

## Instructions for use of RasterModel.R

Program prepared for Dr. Amy Hurtford, Memorial University of Newfoundland, by Kevin Bell as part of the MUCEP program.

The program required R packages rgdal and raster to operate. Its purpose is to take shapefile exported from the government of Canada's GeoGratis website and convert them into raster files. A probability distribution is then calculated and overlaid on top of the original raster map. The coordinates and cell values of the combined raster file is then exported as a .CSV file and plotted using R base function.

Instructions for use:

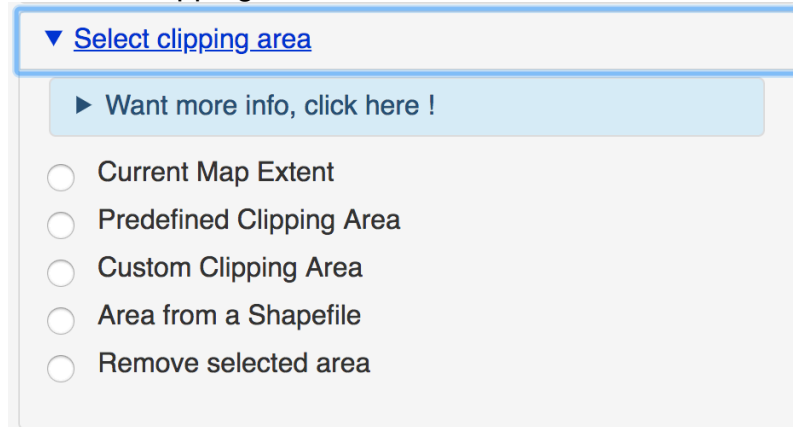
1. Go to <https://www.nrcan.gc.ca/earth-sciences/geography/topographic-information/free-data-geogratis/11042> and click on the "Geospatial Data Extraction" link
2. Click on the "Select clipping area"



A vertical list of five buttons with a right-pointing triangle icon:

- ▶ Overlay reference layer(s)
- ▶ Select clipping area
- ▶ Select data to be extracted
- ▶ Select options and submit job
- ▶ Job status

3. Then select "Custom Clipping Area"



A dropdown menu with a blue border and a downward-pointing triangle icon. The menu is open, showing a list of options:

- ▼ [Select clipping area](#)
- ▶ Want more info, click here !
- Current Map Extent
- Predefined Clipping Area
- Custom Clipping Area
- Area from a Shapefile
- Remove selected area

4. From here you can drag a rectangle over the area to be included in the shapefile



5. Then select the following options and add your email

▼ Select options and submit job

► Want more info, click here !

### CanVec

#### Data Extraction Form

\* Extraction polygon coordinates in geoJson, wkt or bbox format (required)

POLYGON((-53.580589586524  
47.331068147012,-53.580589586524  
48.182905819294,-52.499042879019996

Maximum allowed area (km<sup>2</sup>) : 150000  
Extraction zone area (km<sup>2</sup>) : 7756.90

\* Select one or more theme from the list (required)

Select all / unselect all

Lakes and rivers - Hydrographic features

Transport networks - Transport features

Constructions and land use - Manmade features

Mines, energy and communication networks - Resources Management Features

Wooded areas, saturated soils and landscape - Land Features

Administrative Features

Elevation features

Map labels - Toponymic features (50K only)

\* Output format choice (required)

ESRI file geodatabase

\* Select a coordinate system (required)

NAD83 CSRS (EPSG:4617)

\* Select to clip or not the data (required)

No

\* Select the scale of the data (required)

1/50 000

\* Email address (yourname@domain.com) (required)

Submit

6. An email will be sent to you with a link to the shapefile download URL. Open this link and unzip the file that is downloaded. Be sure to put the file in your working directory.
7. Open the R script and add the path to the shapefile to the dsn argument of the function in line 47 and the name "shoreline\_1" to the layer argument

```
shp = readOGR(dsn="/Users/kevinbell/Desktop/School/R Coding/Practice  
Directory/Shoreline shp",layer="shoreline_1")
```

After these steps are completed the script will function. If you already have a raster file that you want to add to the distribution to comment out lines 47 and 49 and be sure to name the raster: "rastermap".