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Raster Recipes

The Raster classes are in the [geoscript.layer](#) package.

Raster Properties

Read a Raster from a File

```
File file = new File("src/main/resources/earth.tif")
Format format = Format.getFormat(file)
Raster raster = format.read("earth")
```



Get the Raster's Bounds.

```
Bounds bounds = raster.bounds
println "Bounds: ${bounds}"
```

```
Bounds: (-179.99999999999997, -89.9999999998205, 179.99999999996405, 90.0, EPSG:4326)
```

Get the Raster's Projection.

```
Projection projection = raster.proj
println "Projection: ${projection}"
```

```
Projection: EPSG:4326
```

Get the Raster's Size.

```
List size = raster.size  
println "Size: ${size[0]}x${size[1]}"
```

Size: 800x400

Get the Raster's number of columns and rows.

```
int cols = raster.cols  
int rows = raster.rows  
println "Columns: ${cols} Rows: ${rows}"
```

Columns: 800 Rows: 400

Get the Raster's Bands.

```
List<Band> bands = raster.bands  
println "Bands:"  
bands.each { Band band ->  
    println "  ${band}"  
}
```

Band:
RED_BAND
GREEN_BAND
BLUE_BAND

Get the Raster's block size.

```
List blockSize = raster.blockSize  
println "Block size: ${blockSize[0]}x${blockSize[1]}"
```

Block size: 800x8

Get the Raster's pixel size.

```
List pixelSize = raster.pixelSize  
println "Pixel size: ${pixelSize[0]}x${pixelSize[1]}"
```

Pixel size: 0.4499999999995505x0.449999999999551

Get more information about a Raster's Bounds.

```
File file = new File("src/main/resources/earth.tif")
Format format = Format.getFormat(file)
Raster raster = format.read("earth")
List<Band> bands = raster.bands
bands.each { Band band ->
    println "${band}"
    println "  Min = ${band.min}"
    println "  Max = ${band.max}"
    println "  No Data = ${band.noData}"
    println "  Is No Data = ${band.isNoData(12.45)}"
    println "  Unit = ${band.unit}"
    println "  Scale = ${band.scale}"
    println "  Offset = ${band.offset}"
    println "  Type = ${band.type}"
}
```

RED_BAND

Min = 0.0
Max = 0.0
No Data = [0.0]
Is No Data = false
Unit = null
Scale = 1.0
Offset = 0.0
Type = byte

GREEN_BAND

Min = 0.0
Max = 0.0
No Data = [0.0]
Is No Data = false
Unit = null
Scale = 1.0
Offset = 0.0
Type = byte

BLUE_BAND

Min = 0.0
Max = 0.0
No Data = [0.0]
Is No Data = false
Unit = null
Scale = 1.0
Offset = 0.0
Type = byte