SAR & Meteorological Services

Haley Anderson

Quality Manager

Trinidad and Tobago Meteorological Service

2.3.7 The RCC must have certain basic capabilities before it is recognized as having responsibility for an SRR by listing in the ICAO RANP or the IMO Global SAR Plan. Additional or improved capabilities may be added as ability and resources permit. A fully capable RCC may be viewed as having two sets of capabilities, "required" and "desired." Figure 2-2 outlines these capabilities.

Required	Desired
24-hour availability Trained persons Persons with a working knowledge of the English language Charts which apply to the SRR (aeronautical, nautical, topographic and hydrographic) Means of plotting Ability to receive distress alerts, e.g., from MCCs, CESs, etc. Immediate communications with: associated ATS units associated RSCs DF and position-fixing stations associated CRSs Rapid and reliable communications with: Parent agencies of SRUs adjacent RCCs designated meteorological offices employed SRUs alerting posts Plans of operation Ability to co-ordinate provision of medical advice Ability to co-ordinate provision of medical assistance or evacuation	Wall chart depicting SRR, SRSs, and neighbouring SRRs, SAR resources Computer resources Databases

Figure 2-2 – *Capabilities of a fully capable RCC*

IAMSAR Manual, Vol 1, 2.3.7

- **About**

- HYCOM
  - Overview
  - Documentation
  - Source Code
  - Contact Info

- Youtube Videos

- Data Server
  - Global Analysis
  - Global Reanalysis
  - Gulf of Mexico Analysis
  - Gulf of Mexico Reanalysis
  - NAVGEM Forcing
  - NOGAPS Forcing
  - NCEP CFSR
  - NCEP CFSv2

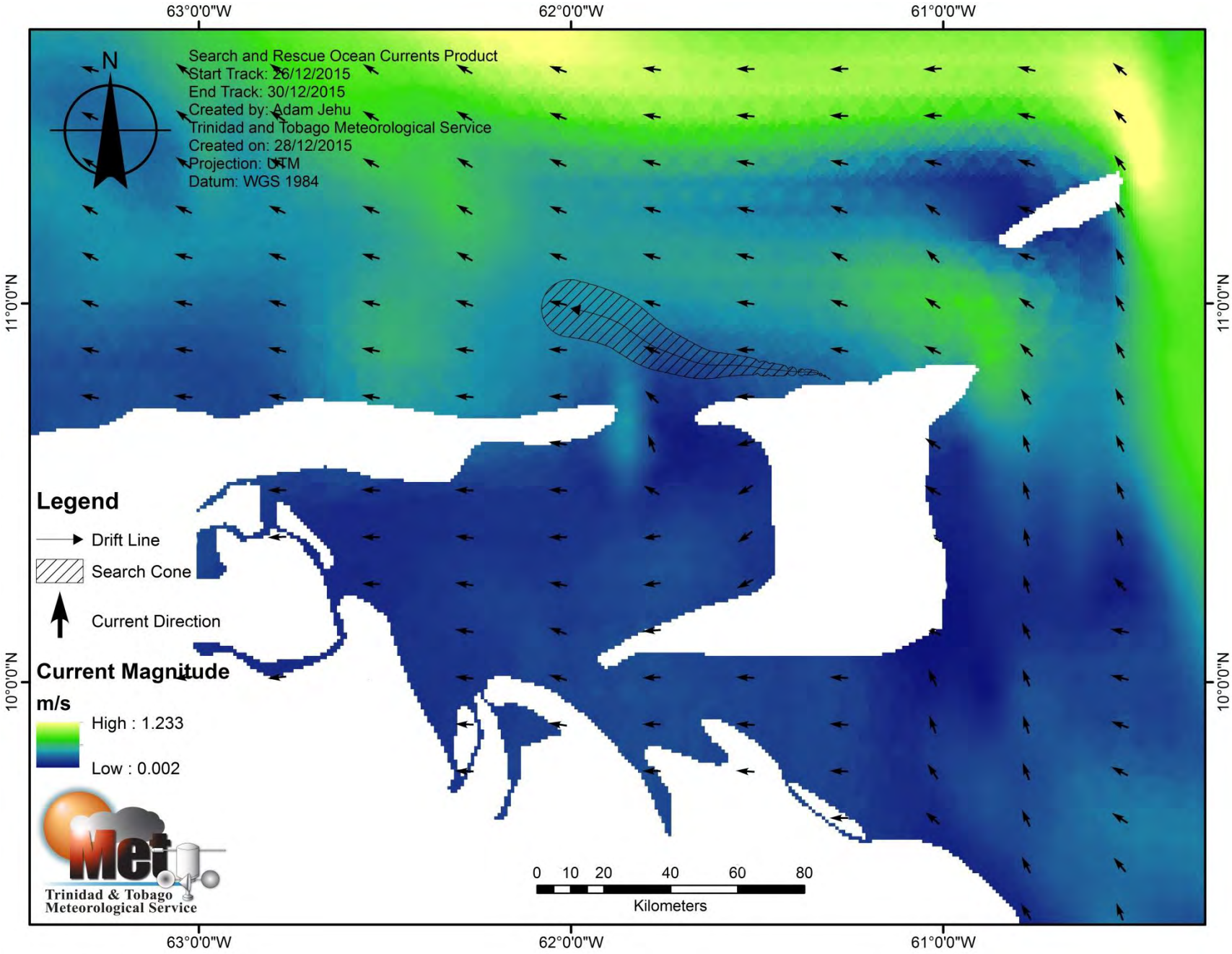
- Global
- Basin
- Regional
- Coupled Simulations

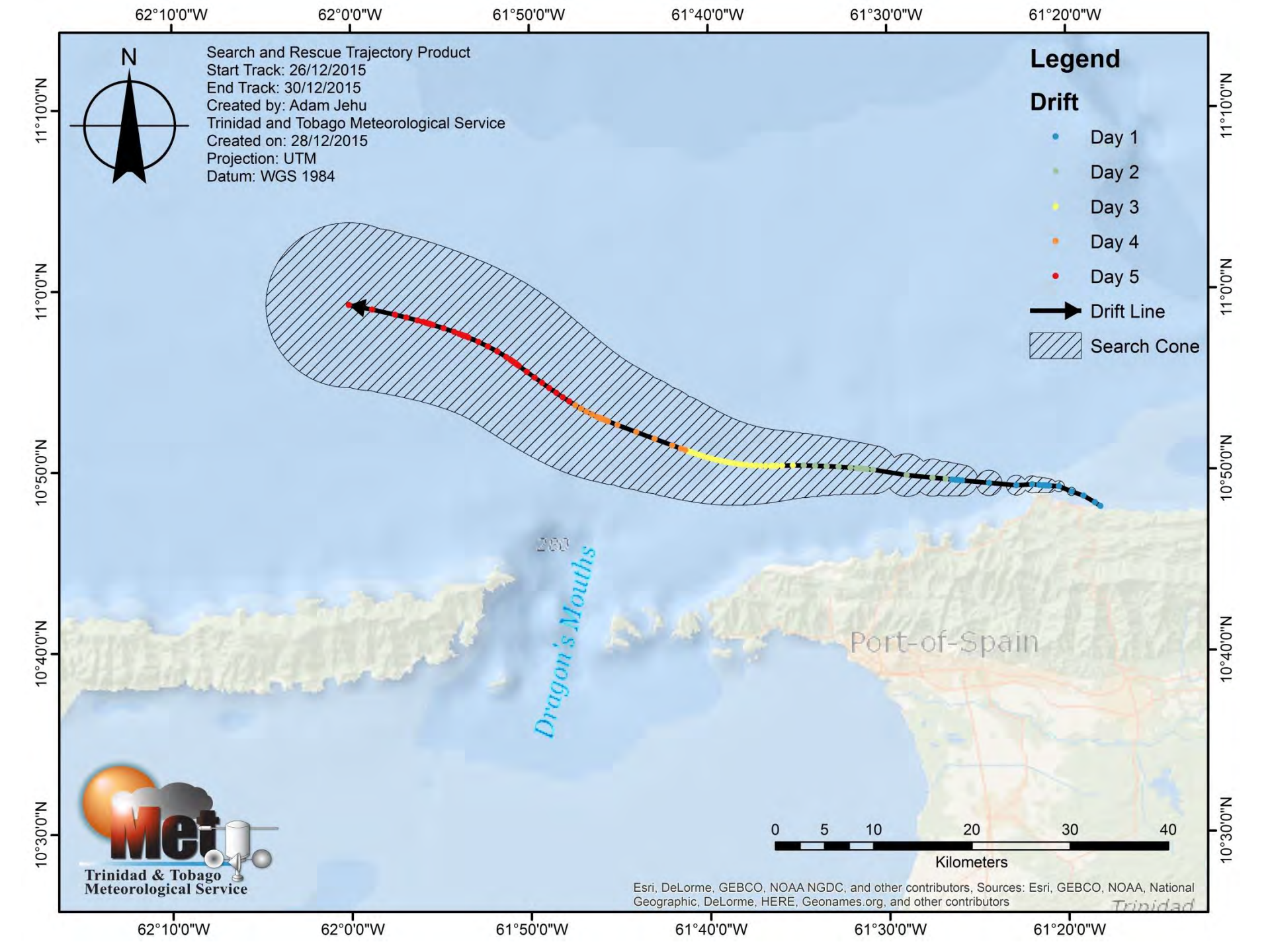
About Us

The HYCOM consortium is a multi-institutional effort sponsored by the National Ocean Partnership Program (NOPP), as part of the U. S. Global Ocean Data Assimilation Experiment (GODAE), to develop and evaluate a data-assimilative hybrid isopycnal-sigma-pressure (generalized) coordinate ocean model (called HYbrid Coordinate Ocean Model or HYCOM). The GODAE objectives of three-dimensional depiction of the ocean state at fine resolution in real time, provision of boundary conditions for coastal and regional models, and provision of oceanic boundary conditions for a global coupled ocean-atmosphere prediction model, are being addressed by a partnership of institutions that represent a broad spectrum of the oceanographic community.

GODAE
GLOBAL OCEAN DATA ASSIMILATION EXPERIMENT

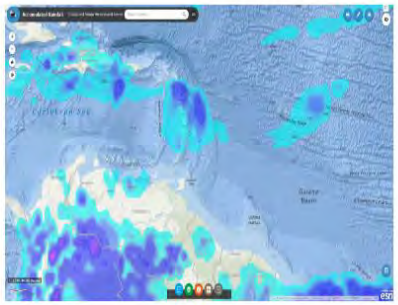
The partnership members are the Florida State University Center for Ocean-Atmospheric Prediction Studies (FSU/COAPS), the University of Miami Rosenstiel School of Marine and Atmospheric Science (UM/RSMAS), the Naval Research Laboratory/Stennis Space Center (NRL/STENNIS), the Naval Oceanographic Office (NAVOCEANO), the Fleet Numerical Meteorology and Oceanography Center (FNMOC), the Naval Research Laboratory/Monterey (NRL/MONTEREY), the National Oceanographic and Atmospheric Administration/National Centers for Atmospheric Prediction/Marine Modeling and Analysis Branch (NOAA/NCEP/MMAB), the NOAA National Ocean Service (NOAA/NOS), the NOAA Atlantic Oceanographic and Meteorological Laboratory (NOAA/AOML), the NOAA Pacific Marine Environmental Laboratory (NOAA/PMEL), Planning Systems Inc., Los Alamos National Laboratory (LANL), Service Hydrographique et Océanographique de la Marine (SHOM), Laboratoire des Ecoulements Géophysiques et Industriels (LEGI), The Open Source Project for a Network Data Access Protocol (OPeNDAP), the University of North Carolina (UNC), Rutgers University, the University of South Florida (USF), Fugro-GEOS/Ocean Numerics, Horizon Marine Inc., Roffer's Ocean Fishing Forecasting Service Inc. (ROFFS), Orbimage, Shell Oil Company, ExxonMobil Corp., the NOAA/National Weather Service/Tropical Prediction Center (NOAA/NWS/TPC), the NOAA/National Weather Service/Ocean Prediction Center (NOAA/NWS/OPC), the University


63°0'0"W
62°0'0"W
61°0'0"W
11°0'0"N
10°0'0"N
N
Search and Rescue Ocean Currents Product
Start Track: 26/12/2015
End Track: 30/12/2015
Created by: Adam Jehu
Trinidad and Tobago Meteorological Service
Created on: 28/12/2015
Projection: UTM
Datum: WGS 1984
Legend
Drift Line
Search Cone
Current Direction
Current Magnitude
m/s
High : 1.233
Low : 0.002
Met
Trinidad & Tobago
Meteorological Service
0 10 20 40 60 80
Kilometers

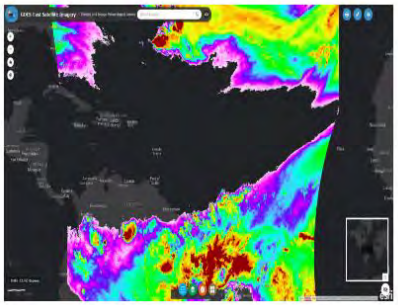

Search and Rescue Trajectory Product
Start Track: 26/12/2015
End Track: 30/12/2015
Created by: Adam Jehu
Trinidad and Tobago Meteorological Service
Created on: 28/12/2015
Projection: UTM
Datum: WGS 1984
N
Legend
Drift
Day 1
Day 2
Day 3
Day 4
Day 5
Drift Line
Search Cone
62°10'0"W
62°0'0"W
61°50'0"W
61°40'0"W
61°30'0"W
61°20'0"W
11°10'0"N
11°0'0"N
10°50'0"N
10°40'0"N
10°30'0"N
Dragon's Mouths
Port-of-Spain
Trinidad
0 5 10 20 30 40
Kilometers
Trinidad & Tobago
Meteorological Service
Esri, DeLorme, GEBCO, NOAA NGDC, and other contributors, Sources: Esri, GEBCO, NOAA, National Geographic, DeLorme, HERE, Geonames.org, and other contributors

GIS

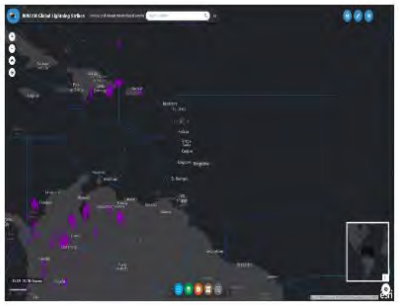
Adequate and Reliable data and information is the driver behind national decision support systems. This have provided the impetus for the development of the Trinidad and Tobago Meteorological Service (TTMS) Web - based Geo portal Platform which aim to provide needed data for stakeholder agencies and the general public.



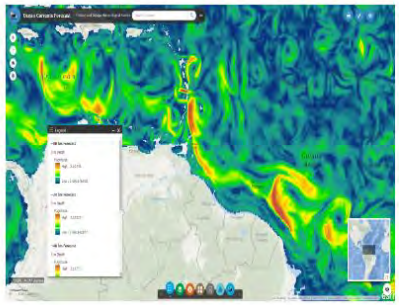
Accumulated Rainfall Forecast



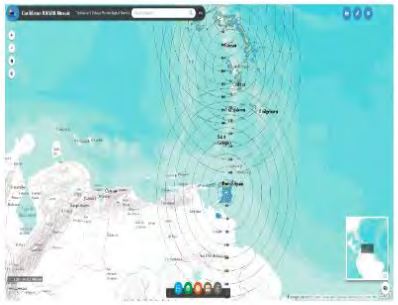
GOES-East Satellite Imagery



WWLLN Global Lightning Strikes

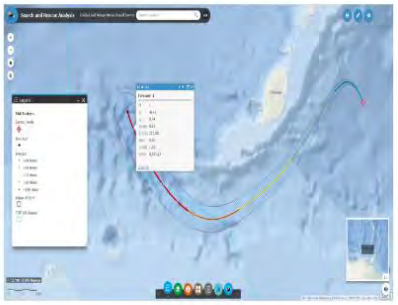


Ocean Currents Forecast



Caribbean Radar Mosaic:

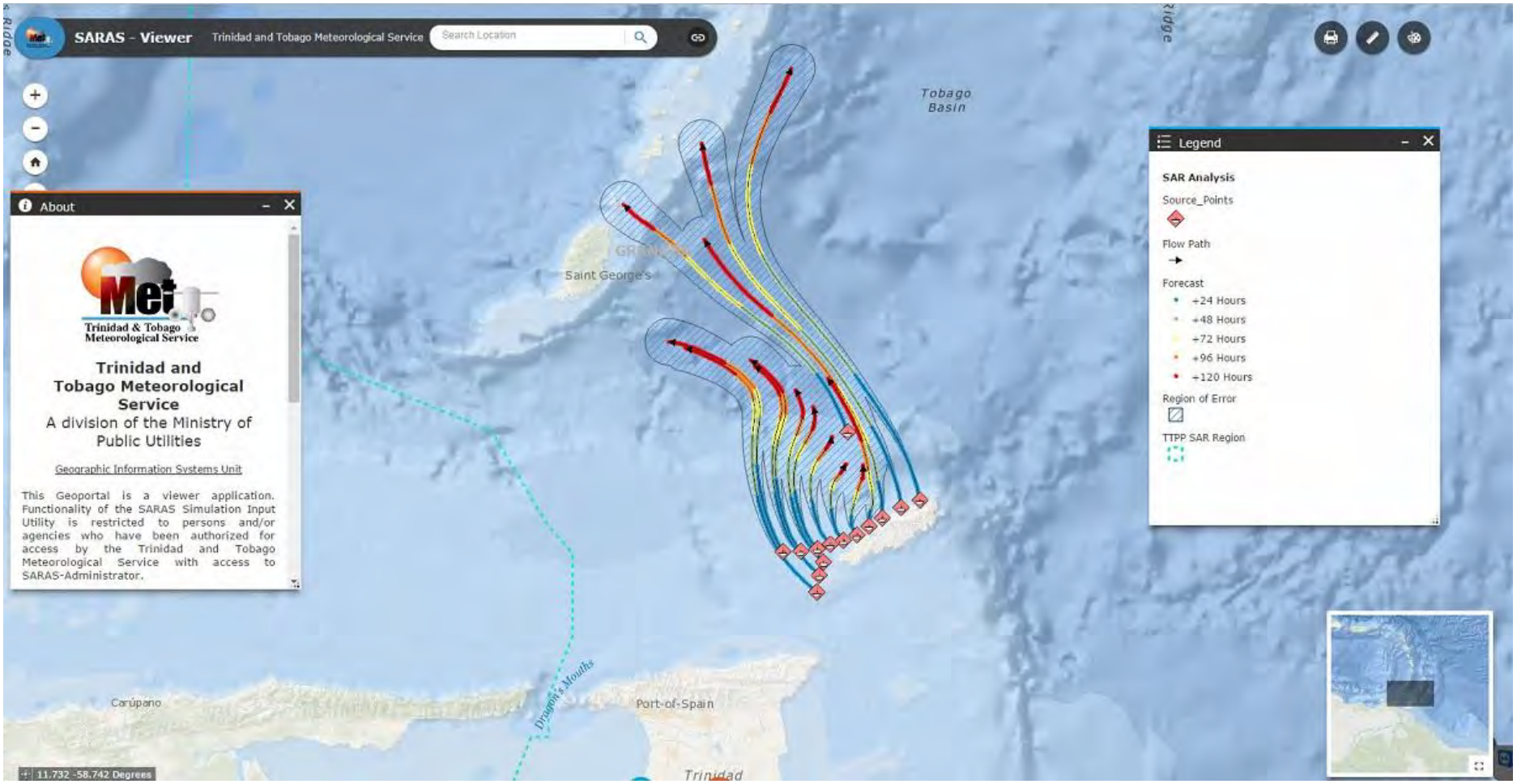
Sargassum Early Warning System

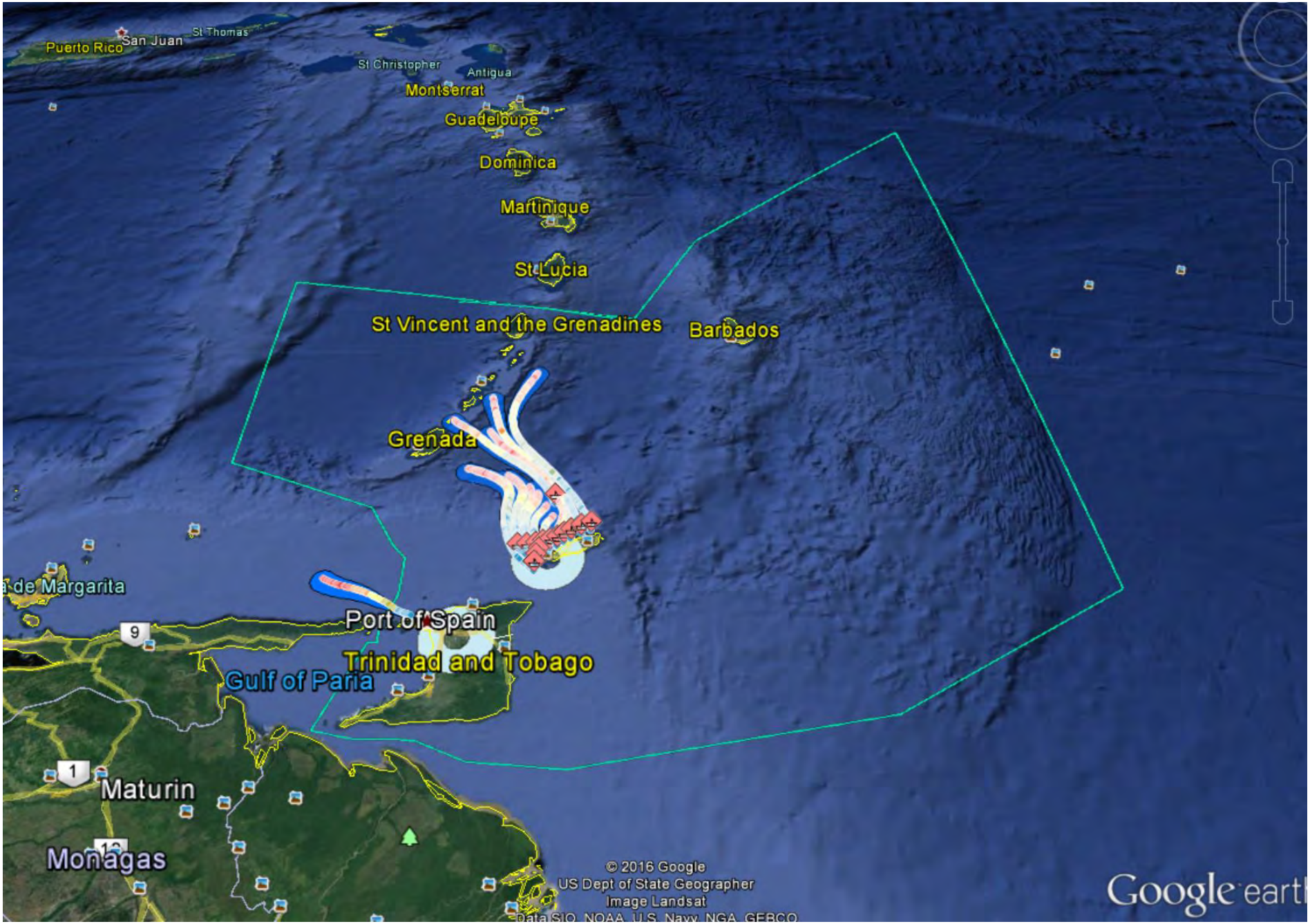


Search and Rescue Analysis System (SARAS)

Wave and Swell Forecast:

Need for Coordination




Puerto Rico
San Juan
St Thomas
St Christopher
Antigua
Montserrat
Guadeloupe
Dominica
Martinique
St Lucia
St Vincent and the Grenadines
Barbados
Grenada
de Margarita
Port of Spain
Trinidad and Tobago
Gulf of Paria
9
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Maturin
Monagas
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Image Landsat
Data SIO, NOAA, U.S. Navy, NGA, GEBCO
Google earth

Way forward

- Internally,
  - Enhance the SAR product to include overlays of weather, and underlays of significant wave height
  - Develop and implement SOPs with built in contingency plans
  - Secure the resources needed to support SAR

Recommendations

- Increase communication between RCCs and the scientific and technical agencies (NMSs, Universities, Institutes)
- Incorporate scientific/environmental advice from these organizations into RCC SOPs
- Engage high-level decision-makers for resources