Resource: https://ir.lib.uwo.ca/cgi/viewcontent.cgi?article=1901&context=etd

1 | A quick note:

- halley (the person who made the fist isogonic map) did not publish the methods in which he went from magnetic declination observations to the isogonic lines.
- so this paper is suggesting a method that he could have used to get the lines that he got.

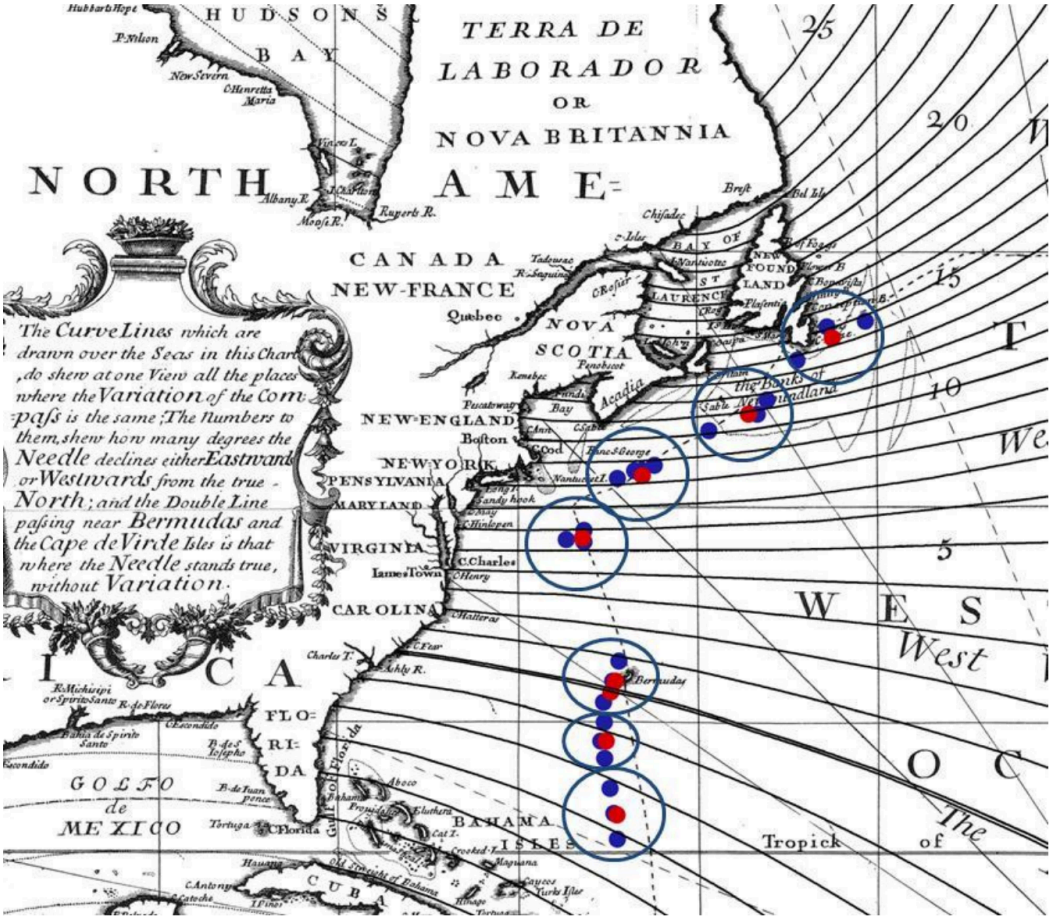
2 | How the data was collected:

- latitude: ”was taken at noon”
  - had something to do with the sun?
  - I do not know of this method
- longitude:
  - ”obtained by reckoning from the previous day’s noon”
    - again has something to do with the sun
    - again, not aware of this method
- maybe how he did it (lat and long): https://www.youtube.com/watch?v=ircLt-qvl3M
- Magnetic declination:
  - found by observing the Sun’s magnetic amplitude:
    - the angular distance when on the horizon at sunrise or sunset
    - the angular distance was taken at sunset and sunrise, and then the diffecenec divied by two could be used to find the magnetic declination of noon or of midnight
      - not sure of this method (need to look into it)
- Kinda makes intuitive sense: https://woodtrekker.blogspot.com/2012/10/using-sun-to-find-magnetic-declin html#:~:text=Add together the azimuths of,declination of the compass needle.

3 | Suggested mathematical methods:

3.1 | Arithmatic mean:

- A lot of data was collected. In order to reduce the amount of error, observations were grouped by proximity and then averaged.



- The method in which the average was found was adding all of the x coordinates and dividing by the number of dots for the x coordinate, a similar method was used for y coordinates and for the magnetic declination
- See the ”paper” for more info on the error reduction

3.2 | **Newtons Divided Difference:**

- Pretty cool, just a method used to graph the line of best fit, see the paper for the actual details, I don’t want to type the out (22)