

**NOAA/National Weather Service
Product Description Document**

Experimental Modernized Open Lake Forecast for the Great Lakes

Part I. Mission Connection

- a. Product Description** - The Open Lake Forecast (GLF) is a text product routinely issued by five primary Great Lakes Weather Forecast Offices (WFOs) 4 times per day to state expected weather conditions within their marine forecast area of responsibility through Day 5. The primary offices responsible for issuing the GLF are: WFOs Marquette (for Lake Superior), Detroit (for Lake Huron and Lake St. Clair), Chicago (for Lake Michigan), Cleveland (for Lake Erie), and Buffalo (for Lake Ontario). It is primarily used as a tool for planning purposes to support and promote safe transportation across the Great Lakes. For more information regarding the GLF product, refer to NWSI 10-312.

The experimental Modernized Open Lake Forecast is being tested at all five primary WFOs. NWS intends to re-engage Environment Climate Change Canada to have them create a matching easy to read format for the Canadian side of the Lakes. The goal is to gather sufficient positive feedback that we may recommend the modernized format, replace the format of the legacy GLF. A side by side comparison of the modernized and legacy formats is provided at <http://www.weather.gov/source/greatlakes/sidebyside.html>

Feedback we have received so far suggests that the National Weather Service (NWS) needs fewer, not more, Great Lakes forecast products. Thus, this experimental forecast is intended to provide a test of the new easy to read format and not to develop a new product.

- b. Purpose** - The format of the GLF has been unchanged for many years and has not allowed the Great Lakes offices the flexibility of improving the forecast by adding new predictive variables. A seamless, harmonized suite of marine weather forecast information is required that provides for the variety of forecast elements felt by the customer and is efficiently presented in an easily readable manner.
- c. Audience** - The target audience for this product is all users of marine weather information, including the commercial marine community, recreational boating community, and other government agencies.
- d. Presentation Format** - The modernized format of the GLF is provided in an easy to read format that concisely and effectively presents existing marine forecast elements - and allows gradual expansion for optional emergent capabilities such as wave spectra information, wave period, visibility, wind threshold probabilities, ice cover, surface wind speed and direction forecasts, 100-FT wind speed and direction forecasts, etc. For the evaluation period, the GLF will contain forecasts of weather, surface wind, 100-FT wind,

significant waves, and maximum (occasional) waves.

- e. **Feedback Method** - Comments on the proposal to implement this enhancement to the GLF at all five primary Great Lakes WFOs can be provided through the following survey link (which will be advertised in a Public Information Statement):

<https://www.surveymonkey.com/r/ExpOpenLakes>

The comment period will be open through November 30, 2019. During this experimental period, a proactive effort will be made to educate users and partners of the product availability and use. A webpage, <https://www.weather.gov/greatlakes/modernized>, has been created to provide side by side comparison and links to each of the Great Lakes to help advertise the need for surveys. We will also focus on the recreational boaters as we received sufficient and positive survey response from commercial users in 2018. The enhancement could also potentially expand to Great Lakes Nearshore Marine Forecasts. At the end of the comment period, a decision will be made whether to transition to operational, extend the comment period, or to discontinue the enhancement.

Part II. Technical Description

- a. **Format and Science Basis** - A sample format is below. The format includes mandatory elements in bulleted format. The mandatory elements are surface and 100-FT wind speed/direction, significant wave height, maximum (occasional) waves and weather. The Day 3-5 forecast will be in narrative format and will only include weather, significant wave height, and surface wind speed and direction.

Before the end of the evaluation period, additional elements may be added to the format to test the capacity for expansion within the GLF. This could include Probability of Gale Force wind, return frequency of maximum (occasional) waves, or wave period.

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Experimental Modernized Open Lake Forecast for Lake Xxxx  
National Weather Service City State
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```
TIME-DATE (example: 900 AM EDT Sat Sep 30 2018)
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```
.SYNOPSIS...text
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```
SSZXXX-XXX>XXX-DDHHMM- (UGC/FIPS CODING)
```

```
GEOGRAPHICAL DESCRIPTORS
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```
TIME-DATE (example: 900 AM EDT Sat Sep 30 2018)
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```
...HEADLINE...
```

```
.TODAY...
```

```
Weather.....
```

```
Sfc winds....Knots
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100-FT Winds....Knots
Sig waves.....Feet
Ocnl waves (Highest 10 percent whenever wave heights of
six feet or higher are forecast)...Feet

.TONIGHT...

.TOMORROW...

.TOMORROW NIGHT...

.FORECAST DAYS 3 THROUGH 5...

Weather...Surface wind...Significant waves

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- b. Product Availability** - The experimental product format is available online via the following links:

<http://www.weather.gov/greatlakes/modernized>

- c. Additional Information** – A product formatter will be developed for use associated with the Advanced Weather Interactive Processing System (AWIPS) Graphical Forecast Editor (GFE). Additionally, the formatter will use various tools for creating derived products as needed, such as maximum wave and 100-FT wind speeds. Also, a means for converting abbreviated text into narrative text for the National Oceanic and Atmospheric Administration (NOAA) All-Hazards Weather Radio may be created as part of this project.

Sample Product....

Experimental Tabular Open Lake Forecast for Lake Huron
National Weather Service Detroit/Pontiac MI
1105 AM EDT Thu Jun 8 2017

Waves are the significant wave height - the average of the highest
1/3 of the wave spectrum. Occasional wave height is the average of
the highest 1/10 of the wave spectrum.

.SYNOPSIS...High pressure, 30.10 inches, will remain over Southeast
Michigan today, while slowly weakening to 29.90 inches. The high

will shift into the southern US by Friday while low pressure, 29.70 inches, drifts across Lower Michigan. This low will weaken as it exits east of the region Friday night. A frontal boundary is forecast to extend across the northern Great Lakes over the weekend.

LHZ361-082000-

Lake Huron from 5NM east of Mackinac Bridge to Presque Isle Lt beyond 5 NM off shore-

1105 AM EDT Thu Jun 8 2017

.REST OF TODAY...

Weather.....Sunny.

Sfc winds.....Light and variable winds becoming southeast 5 to 10 knots in the afternoon.

100-ft winds.....Light and variable winds becoming southeast 10 to 15 knots in the afternoon.

Sig waves.....1 to 3 feet.

.TONIGHT...

Weather.....Partly cloudy, then mostly cloudy with a slight chance of showers and thunderstorms after midnight.

Sfc winds.....Light and variable winds.

100-ft winds.....Light and variable winds.

Sig waves.....1 to 3 feet.

.FRIDAY...

Weather.....Mostly cloudy, then chance of showers and thunderstorms in the afternoon.

Sfc winds.....Light and variable winds becoming east 5 to 10 knots in the afternoon.

100-ft winds.....Light and variable winds becoming east 10 to 15 knots in the afternoon.

Sig waves.....1 to 3 feet.

.FRIDAY NIGHT...

Weather.....Mostly cloudy with a chance of showers and thunderstorms, then mostly cloudy after midnight.

Sfc winds.....Light and variable winds.

100-ft winds.....Light and variable winds.

Sig waves.....2 feet or less.

.FORECAST DAYS 3 THROUGH 5...

.SATURDAY...Southwest winds 10 to 15 knots. Waves 4 to 6 feet.

.SUNDAY...Chance of showers and thunderstorms after midnight.

Southwest winds 10 to 15 knots. Waves 4 to 6 feet.

.MONDAY...Chance of showers and thunderstorms in the morning.

South winds 10 to 15 knots. Waves 2 to 4 feet.

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