GDAL/OGR Cheatsheet n°2 - Raster

Get Raster

```
gtif = gdal.Open(filename, 0)
if gtif is None:
  print 'Warning : invalid file name'
  sys.exit (1)
```

Iterate over pixels

```
for column in range(gtif.RasterXSize):
  for line in range(gtif.RasterYSize):
     #do something with pixel[line][column]
```

Iterate over bands

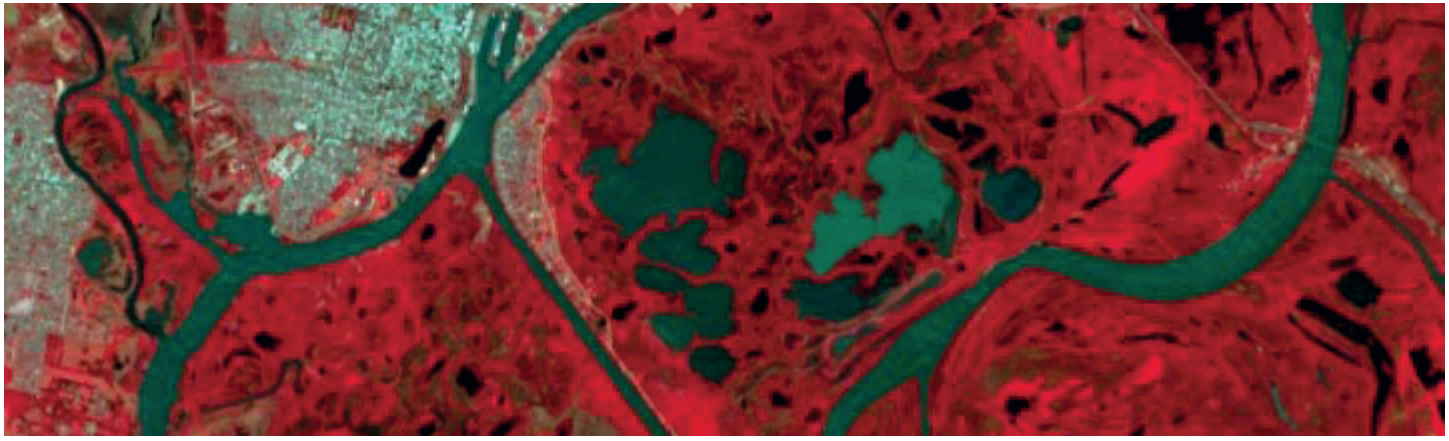
```
for band in range(gtif.RasterCount):
  band += 1
  btif = src_ds.GetRasterBand(band)
  if btif is None :
     continue
  #do something with band
```

Raster

```
gtif.RasterXSize
gtif.RasterXSize
gtif.RasterCount
gtif.GetProjection()
spatialInfo = gtif.GetGeoTransform()
originX = spatialInfo[0]
originY = spatialInfo[3]
pixelWidth = spatialInfo[1]
pixelHeight = spatialInfo[5]
```

Band

```
btif = gtif.GetRasterBand(1)
btif.GetNoDataValue()
btif.GetMinimum()
btif.GetMaximum()
btif.GetScale()
btif.GetUnitType()
btif.GetStatistics()
```



Coordinate to pixel

```
column = int((x - originX)/pixelWidth)
line = int((y - originY)/pixelHeight)
```

Pixel to Coordinate

```
x = originX + column * pixelWidth
y = originY + line * pixelHeight
```

Read as array

```
btif = gtif.GetRasterBand(1)
array = btif.ReadAsArray()
```

Project Raster

```
gdal.Warp(filename,gtif,dstSRS=RGF93)
```

Create raster

```
driver = gdal.GetDriverByName( "GTiff" )
out = driver.Create(filname, XSize, YSize,...)
if out is None:
  print "Impossible to create the file !\n"
out.SetProjection()
out.SetGeoTransform()
out.GetRasterBand(1).WriteArray()
out = None
```

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