Attributes/Derived Attributes from raw DATA:

**Date**: 2009-2016 [May to September]

**Turtle data:**

* TurtleExactCountSC :

Method: 1) Added Nest and False crawls

2)Aggregated date wise

3) Merged with sharkattack file and alldatesfile date wise

* TurtleexactdiscretizeSC : Discretized from TurtleExactCountSC using equal width binning (no of bins = 3)
* TurtleExactCountNC :

Method: 1) Added Nest and False crawls

2)Aggregated date wise

3) Merged with sharkattack file and alldatesfile date wise

* TurtleexactdiscretizeNC: Discretized from TurtleExactCountNC using equal width binning (no of bins =3)
* TurtleExactCombined: Combined variable for turtle activity

Method: For NC attacks records: TurtleExactCountNC

For SC attacks records: TurtleExactCountSC

For other records: Mean of TurtleExactCountNC and TurtleExactCountSC

* TurtleAttackActivity: Mean of the total false crawls and nesting location wise
* TurtleAttackActivityDiscretized: Discretized from TurtleAttackActivity

**Raw Data from Global Shark Attack File:**

* Area
* Location
* Time
* Species
* Attack
* Beach
* County

**Timeofattack**: Discretized from Time Variable in Global Shark attack file using EDA.

**MoonPhase**: Used java to calculate the moon phase for each date.

Values include [new moon, full moon, First Quarter, waxing gibbous, waning gibbous, third quarter, Waning Crescent, Waxing Crescent]

**MoonPhaseExtended**: MoonPhase attribute is extended +-2 days

**MoonPhase3daysextended**: MoonPhase attribute is extended +-3 days

**MoonPhase4daysextended**: MoonPhase attribute is extended +-4 days

**Weather Data:**

Raw data from NOAA (File provided by Dr Pamela Thompson)

* Precipitation\_Value :
* StationPressure:
* WindSpeed:

**Salinity and Turbidity Data:**

Variables derived date-wise from raw data:

* Salinity
* Turbidity
* Water Temperature
* DissovedO2

**Variables derived after removing NAs:**

* PrecipitationValueMod
* StationPressureMod
* WindSpeedMod
* SalinityMod
* TurbidityMod
* TemperatureMod
* DissovedO2Mod

**Variables discretized with equal width binning (number of bins: 3)**

* DissolvedO2discretize
* salinitydiscretize
* turbiditydiscretize
* temperaturediscretize
* precipitationdiscretize
* pressurediscretize
* windspeeddiscretize
* precipitationmvadiscretize

**Calculation of wet /dry days:**

Prepmovingaverage : Moving average method used on PrecipitationValueMod

**Crab Data:**

* CrabLandings : Raw data
* CrabLandingsnormalised: Z score normalization on CrabLandings
* CrabLandingsDisc: Discretized using equal width binning (no of bins: 3)

**Wind Direction Data:**

* **Degree**: Date-wise mean of all degree measurements taken for the day
* **Direction**: Derived from degree

**Normalized Variables:**

* Zscorewatertemp: Z score normalization of water temperature
* Changetemp: Derived from Water Temperature taking difference from the current to the previous day

**Variables derived using Z Score Normalization:**

* Precipitation\_Normalised
* StationPressure\_Normalised
* WindSpeed\_Normalised
* Salinity\_Normalised
* Turbidity\_Normalised
* Dissolved02\_Normalised

**Variables derived using min max normalization:**

* Precipitation\_minmax
* StationPressure\_minmax
* WindSpeed\_minmax
* Salinity\_minmax
* Turbidity\_minmax
* Dissolved02\_minmax
* WaterTemp\_minmax