# Add_lon_and_lat_coordinate_variables_to_a_uniformly_spaced_grid

```
<?xml version="1.0" encoding="UTF-8"?>
<!--
Make a GDAL NetCDF file COARDS (therefore also CF) compliant

SRTM30+ global 30 sec topography/bathy is distributed as a collection
of srtm format tiles.   These were converted to a single NetCDF file using GDAL:

wget ftp://topex.ucsd.edu/pub/srtm30_plus/data/*.ers
wget ftp://topex.ucsd.edu/pub/srtm30_plus/data/*.srtm

# Merge all 33 tiles into one global GeoTIFF
gdal_merge.py -o srtm30plus_v6.tif *.ers

# Convert GeoTIFF to NetCDF for distribution via OpenDAP
gdal_translate srtm30plus_v6.tif -of NetCDF srtm30plus_v6.nc

The NetCDF file produced by GDAL contains the variable "Band1" and dimensions
"x" and "y", while geospatial coordinate information is stored as attributes.
-->

<netcdf xmlns="http://www.unidata.ucar.edu/namespaces/netcdf/ncml-2.2"
    location="http://coast-enviro.er.usgs.gov/models/bathy/srtm30plus_v6.nc">
    <!-- note that srtm30plus_v6.nc is just a netcdf file on a regular web site -->

    <!-- rename the dimensions x,y to lon,lat -->
    <dimension name="lon" orgName="x"/>
    <dimension name="lat" orgName="y"/>
    <!-- generate new variables "lon" and "lat" with valid CF units and uniform spacing -->
    <variable name="lon" shape="lon" type="double">
        <attribute name="units" value="degrees_east"/>
        <attribute name="long_name" value="Longitude"/>
        <values start="-180.00" increment="0.008333333333333333"/>
    </variable>
    <variable name="lat" shape="lat" type="double">
        <attribute name="units" value="degrees_north"/>
        <attribute name="long_name" value="Latitude"/>
        <!-- note that increment can be negative, counting down from the max latitude here -->
        <values start="90.00" increment="-0.008333333333333333"/>
    </variable>
    <variable name="topo" orgName="Band1">
        <attribute name="units" value="meters"/>
        <attribute name="long_name" value="Topography"/>
    </variable>
    <!-- since we have 1D coordinate variable names that match
           dimension names, we are COARDS compliant -->
    <attribute name="Conventions" value="COARDS"/>
 </netcdf>
```