**3.2 Worksheet**: **Estimating Forecast Model Error**

Once students have forecasted location D, they should be plotted in the excel notebook for today’s lesson in order for students to visualize the buoy trajectory. For each day of forecast, the students will calculate the model error of their forecast by comparing forecast D coordinates to actual reported coordinates of D.

The forecasted locations can be recorded in the table below for reference:

|  |  |  |
| --- | --- | --- |
| Day of Forecast | (Latitude, Longitude) | Student(s) Assigned |
| 350 | Forecast D: ( )  Reported D: () |  |
| 352 | Forecast D: ( )  Reported D: () |  |
| 354 | Forecast D: ( )  Reported D: () |  |
| 356 | Forecast D: ( )  Reported D: () |  |
| 358 | Forecast D: ( )  Reported D: () |  |
| 360 | Forecast D: ( )  Reported D: () |  |
| 362 | Forecast D: ( )  Reported D: () |  |
| 364 | Forecast D: ( )  Reported D: () |  |
| 1 | Forecast D: ( )  Reported D: () |  |

*Model error calculation:*

In this lesson, error will be calculated as the difference in the distance your forecast predicted the buoy would travel, , and the distance the buoy was actually reported to have traveled, , in a given period of time:

Students must calculate the error of their forecasts using known relations and the reported and forecasted locations of the buoy.

