**North American Storm Analysis**

Database notes

DB: Postgres

Source: Pandas dataframe from .csv import

Tables imported from Pandas:

NA\_Storms – North American storm data

Target – Florida coordinates and geohash values

fl\_storms – created with the following query. Table will contain storms where geohash values from NA\_Storms equal Target geohash values indicating a storm strike.

CREATE TABLE fl\_storms

AS

SELECT

        "NA\_Storms"."NUMBER", "NA\_Storms"."NAME", "NA\_Storms"."SEASON\_Year", "NA\_Storms"."NATURE", "NA\_Storms"."LAT", "NA\_Storms"."LON", "NA\_Storms"."WMO\_WIND\_KTS",

        "NA\_Storms"."WMO\_PRES", "NA\_Storms"."STORM\_SPEED\_KTS", "NA\_Storms"."STORM\_DIR\_degrees", "NA\_Storms"."geohash"

FROM

    "NA\_Storms"

INNER JOIN target on "NA\_Storms"."geohash" = "target"."geohash"

NA\_Storms table is modified with the following code to create “Strike\_Target” column to indicate storms that hit the target area.

Create table column, “Strike\_Target”

ALTER TABLE "NA\_Storms"

    ADD COLUMN "Strike\_Target" numeric DEFAULT 0;

Set value of “Strike\_Target” to 1 if exists in “fl\_storms” table. Note, a 1 in the Strike\_Target column indicates a storm strike in the target area.

UPDATE "NA\_Storms"

    SET "Strike\_Target" = 1

    FROM "fl\_storms"

    WHERE "NA\_Storms"."SID" in (select distinct "fl\_storms"."SID" from "fl\_storms"); -- = "fl\_storms"."SID"

Create table “origin\_end\_time” to get start and end timestamps for storms.

CREATE TABLE origin\_end\_time

AS

SELECT  "NA\_Storms"."SID"

       , min("ISO\_TIME") as "origin\_time"

       , CASE WHEN count(\*) > 1 THEN max("ISO\_TIME") END AS "end\_time"

FROM   "NA\_Storms"

GROUP by "NA\_Storms"."SID"

Create “NA\_Storms\_Summary” table

This table will have 1 row for each storm, the ISO\_TIME is the origin time of the storm and the coordinates and geohash values are also from the origin of the storm.

CREATE TABLE NA\_Storms\_Summary

AS

SELECT DISTINCT ON ("NA\_Storms"."SID")

        "NA\_Storms"."NUMBER", "NA\_Storms"."SID", "NA\_Storms"."NAME", "NA\_Storms"."SEASON\_Year", "NA\_Storms"."ISO\_TIME", "NA\_Storms"."NATURE", "NA\_Storms"."LAT", "NA\_Storms"."LON", "NA\_Storms"."WMO\_WIND\_KTS",

        "NA\_Storms"."WMO\_PRES", "NA\_Storms"."STORM\_SPEED\_KTS", "NA\_Storms"."STORM\_DIR\_degrees", "NA\_Storms"."geohash", "NA\_Storms"."geohash2", "NA\_Storms"."Strike\_Target"

FROM

    "NA\_Storms"

INNER JOIN "origin\_end\_time" on "NA\_Storms"."ISO\_TIME" = "origin\_end\_time"."origin\_time"