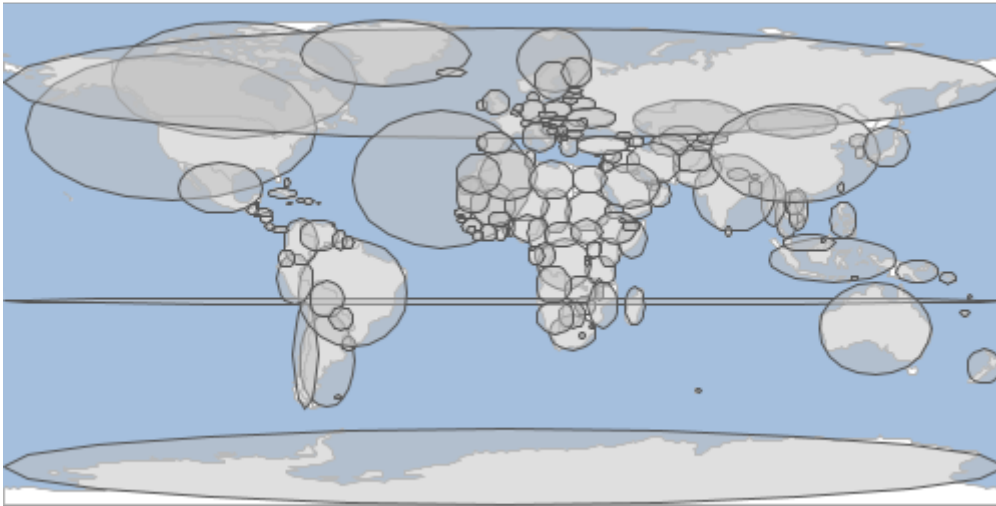


## Ellipse

Calculate the ellipse around each feature in a Layer.

Short Name	Long Name	Description
-g	--geometry	The geometry expression
-w	--width	The width of the bounds
-h	--height	The height of the bounds
-p	--num-points	The number of points
-a	--rotation	The angle of rotation
-u	--unit	The unit can either be degrees(d) or radians(r). The default is degrees.
-o	--output-workspace	The output workspace
-r	--output-layer	The output layer
-i	--input-workspace	The input workspace
-l	--input-layer	The input layer
	--help	Print the help message
	--web-help	Open help in a browser

```
geoc vector ellipse -i src/test/resources/data.gpkg -l countries -o target/ellipse.shp
```



## Rectangle

Create a rectangle shape around each feature of the input Layer.

Short Name	Long Name	Description
-g	--geometry	The geometry expression
-w	--width	The width of the bounds
-h	--height	The height of the bounds
-p	--num-points	The number of points
-a	--rotation	The angle of rotation
-u	--unit	The unit can either be degrees(d) or radians(r). The default is degrees.
-o	--output-workspace	The output workspace
-r	--output-layer	The output layer
-i	--input-workspace	The input workspace
-l	--input-layer	The input layer
	--help	Print the help message
	--web-help	Open help in a browser

```
geoc vector rectangle -i src/test/resources/data.gpkg -l countries -o
target/rectangle.shp
```

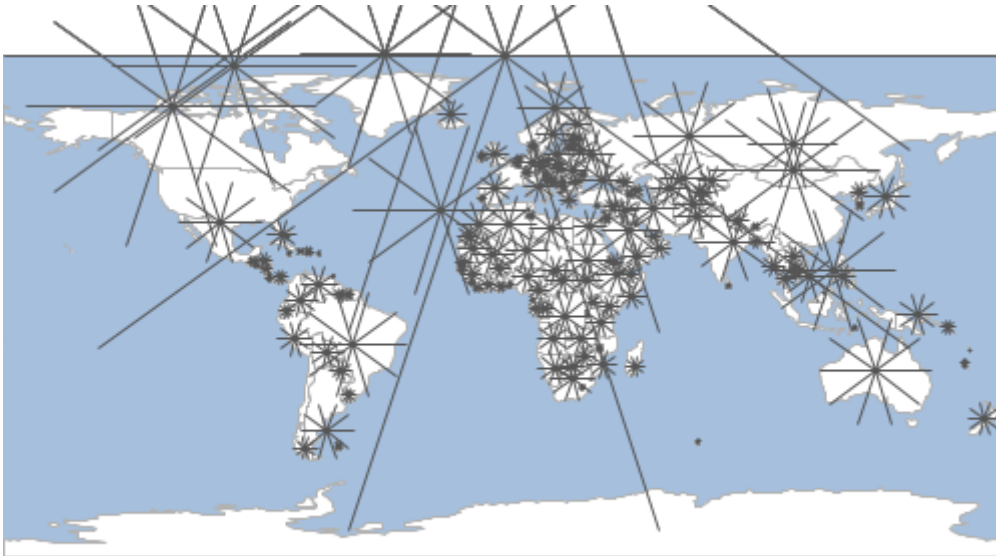


## Sine Star

Create a sinestar shape around each feature of the input Layer.

Short Name	Long Name	Description
-n	--number-of-arms	The number of arms
-e	--arm-length-ratio	The arm length ratio
-g	--geometry	The geometry expression
-w	--width	The width of the bounds
-h	--height	The height of the bounds
-p	--num-points	The number of points
-a	--rotation	The angle of rotation
-u	--unit	The unit can either be degrees(d) or radians(r). The default is degrees.
-o	--output-workspace	The output workspace
-r	--output-layer	The output layer
-i	--input-workspace	The input workspace
-l	--input-layer	The input layer
	--help	Print the help message
	--web-help	Open help in a browser

```
geoc vector sinestar -i src/test/resources/data.gpkg -l countries -o
target/country_stars.shp -n 10 -e 2
```

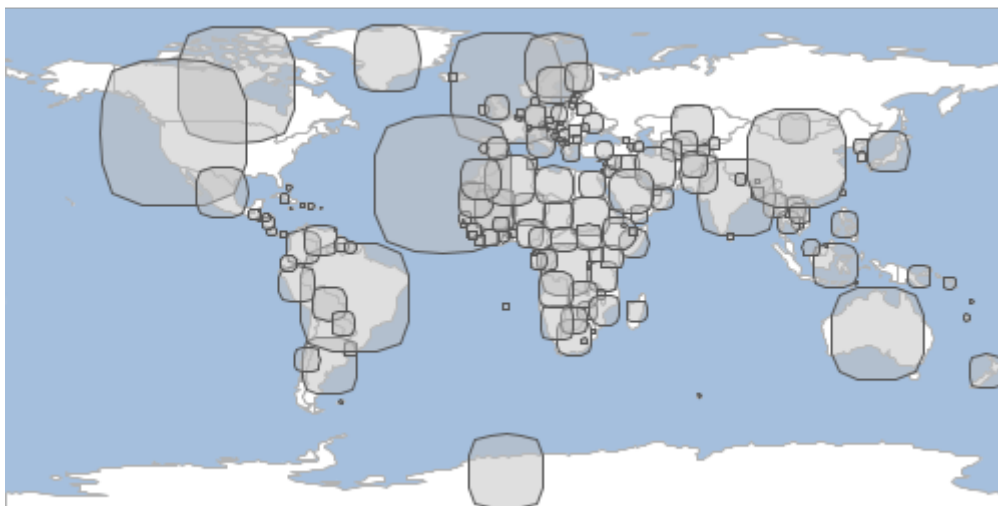


## Squirrel

Create a squirrel shape around each feature of the input Layer.

Short Name	Long Name	Description
-g	--geometry	The geometry expression
-w	--width	The width of the bounds
-h	--height	The height of the bounds
-p	--num-points	The number of points
-a	--rotation	The angle of rotation
-u	--unit	The unit can either be degrees(d) or radians(r). The default is degrees.
-o	--output-workspace	The output workspace
-r	--output-layer	The output layer
-i	--input-workspace	The input workspace
-l	--input-layer	The input layer
	--help	Print the help message
	--web-help	Open help in a browser

```
geoc vector squirrel -i src/test/resources/data.gpkg -l countries -o
target/country_squirrels.shp
```



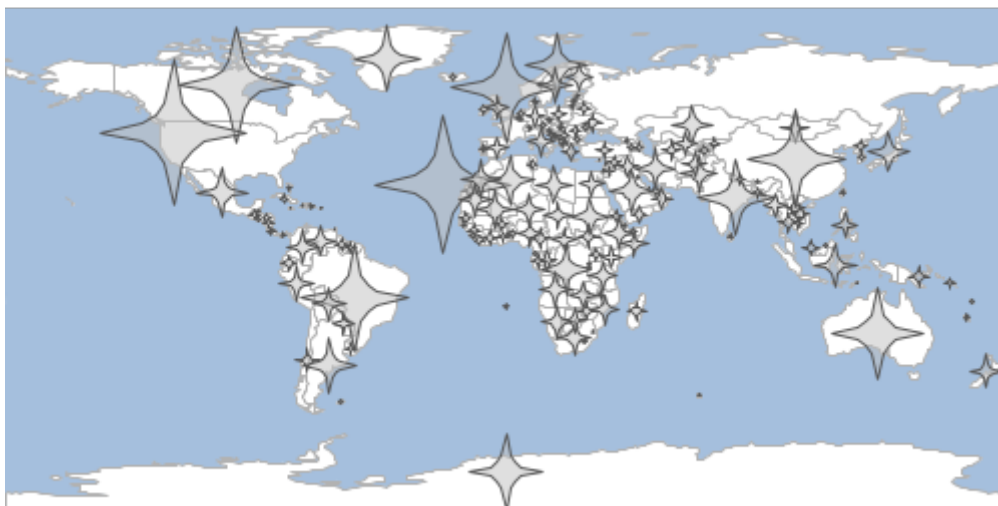
## Super Circle

Create a super circle shape around each feature of the input Layer.

Short Name	Long Name	Description
-e	--power	The power
-g	--geometry	The geometry expression
-w	--width	The width of the bounds
-h	--height	The height of the bounds
-p	--num-points	The number of points
-a	--rotation	The angle of rotation
-u	--unit	The unit can either be degrees(d) or radians(r). The default is degrees.
-o	--output-workspace	The output workspace
-r	--output-layer	The output layer
-i	--input-workspace	The input workspace
-l	--input-layer	The input layer
	--help	Print the help message
	--web-help	Open help in a browser

```
geoc vector supercircle -i src/test/resources/data.gpkg -l countries -o
target/country_circles.shp -e 0.5
```





## To

Write a Layer to a String format (CSV, GeoJSON, KML, GML, GEORSS, GPX).

Short Name	Long Name	Description
-f	--format	The string format (CSV, GeoJSON, KML, GML, GEORSS, GPX)
-p	--format-options	A format options 'key=value'
-i	--input-workspace	The input workspace
-l	--input-layer	The input layer
	--help	Print the help message
	--web-help	Open help in a browser

### GeoJSON

```
geoc vector to -i target/randompoints.shp -f geojson
```

```
{
  "type": "FeatureCollection",
  "features": [
    {
      "type": "Feature",
      "geometry": {
        "type": "Point",
        "coordinates": [50.3741, 60.6352]
      },
      "properties": {
        "id": 0,
        "id": "randompoints.1"
      },
      "type": "Feature",
      "geometry": {
        "type": "Point",
        "coordinates": [-150.2316, 44.651]
      },
      "properties": {
        "id": 1,
        "id": "randompoints.2"
      },
      "type": "Feature",
      "geometry": {
        "type": "Point",
        "coordinates": [-43.944, -34.2114]
      },
      "properties": {
        "id": 2,
        "id": "randompoints.3"
      },
      "type": "Feature",
      "geometry": {
        "type": "Point",
        "coordinates": [122.1294, 18.9445]
      },
      "properties": {
        "id": 3,
        "id": "randompoints.4"
      },
      "type": "Feature",
      "geometry": {
        "type": "Point",
        "coordinates": [-79.4638, 33.6409]
      },
      "properties": {
        "id": 4,
        "id": "randompoints.5"
      }
    ]
  }
}
```

### CSV

```
geoc vector to -i target/randompoints.shp -f csv
```

```
"the_geom:Point:EPSG:4326","id:Integer"  
"POINT (6.283299071675771 -1.9926820821488178)","0"  
"POINT (-11.64896302326099 -49.06656085002498)","1"  
"POINT (77.41978316564251 22.003362008956316)","2"  
"POINT (-47.93996285711174 -10.028842090156232)","3"  
"POINT (63.221577017576664 -9.038611374812675)","4"
```

## Schema

Get a Layer's Schema.

Short Name	Long Name	Description
-p	--pretty-print	Whether to pretty print the output
-i	--input-workspace	The input workspace
-l	--input-layer	The input layer
	--help	Print the help message
	--web-help	Open help in a browser

```
geoc vector schema -i src/test/resources/data.gpkg -l countries -p
```

```
-----  
| name      | type      |  
-----  
| the_geom  | MultiPolygon |  
| featurecla | String      |  
| scalerank | Integer     |  
| LABELRANK | Integer     |  
| SOVEREIGNT | String      |  
| SOV_A3    | String      |  
| ADM0_DIF  | Integer     |  
| LEVEL     | Integer     |  
| TYPE      | String      |  
| ADMIN     | String      |  
| ADM0_A3   | String      |  
| GEOU_DIF  | Integer     |  
| GEOUNIT   | String      |  
| GU_A3     | String      |  
| SU_DIF    | Integer     |  
| SUBUNIT   | String      |  
| SU_A3     | String      |
```

BRK_DIFF	Integer
NAME	String
NAME_LONG	String
BRK_A3	String
BRK_NAME	String
ABBREV	String
POSTAL	String
FORMAL_EN	String
FORMAL_FR	String
NAME_CIAWF	String
NOTE_ADM0	String
NOTE_BRK	String
NAME_SORT	String
NAME_ALT	String
MAPCOLOR7	Integer
MAPCOLOR8	Integer
MAPCOLOR9	Integer
MAPCOLOR13	Integer
POP_EST	Double
POP_RANK	Integer
POP_YEAR	Integer
GDP_MD	Integer
GDP_YEAR	Integer
ECONOMY	String
INCOME_GRP	String
FIPS_10	String
ISO_A2	String
ISO_A2_EH	String
ISO_A3	String
ISO_A3_EH	String
ISO_N3	String
ISO_N3_EH	String
UN_A3	String
WB_A2	String
WB_A3	String
WOE_ID	Integer
WOE_ID_EH	Integer
WOE_NOTE	String
ADM0_A3_IS	String
ADM0_A3_US	String
ADM0_A3_FR	String
ADM0_A3_RU	String
ADM0_A3_ES	String
ADM0_A3_CN	String
ADM0_A3_TW	String
ADM0_A3_IN	String
ADM0_A3_NP	String
ADM0_A3_PK	String
ADM0_A3_DE	String
ADM0_A3_GB	String
ADM0_A3_BR	String

ADM0_A3_IL	String
ADM0_A3_PS	String
ADM0_A3_SA	String
ADM0_A3_EG	String
ADM0_A3_MA	String
ADM0_A3_PT	String
ADM0_A3_AR	String
ADM0_A3_JP	String
ADM0_A3_KO	String
ADM0_A3_VN	String
ADM0_A3_TR	String
ADM0_A3_ID	String
ADM0_A3_PL	String
ADM0_A3_GR	String
ADM0_A3_IT	String
ADM0_A3_NL	String
ADM0_A3_SE	String
ADM0_A3_BD	String
ADM0_A3_UA	String
ADM0_A3_UN	Integer
ADM0_A3_WB	Integer
CONTINENT	String
REGION_UN	String
SUBREGION	String
REGION_WB	String
NAME_LEN	Integer
LONG_LEN	Integer
ABBREV_LEN	Integer
TINY	Integer
HOMEPART	Integer
MIN_ZOOM	Double
MIN_LABEL	Double
MAX_LABEL	Double
NE_ID	Long
WIKIDATAID	String
NAME_AR	String
NAME_BN	String
NAME_DE	String
NAME_EN	String
NAME_ES	String
NAME_FA	String
NAME_FR	String
NAME_EL	String
NAME_HE	String
NAME_HI	String
NAME_HU	String
NAME_ID	String
NAME_IT	String
NAME_JA	String
NAME_KO	String
NAME_NL	String

NAME_PL	String	
NAME_PT	String	
NAME_RU	String	
NAME_SV	String	
NAME_TR	String	
NAME_UK	String	
NAME_UR	String	
NAME_VI	String	
NAME_ZH	String	
NAME_ZHT	String	
FCLASS_ISO	String	
FCLASS_US	String	
FCLASS_FR	String	
FCLASS_RU	String	
FCLASS_ES	String	
FCLASS_CN	String	
FCLASS_TW	String	
FCLASS_IN	String	
FCLASS_NP	String	
FCLASS_PK	String	
FCLASS_DE	String	
FCLASS_GB	String	
FCLASS_BR	String	
FCLASS_IL	String	
FCLASS_PS	String	
FCLASS_SA	String	
FCLASS_EG	String	
FCLASS_MA	String	
FCLASS_PT	String	
FCLASS_AR	String	
FCLASS_JP	String	
FCLASS_KO	String	
FCLASS_VN	String	
FCLASS_TR	String	
FCLASS_ID	String	
FCLASS_PL	String	
FCLASS_GR	String	
FCLASS_IT	String	
FCLASS_NL	String	
FCLASS_SE	String	
FCLASS_BD	String	
FCLASS_UA	String	

## Unique Values

List the unique values in a Layer's Field.

Short Name	Long Name	Description
-f	--field	The field name
-i	--input-workspace	The input workspace
-l	--input-layer	The input layer
	--help	Print the help message
	--web-help	Open help in a browser

```
geoc vector uniquevalues -i src/test/resources/data.gpkg -l countries -f ECONOMY
```

1. Developed region: G7
2. Developed region: nonG7
3. Emerging region: BRIC
4. Emerging region: MIKT
5. Emerging region: G20
6. Developing region
7. Least developed region

## Unique Values Style

Create an SLD document where each unique value in the Layer is a rule.

Short Name	Long Name	Description
-f	--field	The field name
-c	--colors	The color brewer palette name or a list of colors (space delimited)
-i	--input-workspace	The input workspace
-l	--input-layer	The input layer
	--help	Print the help message
	--web-help	Open help in a browser

```
geoc vector uniquevaluesstyle -i src/test/resources/data.gpkg -l countries -f ECONOMY -c GREENS
```

```
<?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:UserLayer>
</sld:StyledLayerDescriptor>
```

```

</sld:LayerFeatureConstraints>
<sld:UserStyle>
  <sld:Name>Default Styler</sld:Name>
  <sld:FeatureTypeStyle>
    <sld:Name>name</sld:Name>
    <sld:Rule>
      <sld:Name>1. Developed region: G7</sld:Name>
      <ogc:Filter>
        <ogc:PropertyIsEqualTo>
          <ogc:PropertyName>ECONOMY</ogc:PropertyName>
          <ogc:Literal>1. Developed region: G7</ogc:Literal>
        </ogc:PropertyIsEqualTo>
      </ogc:Filter>
      <sld:PolygonSymbolizer>
        <sld:Fill>
          <sld:CssParameter name="fill">#f7fcf5</sld:CssParameter>
        </sld:Fill>
      </sld:PolygonSymbolizer>
      <sld:LineSymbolizer>
        <sld:Stroke>
          <sld:CssParameter name="stroke">#acb0ab</sld:CssParameter>
          <sld:CssParameter name="stroke-width">0.5</sld:CssParameter>
        </sld:Stroke>
      </sld:LineSymbolizer>
    </sld:Rule>
    <sld:Rule>
      <sld:Name>2. Developed region: nonG7</sld:Name>
      <ogc:Filter>
        <ogc:PropertyIsEqualTo>
          <ogc:PropertyName>ECONOMY</ogc:PropertyName>
          <ogc:Literal>2. Developed region: nonG7</ogc:Literal>
        </ogc:PropertyIsEqualTo>
      </ogc:Filter>
      <sld:PolygonSymbolizer>
        <sld:Fill>
          <sld:CssParameter name="fill">#e5f5e0</sld:CssParameter>
        </sld:Fill>
      </sld:PolygonSymbolizer>
      <sld:LineSymbolizer>
        <sld:Stroke>
          <sld:CssParameter name="stroke">#a0ab9c</sld:CssParameter>
          <sld:CssParameter name="stroke-width">0.5</sld:CssParameter>
        </sld:Stroke>
      </sld:LineSymbolizer>
    </sld:Rule>
    <sld:Rule>
      <sld:Name>3. Emerging region: BRIC</sld:Name>
      <ogc:Filter>
        <ogc:PropertyIsEqualTo>
          <ogc:PropertyName>ECONOMY</ogc:PropertyName>
          <ogc:Literal>3. Emerging region: BRIC</ogc:Literal>

```

```

    </ogc:PropertyIsEqualTo>
  </ogc:Filter>
  <sld:PolygonSymbolizer>
    <sld:Fill>
      <sld:CssParameter name="fill">#c7e9c0</sld:CssParameter>
    </sld:Fill>
  </sld:PolygonSymbolizer>
  <sld:LineSymbolizer>
    <sld:Stroke>
      <sld:CssParameter name="stroke">#8ba386</sld:CssParameter>
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    </ogc:PropertyIsEqualTo>
  </ogc:Filter>
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</sld:Rule>
<sld:Rule>
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  <ogc:Filter>
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      <ogc:Literal>5. Emerging region: G20</ogc:Literal>
    </ogc:PropertyIsEqualTo>
  </ogc:Filter>
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    </sld:Fill>
  </sld:PolygonSymbolizer>
  <sld:LineSymbolizer>
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```



```

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            <ogc:Literal>6. Developing region</ogc:Literal>
        </ogc:PropertyIsEqualTo>
    </ogc:Filter>
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    </sld:LineSymbolizer>
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    <sld:Name>7. Least developed region</sld:Name>
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        </ogc:PropertyIsEqualTo>
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</sld:UserStyle>
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</sld:StyledLayerDescriptor>

```



## Voronoi

Calculate a voronoi diagram of all the features in a Layer.

Short Name	Long Name	Description
-o	--output-workspace	The output workspace
-r	--output-layer	The output layer
-i	--input-workspace	The input workspace
-l	--input-layer	The input layer
	--help	Print the help message
	--web-help	Open help in a browser

```
geoc vector voronoi -i src/test/resources/data.gpkg -l places -o target/voronoi.shp
```

