

Tutorial 5

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Week 5

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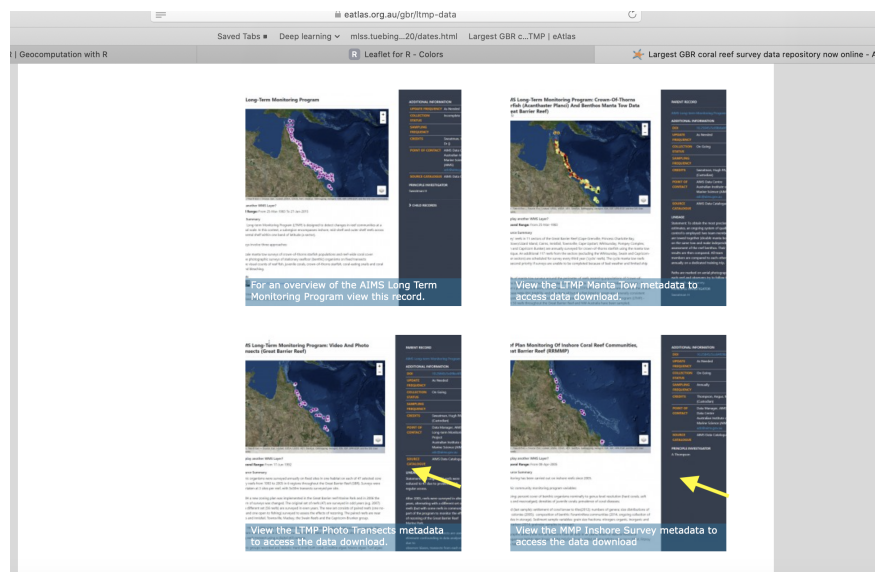
Tutorial Objectives

- Go through the official channels to get government data from different sources. Both from the Great Barrier Reef Marine Park Authority and the Australian Institute of Marine Science.
- Understand the structure of the Great Barrier Reef monitoring programs using publicly available data.
- Learn how to produce interactive maps and maps using shape files.
- Produce maps as those reported by the Great Barrier Reef Marine Park Authority and the Australian Institute of Marine Science both in their official reports and in their scientific papers.
- Have fun and please participate!

1 Exercise 1: Getting the data

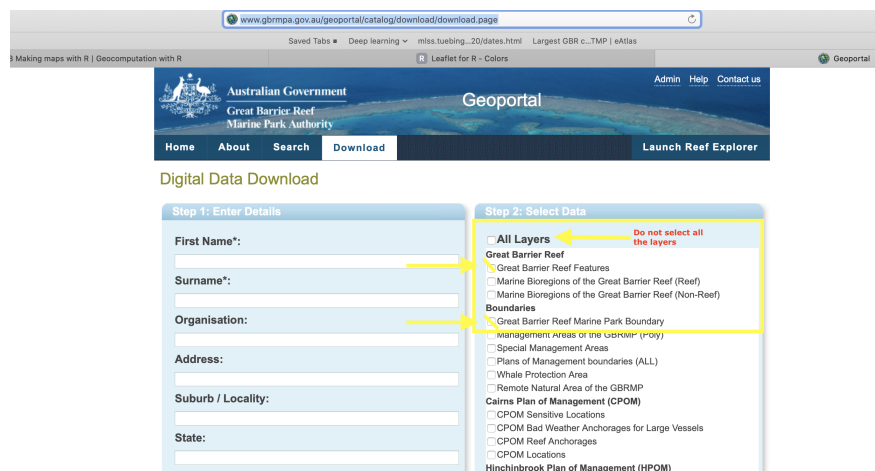
1.1 Please visit the following sites to obtain the data sets for the tutorial:

- AIMS (ltmp and mmp): Please download the data for the Long term monitoring program and for the Marine monitor program as indicated in the figure below:



Download link here

- Shape files from the: Please select all the layers marked in the figure below.



Download link here

2 Exercise 2: Create a report and read the data

- Create a reproducible Rmd file called *tutorial5.Rmd* that would render into html and make sure the figures that you produce will be automatically store into a folder called *Tutorial5_Images*
- Include relevant R libraries at the top of the file.
- Read data from the Marine monitoring program (MMP) and form the Long Term Monitoring program (LTMP) and examine the data.
- Create three figures one for the MMP data and two for the LTMP data displaying the sampling locations as follows: Color the locations according to *NRM_Regions* and according to the *sectors* and *self* as relevant for each data set. Make sure the figures have titles explaining which data set is being used.

3 Exercise 3: Creating maps using leaflet

- Create an interactive map displaying sampling locations for the MMP data set.
- Create an interactive map displaying sampling locations for the LMMP data set.
- Make sure you name the R code chunks so that the figures are stored with the appropriate names.
- Make sure the figures are save into *Tutorial5_Images*

4 Exercise 4: Creating maps using shape files

- Using the shape files that you download in Exercise 1 display the sampling locations for the LTMP data set colored according to *SECTOR* (one map for each shape file = two maps)
- Using the shape files that you download in Exercise 1 display the sampling locations for the LTMP data set colored according to *SELF* (one map for each shape file = two maps)
- Make sure you name the R code chunks so that the figures are stored with the appropriate names.
- Make sure the figures are save into *Tutorial5_Images*