Overview of the NHC HFIP Display and Diagnostic System

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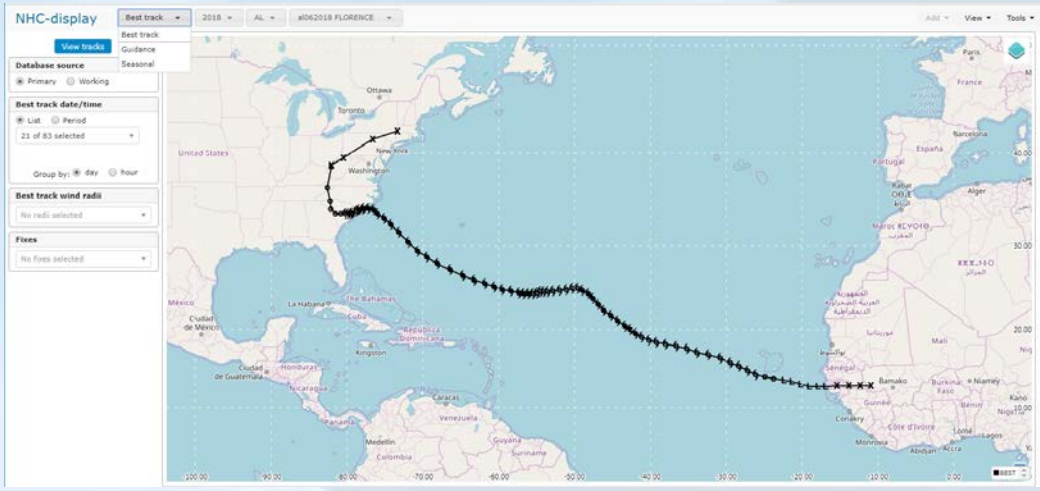
Web-based Display and Diagnostic System Development

- **Display is designed using modular and flexible technology:**
  - OpenLayers Mapping tools
    - Platform independent
  - MySQL database
  - Primary input: ATCF decks
- **Diagnostic evaluation tools**
- **Consensus forecasts**
- **Fixes and best track editing**
- **Real-time access through the HFIP webpage:**
  - http://www.hfip.org/nhc-display



NHC-Display

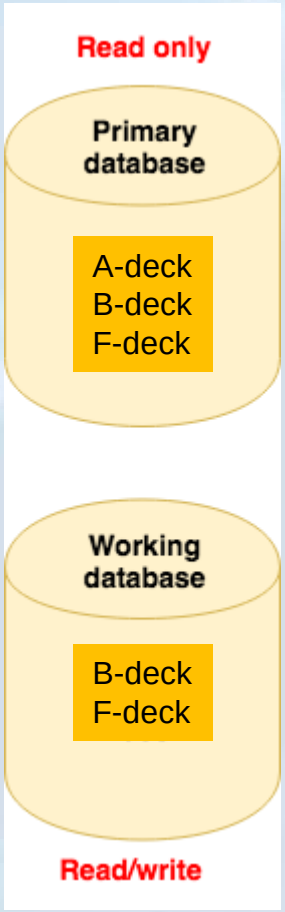
- **Display latest hurricane track and guidance in real time**
- **Archive and display historical data**
- **Can be used for the educational or training purposes**
- **Designed using open source products**

System Requirements

- **Java 1.8+**
- **MySQL**
- **Apache/Tomcat**
- **Read from ATCF decks (A-deck, B-deck, F-deck)**
- **Access to ATCF files**

Data sources: Database

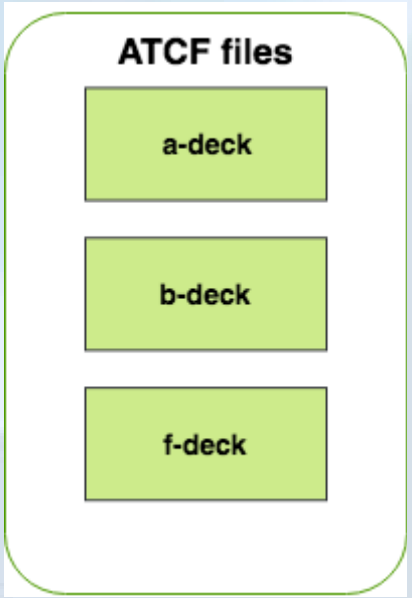
- **Historical archive of hurricane best track starting from 1851**
- **Primary database**
  - A-deck
  - B-deck
  - F-deck
- **Separate database for the interactive hurricane data editing and educational purposes**
  - B-deck
  - F-deck



Data sources: ATCF files

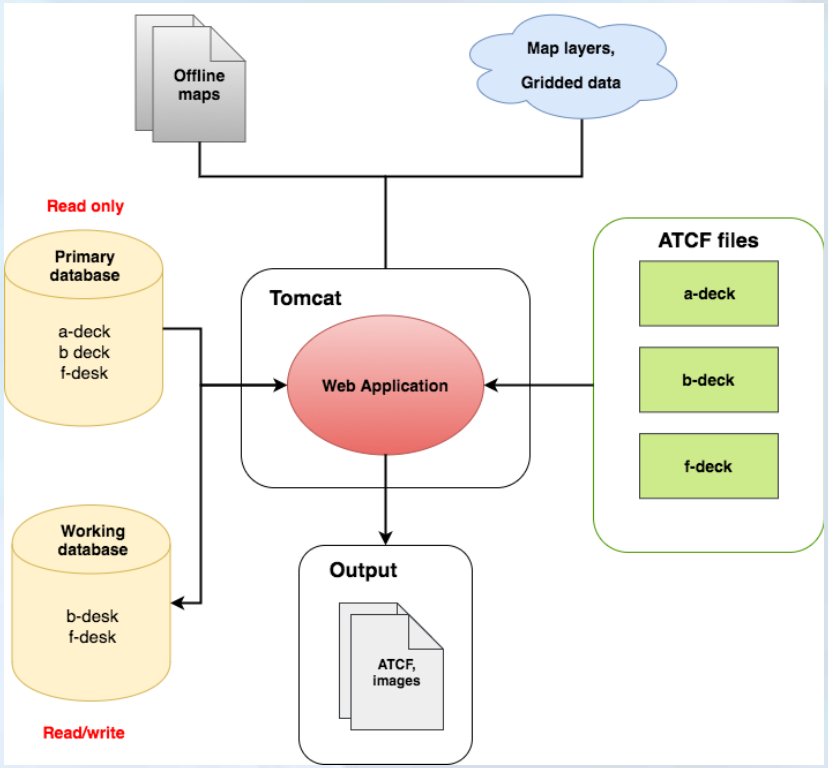
- **Current ATCF formatted data files**
  - A-deck
  - B-deck
  - F-deck

Files can be archived to the database or read directly from files



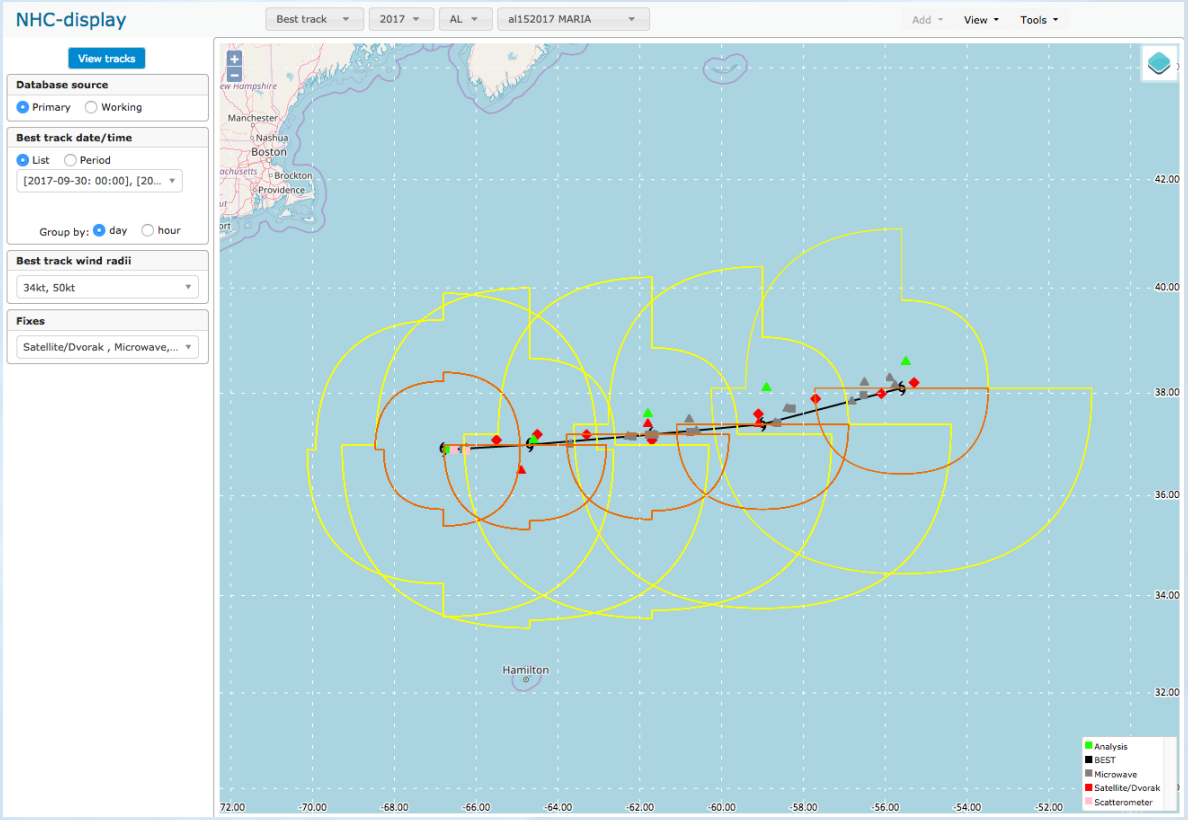
Web Application

- **Runs under Apache/Tomcat**
- **Uses online open source base maps**
- **Offline maps are available if online maps can't be accessed**
- **Displays gridded data layers**
- **Produces images and ATCF files**



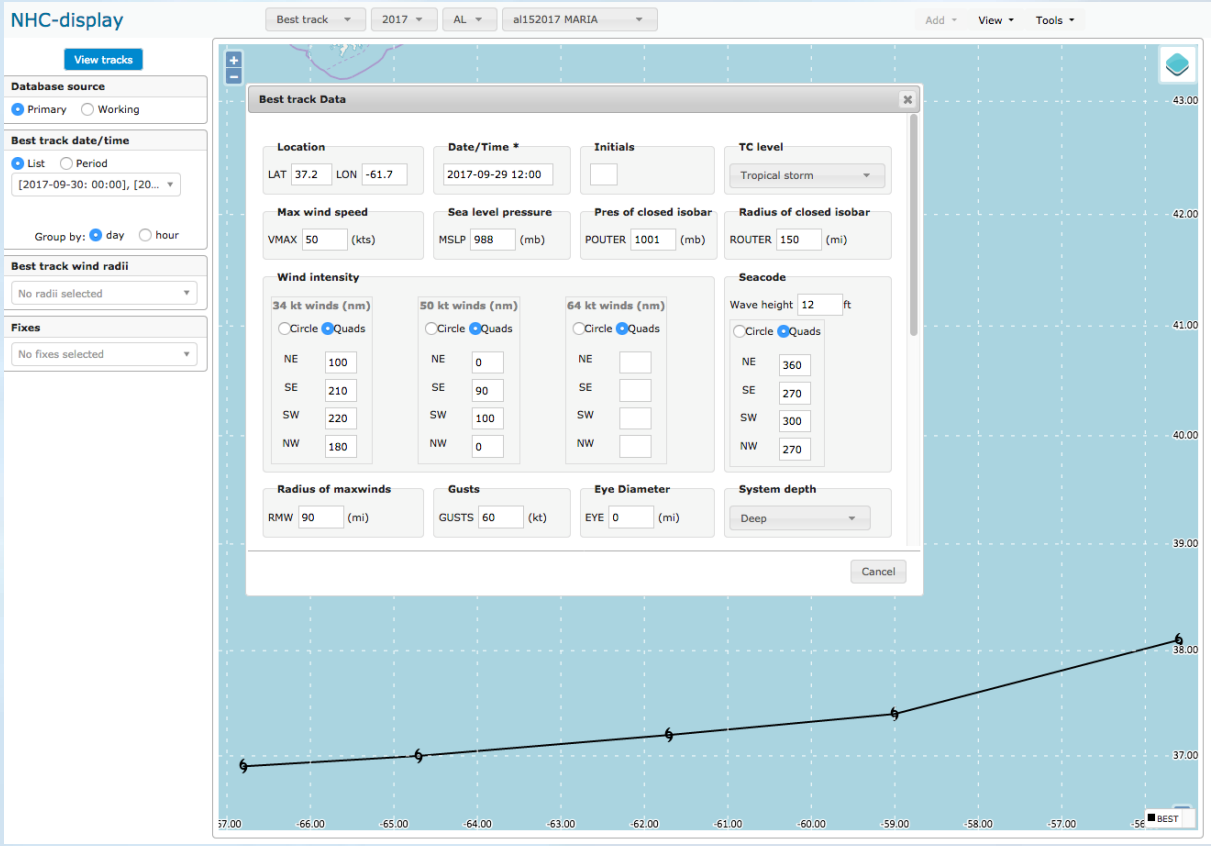
NHC-Display: View Best Track

- **Displays best track of the selected storm**
- **Fixes and wind radii can be displayed**
- **Page refreshes every 5 min to display updated data**



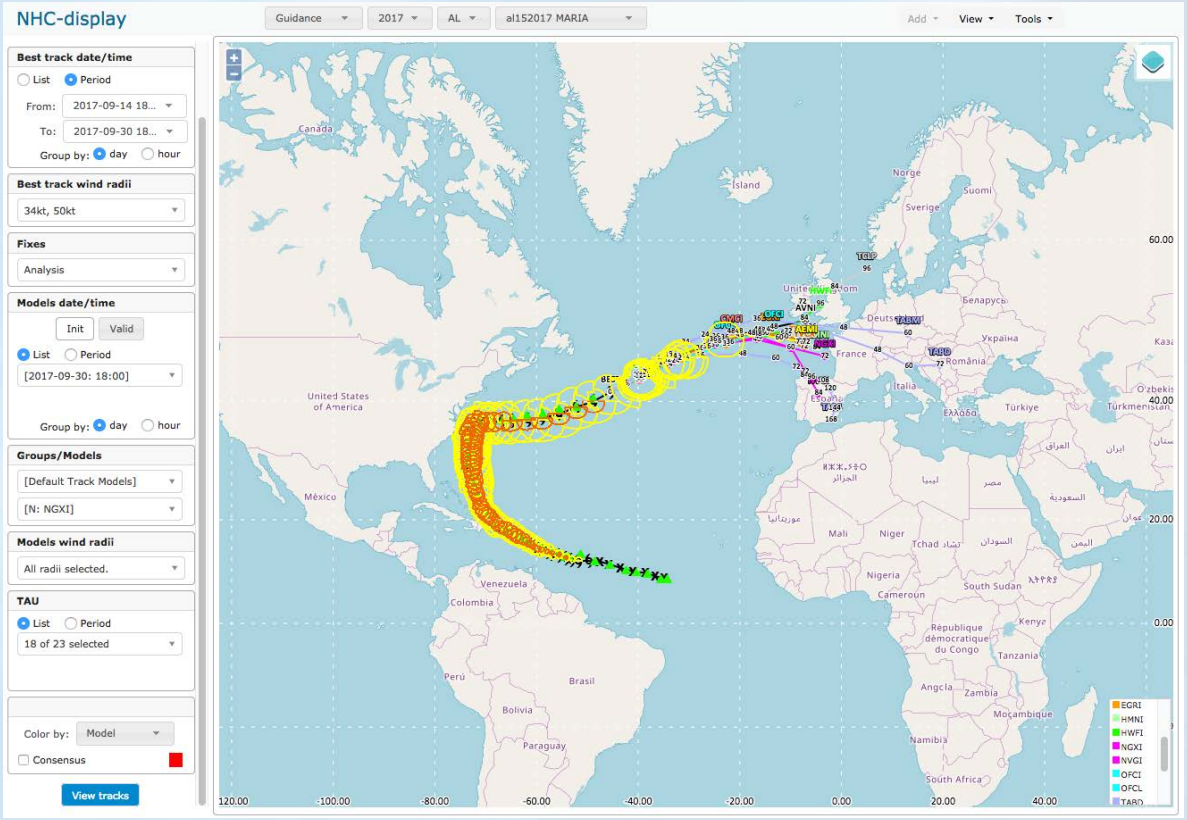
NHC-Display: View best track

- **Display all available information for location along the track**



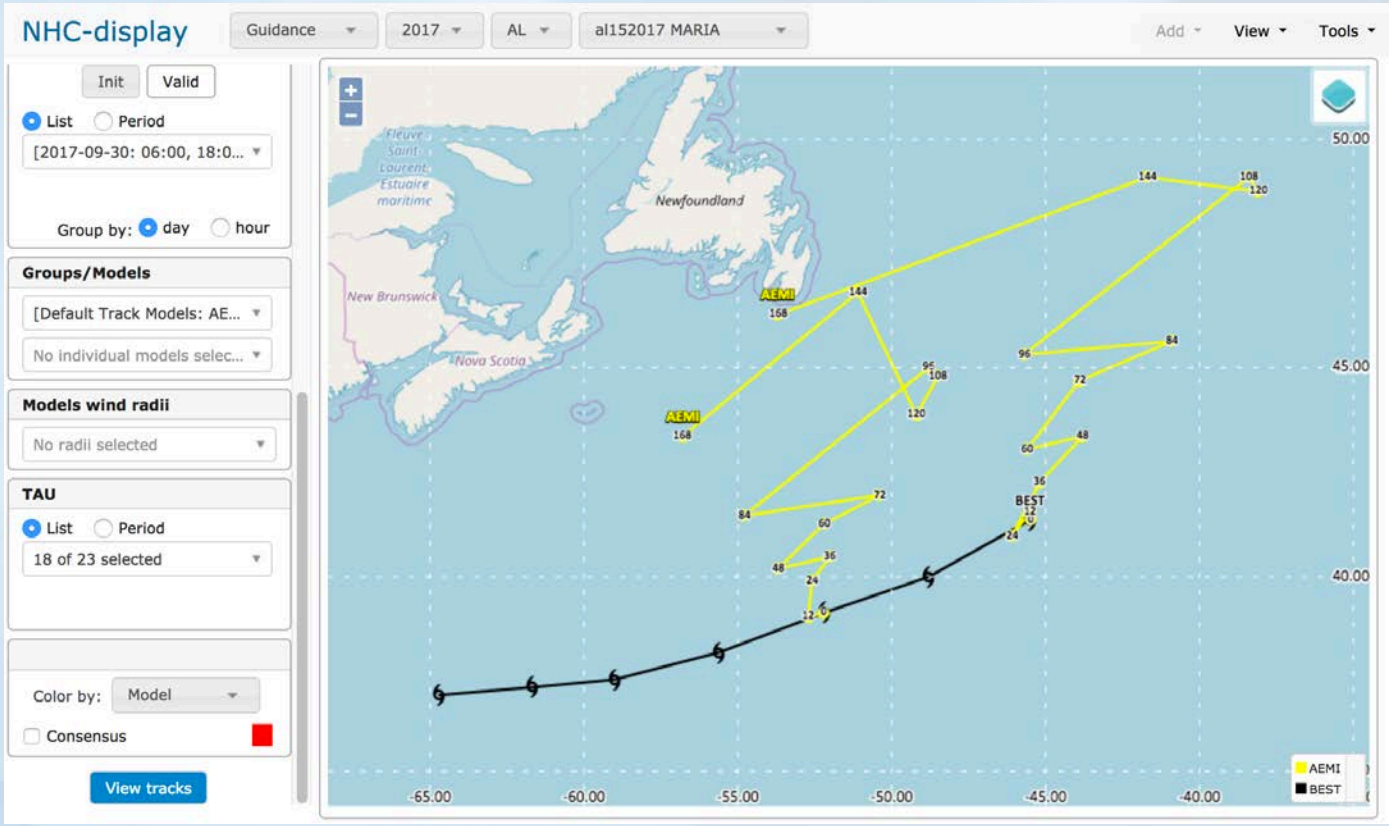
NHC-Display: View Guidance

- **Displays best track and model data of the selected storm**
- **Fixes and wind radii can be displayed**
- **Consensus track can be computed and displayed**
- **Color track by model, init date or intensity**



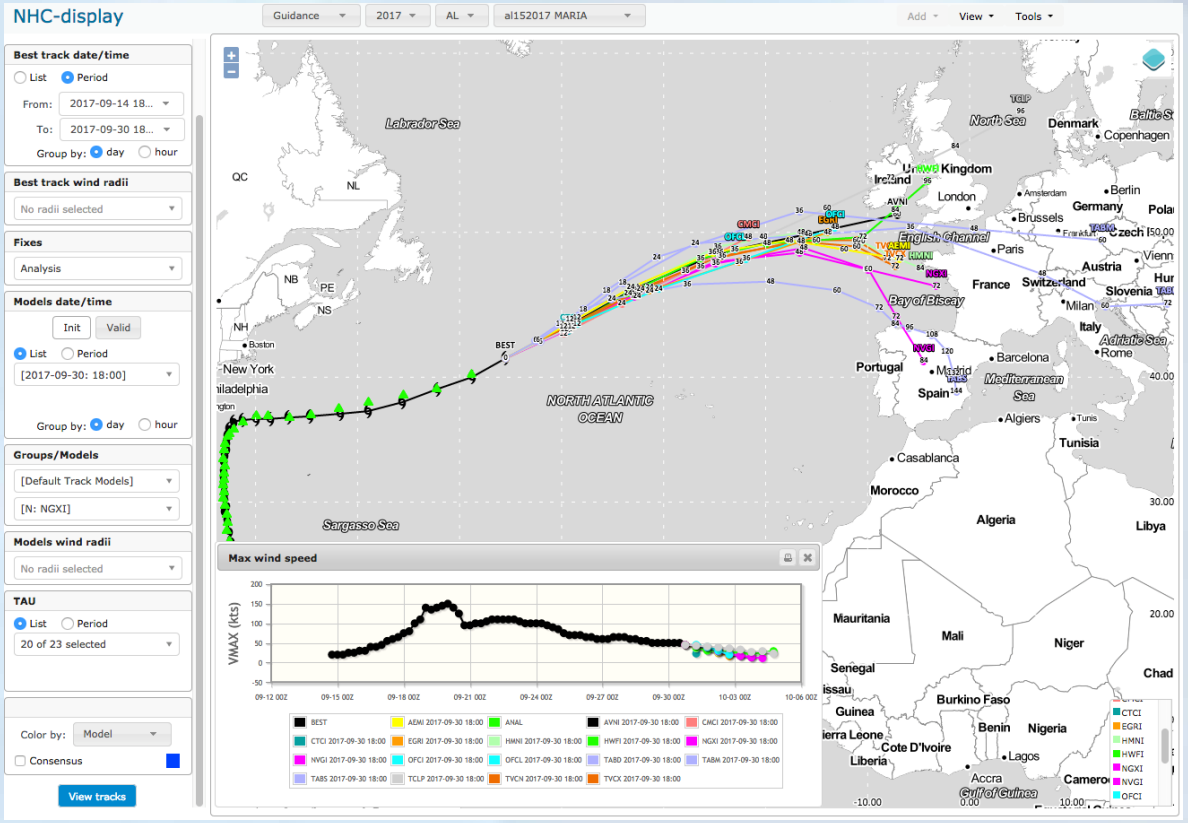
NHC-Display: View Guidance

- **View tracks by init or valid date**



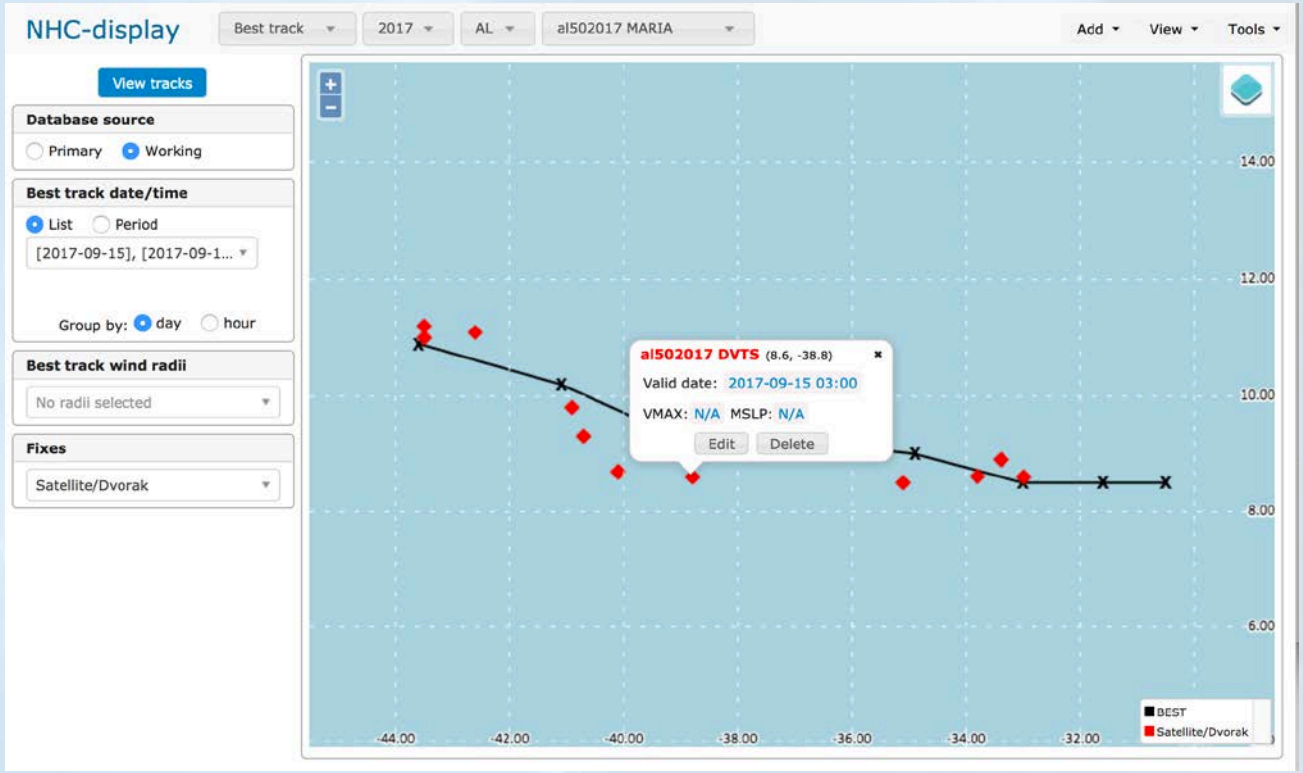
NHC-Display: Plots

- **Display time series of maximum wind speed and mean sea-level pressure**
- **Plots can be saved as images**



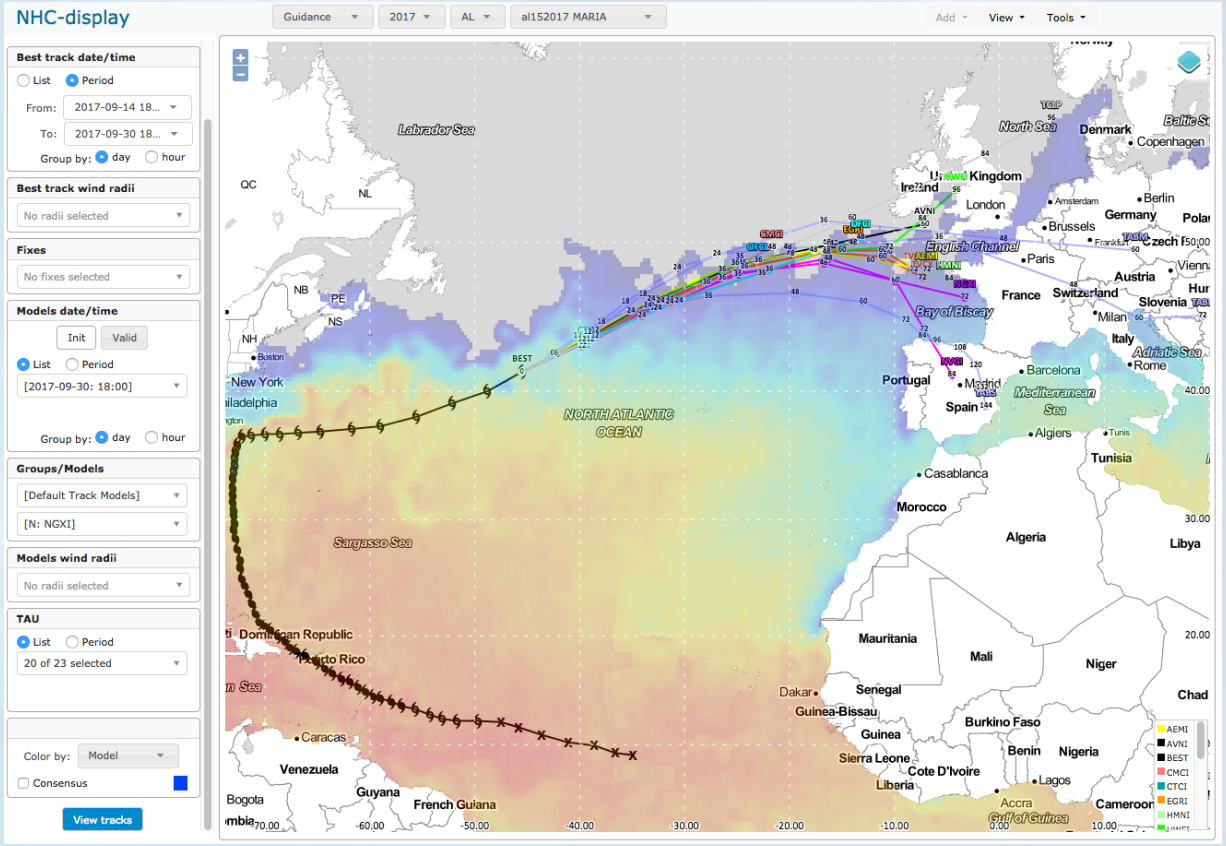
NHC-Display: Data Editing and Correction

- **Best tracks and fix locations loaded into working database that can be edited and exported back to ATCF file**



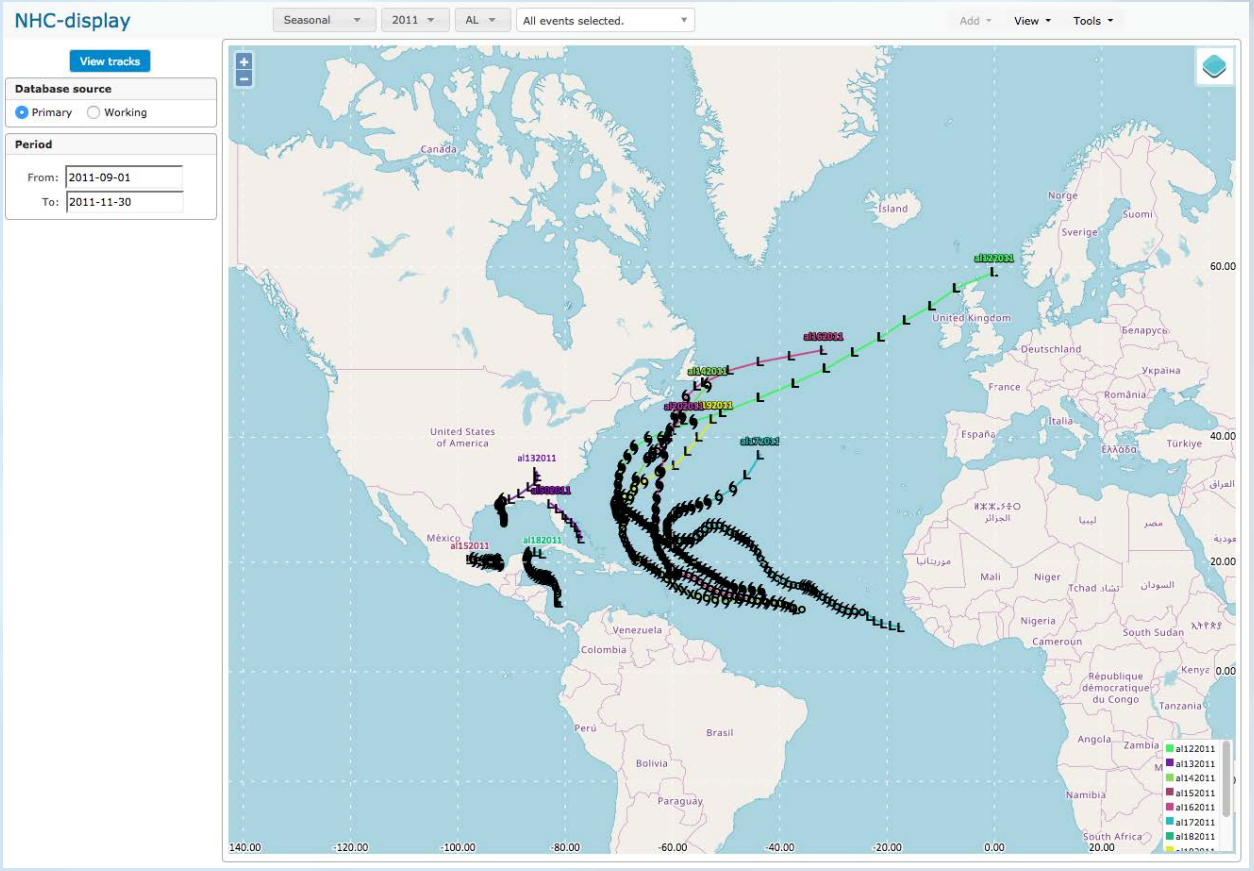
NHC-Display: Base layers and gridded data

- **Several open source base layers are available**
- **Sea surface temperature is available as a gridded base layer**
- **Possible to add more gridded data layers**



NHC-Display: View Seasonal

- **Display all events for the selected year and basin**



Summary

- **A tropical cyclone HFIP display and diagnostic system has been developed**
- **Modular and adaptable web-based display framework to allow for inclusion of additional diagnostic evaluation tools, gridded products, etc.**
- **Access to tropical cyclone forecasts are able to the community for publically available forecasts: http://www.hfip.org/nhc-display**