For the primary analysis of our hurricane data, our group took the data of the last twenty-five years, from 1999 to 2024 and plotted the hurricane routes over the Gulf of Mexico. With this we will be able to see if there are any obvious trends in our data. Over the twenty-five-year period, there were one hundred and eighty hurricanes recorded in the gulf, with the longest recorded hurricane being Harvey in 2017, lasting for 276 hours or eleven days and twelve hours, with an average intensity of 37.06kt. When looking at the shortest hurricanes, we find a slight issue with our data but not a very big one, and which is that we only track the location of a hurricane every six hours, so if a hurricanes duration is less than six hours is counted as lasting for zero hours. This makes it so there are four hurricanes with a duration of zero hours, Albero in 2012, Three in 2019, Isaias in 2020, as well as Omar in 2020, with Isaias having the highest average intensity of 60kt and Omar having the lowest average intensity of 25kt. The hurricane with the highest average intensity was Wilma in 2005, with an average intensity of 112.86kt, over 162 hours. while the lowest average intensity was 17.5kt for Chris over 6 hours, in 2006. When looking at the data overall there doesn’t seem to be anything major that sticks out on either end of the extreme values but how will that change as we limit our data to a year at a time.

In 1999, there were only 8 hurricanes in the gulf, but only three noteworthy ones. The noteworthy hurricanes for that year were Bret, Irene, and Katrina, with Bret starting just north of Coatzacoalcos and continuing to move north before making an almost 80° turn to the left and moving in between Corpus Christi and Progreso before dissipating between near the Rio Grande River over 126 hours, with an average intensity of 65.91kt over that period. Irene started deep in the Caribbean sea, moving north to hit 3 major cities directly, Havana, Key West, and Miami, relatively fast over its 114 hour lifespan with an average intensity of 52.5kt. The final noteworthy hurricane is Katrina starting in the Caribbean Sea but even lower that Irene, Katrina moved northeast and eventually hitting Belize City before dissipating at the where Mexico meets the ocean. Katrina was only around for 90 hours with a low intensity of 26.88kt but it covered a large distance relatively fast. Overall, 1999 had an overall storm length of 66 and an average intensity of about 38kj, **COMPARE TO OTHER YEARS**

In 2000, there were only 7 hurricanes in the gulf

In 2001, there were only 7 hurricanes in the gulf

In 2002, there were only 8 hurricanes in the gulf

In 2003, there were only 7 hurricanes in the gulf

In 2004, there were only 6 hurricanes in the gulf

In 2006, there were only 3 hurricanes in the gulf

In 2007, there were only 8 hurricanes in the gulf

In 2008, there were only 9 hurricanes in the gulf

In 2009, there were only 2 hurricanes in the gulf

In 2010, there were only 10 hurricanes in the gulf

In 2011, there were only 6 hurricanes in the gulf

In 2012, there were only 6 hurricanes in the gulf

In 2013, there were only 6 hurricanes in the gulf

In 2014, there were only 2 hurricanes in the gulf

In 2015, there were only 1 hurricane in the gulf

In 2016, there were only 8 hurricanes in the gulf

In 2017, there were only 8 hurricanes in the gulf

In 2018, there were only 4 hurricanes in the gulf

In 2019, there were only 6 hurricanes in the gulf

In 2020, there were only 16 hurricanes in the gulf

In 2021, there were only 8 hurricanes in the gulf

In 2022, there were only 8 hurricanes in the gulf

In 2023, there were only 4 hurricanes in the gulf

In 2024, there were only 8 hurricanes in the gulf