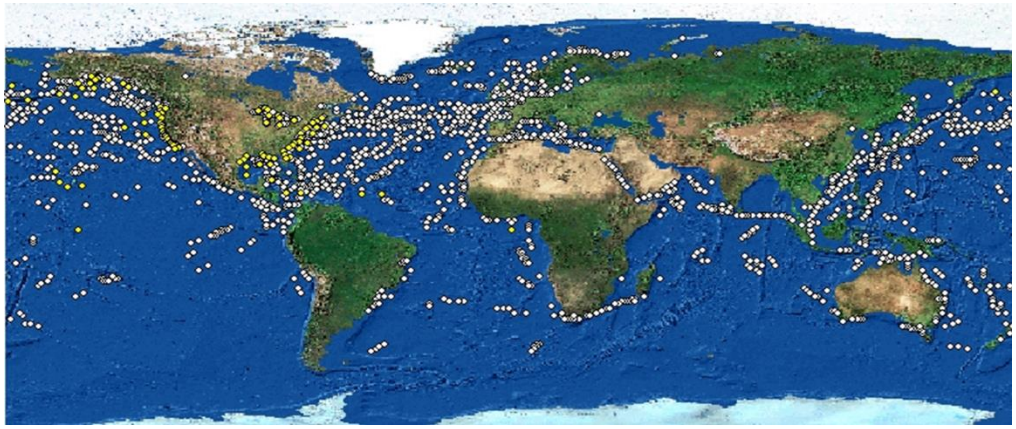
National Weather Service

Voluntary Observing Ships Program (VOS)



www.vos.noaa.gov

Great Lakes Port Meteorological Officer

Ron Williams

1 May, 2018

NWS VOS Program Mission

The mission of the NWS Voluntary Observing Ship (VOS) project is two-fold: (1) to **collect and disseminate critical real-time maritime weather observations** through the recruitment and support of ships to fulfill National needs and International agreements supporting commerce, forecasts and warning programs, and the Safety Of Life At Sea (SOLAS) worldwide, and (2) **to define the global climate** and help measure extreme weather events, climate variability, and long-term climate changes.

- VOS operates at **no cost to the vessel**, with communication charges, observing equipment and reporting supplies furnished by the National Weather Service.
- VOS observations sent into NWS gateway and distributed for use in **operations** and Numerical Weather Prediction (NWP).

NWS VOS Program Staff

- National Program
  - Program Manager Micheal Potochney OST Science Plans Branch

- 16 Port Meteorological Officers (PMOs) nationwide
  - Eastern Region 4 PMOs: assigned to ER Headquarters
  - Southern Region 4 PMOs assigned to WFOs in Jacksonville and Miami Fl, New Orleans and Houston
  - Western Region 3 PMOs assigned to WFOs in LA , SFO (encumbered billet) and Seattle
  - Central Region 1 PMO assigned to WFO Duluth
  - Alaska Region 1 PMO (focal point duties) 1 assigned to Alaska Region Headquarters
  - Pacific Region Headquarters 1 PMO (Part time)

PMO Duties

- Port Meteorological Officers (PMOs) support observing programs aboard Voluntary Observing Ships.
  - Responsible for
    - r**ecruitment** of new vessels as observers, and also for ensuring the quality of observations from vessels actively participating in the program.
    - **visit ships**, primarily assisting deck officers with marine weather observation practices, weather codes, and report transmission procedures.
    - distribute observing forms, handbooks, and operating instructions, in addition they also **train ship officers on NOAA Products**
    - **Equip** ships and **calibrate s**ome of the weather instrumentation.
    - **Observation quality control** on board, point out omissions or errors, and suggest methods for improvement.
    - **Maintain contact** with ship owners and agents, port operators, shore radio stations, and maritime academies to secure the cooperation of the maritime community. **Feedback on forecast products.**

Weather Reporting Webpage

www.weather.gov/dmawds

NATIONAL WEATHER SERVICE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

Ship Observation Entry Form

Welcome to the Voluntary Observing Ship data entry page. Thank you for taking the time to submit your observation. The data you enter here plays a major important role in producing accurate weather and wave forecasts. Your observation is included in the computer models that create weather and wind forecasts. The more initial data in the model, the better the forecast; especially over the data sparse open waters of the Great Lakes.

If you need to make a correction to your observation, click on the back button after you transmitted your observation and make the final correction and retransmit your observation.

Your ship's radio callsign (which is also your login ID here) must be registered with DMAWDS in order to send an observation.

Note: Any element in red denotes mandatory observed entry.

What is the radio call sign (ID) of your ship? (NOTE: USE LETTERS AND NUMBERS ONLY. NO SPACES.)

What is your DMAWDS password?

Day of the month in UTC: 08

Actual Time of Observation to the Nearest Whole Hour in UTC: 20

What is the latitude in tenths of a degree (example: 42.8)?

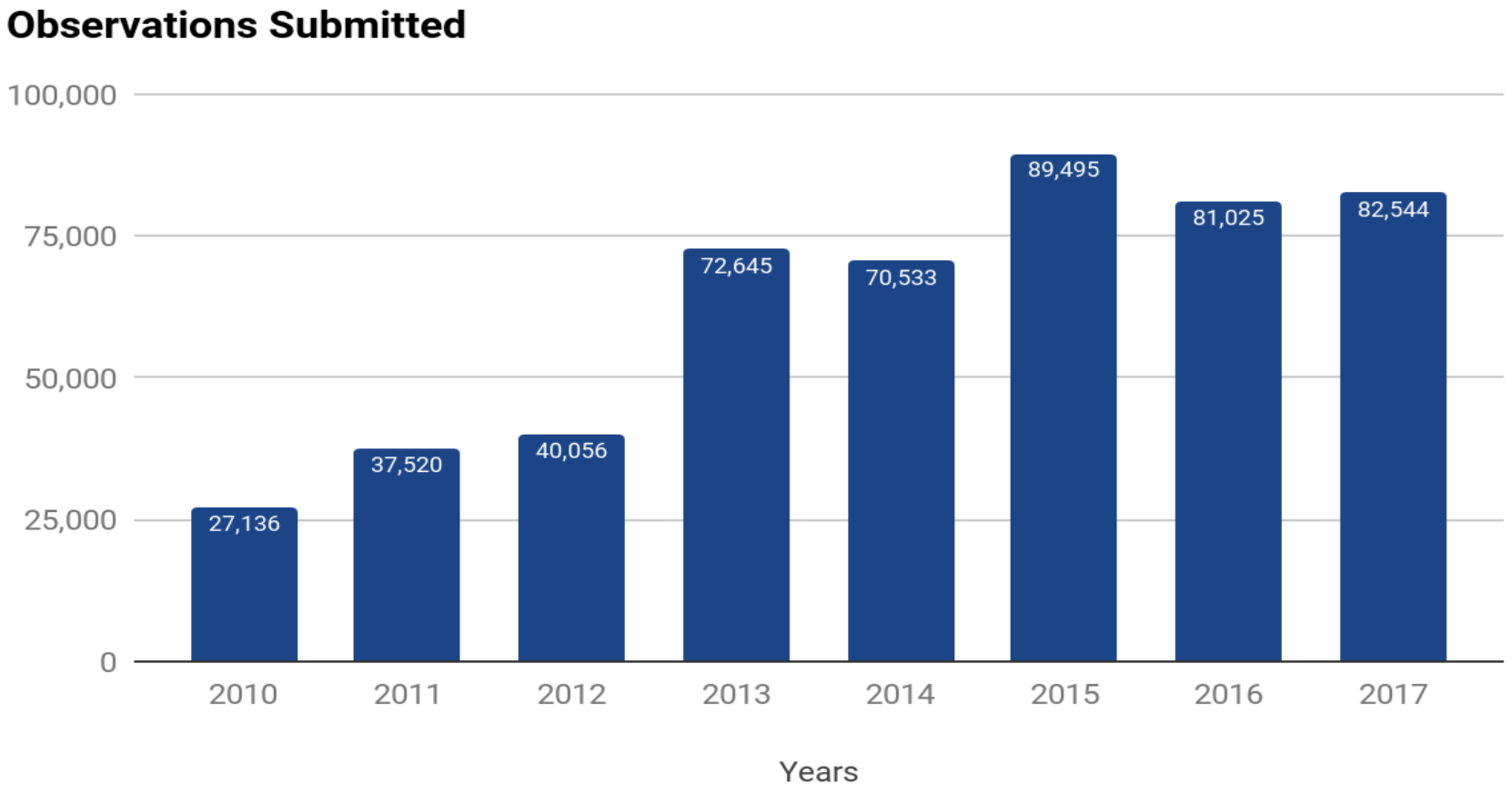
What is the longitude in tenths of a degree (example: 82.1)?

Enter the wind speed to the nearest knot (example: 12)?

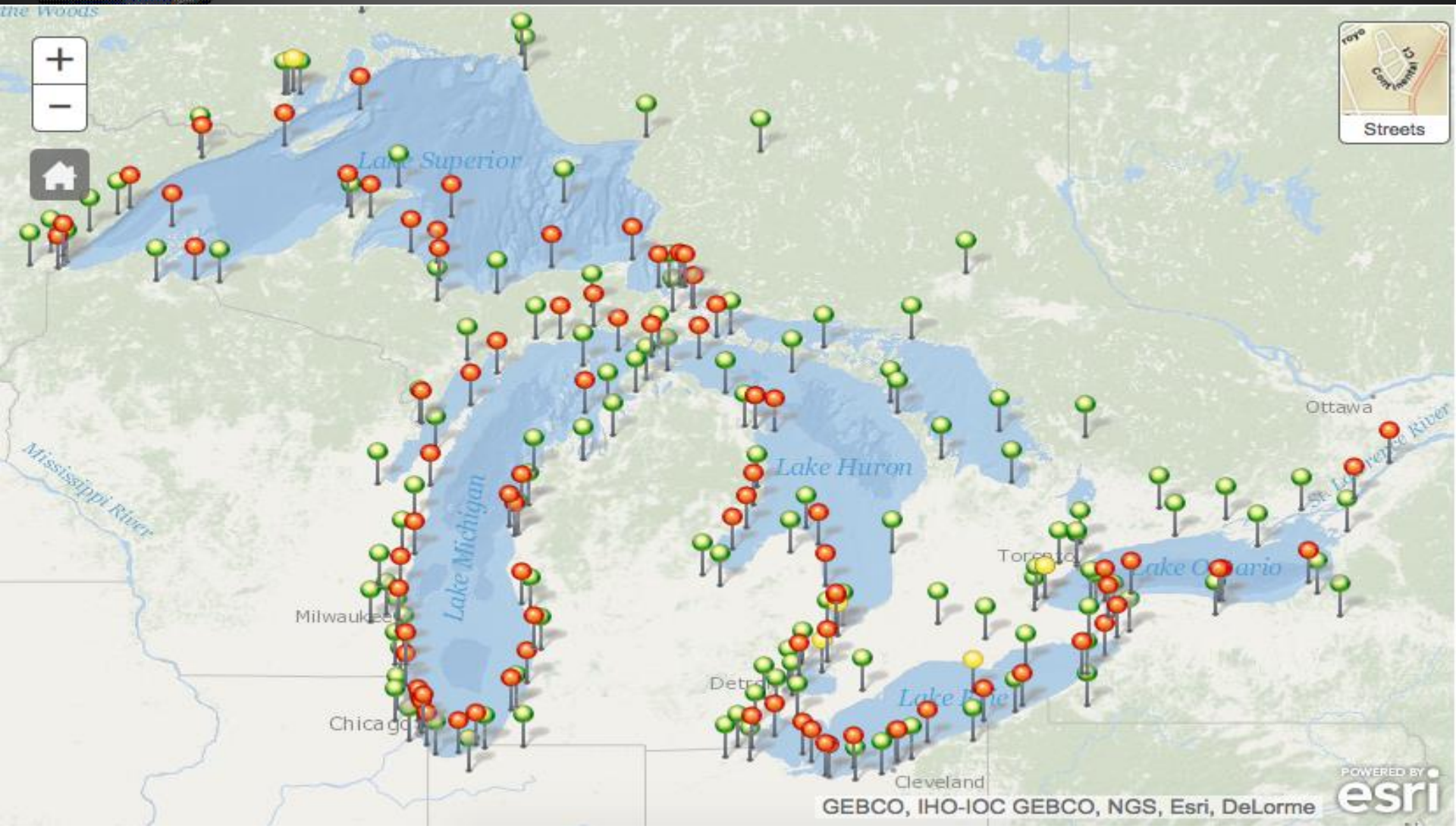
Enter the wind direction in degrees (example: 90, 270):

Enter the wave height in feet (example: 6, 12)?

Great Lakes Submitted Observations



Open Water Data Gaps



DMAWDS

www.weather.gov/dmawds - Low Bandwidth

NATIONAL WEATHER SERVICE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

Digital Marine Weather Dissemination System Products Menu

Text Products:		
Full Text Products	Selected Warnings	Synopses (All Lakes)
US Lake Forecasts	Open Lake Forecast, LS	Open Lake Forecast, LM
Open Lake Forecast, LH	Open Lake Forecast, LE	Open Lake Forecast, LO
US MAFORS	All Nearshore Forecasts	Nearshore Forecast, LS
Nearshore Forecast, LM	Nearshore Forecast, LH	Nearshore Forecast, LE
Nearshore Forecast, LO	Latest LAWEB	Ice Forecast

Graphics Products:	
Hourly LAWEB West	Hourly LAWEB East
Surface Conditions	Ship Obs/Wave reports
12-Hour Forecast Conditions	24-Hour Forecast Conditions
36-Hour Forecast Conditions	48-Hour Forecast Conditions
GLERL Nowcast Winds - Lake Superior	GLERL Nowcast Winds - Lake Michigan
GLERL Nowcast Winds - Lake Huron	GLERL Nowcast Winds - Lake Erie
GLERL Nowcast Winds - Lake Ontario	GLERL Forecast Winds - 12 Hour
GLERL Forecast Winds - 24 Hour	GLERL Forecast Winds - 36 Hour
GLERL Forecast Winds - 48 Hour	Nowcast Waves - All Lakes
GLERL Forecast Waves - 12 Hour	GLERL Forecast Waves - 18 Hour
GLERL Forecast Waves - 24 Hour	GLERL Forecast Waves - 30 Hour
GLERL Forecast Waves - 36 Hour	GLERL Forecast Waves - 42 Hour
GLERL Forecast Waves - 48 Hour	

USA.gov Government Made Easy

US Dept of Commerce
National Oceanic and Atmospheric Administration
National Weather Service
1325 East West Highway
Silver Spring, MD 20910

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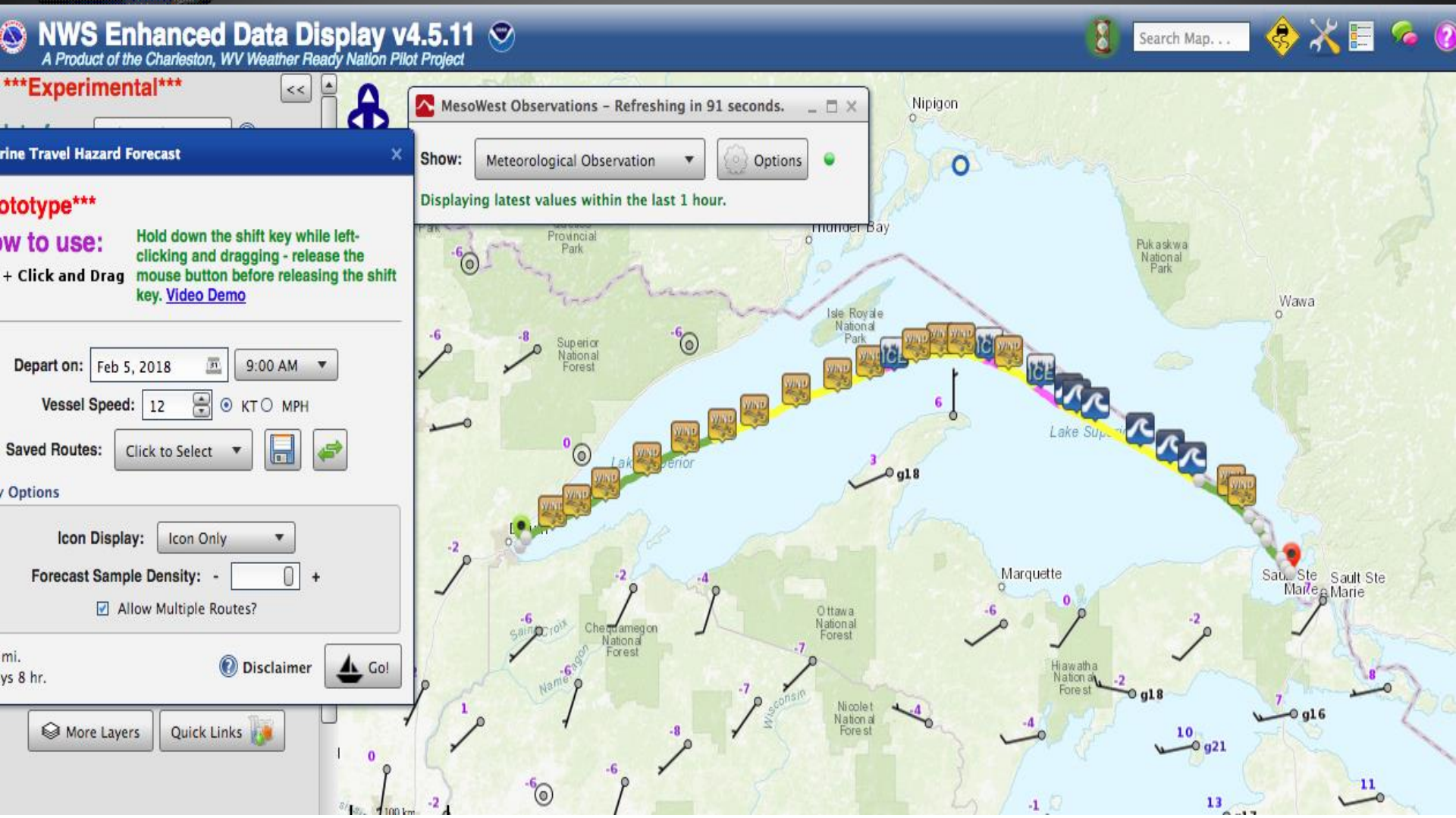
Information Quality
Help
Glossary

Privacy Policy
Freedom of Information Act (FOIA)
About Us
Career Opportunities

Enhanced Data Display

http://preview.weather.gov/edd/



Findings of the NOAA Observing Systems Integrated Analysis

- **NOAA Observing System Integrated Analysis-II (NOSIA)** reported to NOAA Science Advisory Board and reconfirmed VOS observations are essential to NWP models and dozens of NOAA marine products.
- **139 NOAA maritime products** using VOS observations. NOAA Subject Matter Experts (SME) participating in the NOSIA ranked VOS as important primary data for their products
- **VOS was ranked in top 50%** among all the NOAA observing systems through the NOSIA.
- VOS's ranking demonstrates its underlying contribution to daily products and services. Also NOSIA did show that VOS was more frequently cited than TAO in the ranking factors.
- The VOS Program is important to the NOAA!!

NOAA and NWS forecasts & products that use VOS observations

- Sea Surface Temperature (SST), Time Series for Climate: Great Lakes
- Sea Surface Temperature Anomaly Prediction using Linear Inverse Modeling (LIM) Medium Range Model
- Ocean Surface Observations from Stations: International Comprehensive Ocean-Atmosphere Data Set (ICOADS)
- Sea Surface Temperature (SST): Extended Range (ER) Reynolds Analysis
- Temperature, Surface Anomaly, Global, from Sea Surface Temperature Analysis-Extended Range (SSTER) Reynolds Analysis and Global Historical Climatology Network (GHCN)
- Coastal/Lakeshore Flood Warning (ANC)
- Offshore Waters Forecast (OPC)
- North American Land Data Assimilation System (NLDAS)
- Ocean Surface and Sea State Analysis and Forecast (OPC)
- 20th Century Reanalysis: Effort to produce a reanalysis dataset for the entire twentieth century, using only surface observations of synoptic pressure, monthly sea surface temperature and sea ice distribution.
- Unified Surface Analysis (WPC)
- Unified Surface Analysis (OPC)
- Hurricane Outlook
- High Seas Warnings and Forecasts: Wave Heights
- High Seas Forecast (NHC)

PMO's individual fleets
(Active reporting ships as of May 2018)

PMO location	Number of active ships in their fleet	Total onboard ship visits performed by PMO over the last three months. (May, June, July)
Anchorage, AK	199	21
Baltimore, MD	35	27
Charleston, SC	32	0*(out to sea/cadet training)*
Duluth, MN	72	41
Honolulu, HI	3	0
Houston, TX	64	50
Jacksonville, FL	48	51
Kodiak, AK	96	2 *(vacant)*
Los Angeles, CA	36	0
Miami, FL	76	42
New Orleans, LA	24	0*)*
New York, NY	76	97
Norfolk, VA	15	125
San Francisco/Oak, CA	9	0 *(vacant)*
Seattle, WA	53	50
Valdez, AK	0	0 *(vacant)*

Port Meteorological Officers

12 FTE, One PTE, Three Focal Point

Alaska Region:
Three Focal Point PMO's
•Anchorage
•Valdez (**vacant**)
•Kodiak (**vacant**)

Western Region:
Three full time PMO's
•Seattle Washington
•Oakland/San Francisco CA (**vacant**)
•Los Angeles CA (**vacant**)

Central Region:
One full time PMO
•Duluth, MN

Eastern Region:
Four full time PMO's
•New York City
•Baltimore, MD
•Norfolk, VA
•Charleston, SC

Pacific Region:
One part time PMO
•Honolulu

Southern Region:
•Jacksonville, FL
•Miami, FL
•New Orleans, LA (**vacant**)
•Houston, TX

Questions?

Web site

www.vos.noaa.gov

https://www.youtube.com/watch?v=sJYFaPfJlW8