Exercise 1 - How Deep is the Ocean? September 17, 2018.

EPIB607 - Inferential Statistics[a]

[a]Fall 2018, McGill University

This version was compiled on September 16, 2018

This in-class exercise will introduce you to sampling distributions for means and proportions.

Sampling distribution | Means | Proportions | Standard error | Standard deviation | Parameter | Statistic

1. What percentage of the world's surface is covered by water?

The data provided by the Scripps Institution of Oceanography can provide an answer, but some work is required on your part. James Hanley (JH) has randomly sampled $n = 5$ and $n = 20$ latitudes and longitudes for every student in the class. This document contains unique latitudes and longitudes for

```
[1] "Hanley, James"
```

and was sent in an email (using the gmailr package) as a pdf attachment to the following address:

```
[1] "james.hanley@mcgill.ca"
```

A sample of 5.

```
Longitude.n.5 <- c(116.43,-66.318,166.966,32.036,-118.238)
```

```
Latitude.n.5 <- c(32.602,-70.789,-51.301,3.274,-32.69)
```

A sample of 20.

```
Longitude.n.20 <- c(57.814,40.026,131.012,-145.304,-130.685,48.011,59.257,111.303,41.137,-61.05,
159.666,-110.195,-87.961,-118.8,99.592,-102.281,159.827,-166.667,-2.171,-6.664)
```

```
Latitude.n.20 <- c(40.428,59.851,-38.35,-8.862,-26.312,-49.721,-4.02,44.028,-36.308,22.071,
44.765,-18.818,37.185,41.768,-5.255,14.199,61.165,10.874,-27.083,15.792)
```