Tropical Cyclone Genesis Index (TCGI)

1) What does TCGI do?

- TCGI forecasts the probability of TC genesis for tropical disturbances in the North Atlantic;
- Each TCGI run produces both a 2-day (0-48 hr) and 5-day (0-120-hr) genesis forecast;
- TCGI also provides detailed information about the forecast track, predictor values along the track, and how the different predictors are contributing to the genesis forecast;

2) How is the TCGI web site organized?

- The main page contains only the most recent TCGI forecast for all active tropical disturbances;
- The *archive* link contains TCGI forecasts for all historical TCGI forecasts;

3) How are tropical disturbances identified?

- TCGI analyzes tropical disturbances that have been identified by the NOAA National Hurricane Center;

4) What is the source of the TCGI tropical disturbance forecast tracks?

- TCGI uses the NOAA GFS model to generate forecast positions for tropical disturbances;
- For cases when the GFS model is not able to continuously track a tropical disturbance, a special model, BAMG is used to fill in the track positions;
- BAMG is a simple track forecast model that was developed using a database of weak tropical cyclones;

5) What predictors does TCGI use?

- TCGI uses a combination of 6 predictors that include Dvorak satellite intensity estimates, satellite water vapor fields, and model analysis fields;
- The individual predictors are described at the bottom of the TCGI real-time output files;

6) How does TCGI handle forecasts near or over land?

- TCGI's 0-48 hr forecast: assumes no land interactions are possible;

- TCGI's 0-120 hr forecast: if the center moves ≥350 km inland at any point along the 48-120 hr track, the 0-120 hr forecast probability is set equal to the 0-48 hr probability;

7) How often are TCGI forecasts made and when does it run?

- TCGI forecasts are made at the four synoptic times: 0000, 0600, 1200, and 1800 UTC;

- TCGI runs are timed so that it is available to NHC forecasters who are preparing their Tropical Weather Outlook (TWO);

- TCGI requires several inputs that include information from the NHC F-Deck, satellites, and model analysis fields. Attempts to run TCGI begin 2-hr before synoptic time and continue until 5-min before synoptic time until all required information is available.

- The TCGI run schedule is:
  - 2-hr before synoptic time: TCGI runs at :30 and :45;
  - 1-hr before synoptic time: TCGI runs at :00/15/30/45 and one last time at :55;