

# UNLOCKING THE POTENTIAL OF NEXRAD DATA THROUGH NOAA'S BIG DATA PARTNERSHIP

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**A**n example Python script that uses the Amazon Web Services representational state transfer (REST) application program interface (API) to list the direct download URLs for a given radar site and day is presented. The script then calls the Weather and Climate Toolkit to convert each file into the shapefile GIS format. The script is available at <http://www1.ncdc.noaa.gov/pub/data/radar/bdp/scripts/convertDayToShapefile.py>:

```
from xml.dom import minidom
from sys import stdin
from urllib import urlopen
from subprocess import call

def getText(nodelist):
    rc = []
    for node in nodelist:
        if node.nodeType == node.TEXT_NODE:
            rc.append(node.data)
    return ''.join(rc)

date = "2016/01/01"
site = "KGSP"
bucketURL = "http://noaa-nexrad-level2.s3.amazonaws.com"
dirListURL = bucketURL + "?prefix=" + date + "/" + site
```

```

print "listing files from %s" % dirListURL

#xmldoc = minidom.parse(stdin)
xmldoc = minidom.parse(urlopen(dirListURL))
itemlist = xmldoc.getElementsByTagName('Key')
print len(itemlist), "keys found..."

# For this test, WCT is downloaded and unzipped directly in the working
directory
# The output files are going in 'output'
# http://www.ncdc.noaa.gov/wct/install.php
for x in itemlist:
    file = getText(x.childNodes)
    print "Processing %s " % file
    # Example converting to Shapefile
    call(["sh", "wct-4.0.1/wct-export", "%s/%s"%(bucketURL,file),
"output", "shp", "wct-4.0.1/wctBatchConfig.xml"])

    # Example converting to Radial NetCDF
    #call(["sh", "wct-4.0.1/wct-export", "%s/%s"%(bucketURL,file),
"output", "rnc", "wct-4.0.1/wctBatchConfig.xml"])

```