**Earth, Its Dynamics, and the Environment**
**Practical 1 (SP2020)**

Upon completion of this laboratory practical, students will be able to:

- Use Google Earth
- Identify and characterize plate tectonics
- Identify and summarize earthquake activities

**Aims**

In this laboratory, we will use Google Earth and IRIS's Earthquake Browser to investigate topography, earthquake (magnitude and depth), as well as potential volcanic activity.

**Note**

- This lab is digital, so there is no safety hazard.
- You may use your cellphone for google earth. (Google map is a little different, for this lab, google earth would be better)
    - If you do not have your phone with you, you can always use one of the Chromebooks here – just ask! You do NOT need your phone for any future labs.
    - Please respect the property of MIT ESP. The Chromebook is supplied by generous support from the program

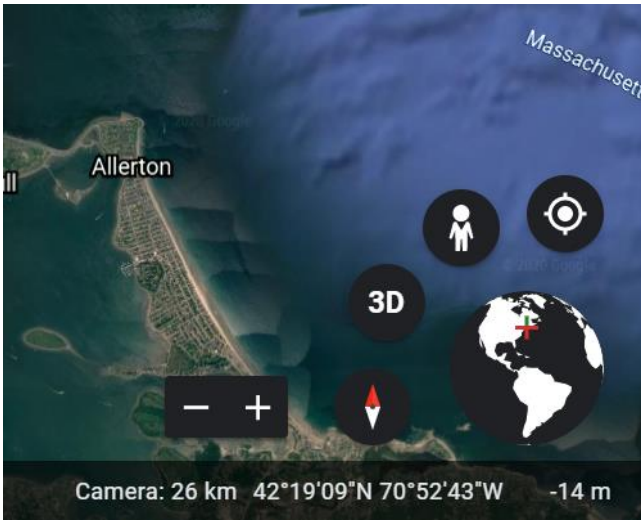
**Introduction**

Please open Google Chrome or internet browser, type in the web address: https://earth.google.com/web/
This takes you to Google Earth Web version. We will start our investigations here.

Please try to zoom in to Boston so you have a sense of how it looks. There are several keys on the button right corner of the page that I want you to pay attention to. From the top right, the first button takes us to our current location, and the "human" button gives a street-view. "3D" is 3-D, quite obvious. We do not need any of those for this lab but are fun to investigate on your own.

The compass button will become useful in this lab as it will rotate the map to the "correct" direction that North faces up. On the very bottom of the page, you see "Camera: __ km". This number shows the height that we are viewing the earth right now. The series of number to the right shows the longitude and latitude of our location. The bottom right number, in this case -14 m, shows the altitude/elevation of the specific location that your mouse is pointing to. -14 m is likely to be pointing in the ocean.

I want you to take those into consideration as we progress further.



**Section 1**

Center your screen on 23°46’30”N, 45°44’00”W (put “23 46 30N, 45 44 00W” into the search box) and make your eye altitude about 1200 km.

| **Observations** |
| --- |
| |
| **Volcanic Activity?** Yes / No / Maybe |
| **Earthquakes (deep, shallow, strong, weak, etc.)** |
| |

**Section 2**

Center your map on 9°00’00”N; 40°00’00”E and make your eye elevation about 200 km.

| **Observations** |
| --- |
| |
| **Volcanic Activity?** Yes / No / Maybe |
| **Earthquakes (deep, shallow, strong, weak, etc.)** |
| |

**Section 3**

Center your map on 22°S; 71°40’W and make your eye elevation about 1300 km.

| **Observations** |
| --- |
| |
| **Volcanic Activity?** Yes / No / Maybe |

| **Earthquakes (deep, shallow, strong, weak, etc.)** |
| --- |
| |

**Section 4**

Center your map on 31°N; 87°E and make your eye elevation about 2500 km.

| **Observations** |
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| |
| **Volcanic Activity?** Yes / No / Maybe |
| **Earthquakes (deep, shallow, strong, weak, etc.)** |
| |

**Section 5**

Center your map on 35°15’N; 119°30’W and make your eye elevation about 400 km.

| **Observations** |
| --- |
| |
| **Volcanic Activity?** Yes / No / Maybe |
| **Earthquakes (deep, shallow, strong, weak, etc.)** |
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