NOAA/National Weather Service
Product Description Document

Experimental Modernized Open Lake Forecast for the Great Lakes
September 15, 2016

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 WFO Detroit for Lake Huron and Lake St. Clair and at WFO Chicago for Lake Michigan. Other Great Lakes offices may test the enhancement as resources allow. NWS intends to re-engage Environment Canada to have them create a matching tabular (bullet like) format on the Canadian side of the Lakes. The goal is to gather sufficient positive feedback that we may recommend the tabular (bullet like) format, replace the format of the legacy GLF.

   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 tabular (bullet-like) 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 will take a bulleted form 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 primary Great Lakes WFOs can be provided through the following survey link (which will be advertised in a Public Information Statement):

http://www.nws.noaa.gov/survey/nws-survey.php?code=MODGTLAKESFCST

The comment period will be open through December 31, 2016. During this experimental period, a proactive effort will be made to educate users and partners of the product availability and use. 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 waves, 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.

OPEN LAKE FORECAST FOR LAKE HURON
NATIONAL WEATHER SERVICE CITY STATE
TIME-DATE (example: 900 AM EDT FRI MMM DD YYYY)

.SYNOPSIS...

SSZXXX-XXX>XXX-DDHHMM- (UGC/FIPS CODING)
GEOGRAPHICAL DESCRIPTORS
TIME-DATE (example: 900 AM EDT FRI MMM DD YYYY)

...HEADLINE...

.TODAY...
WEATHER.....
SFC WINDS....KNOTS
100-FT WINDS…KNOTS
SIG WAVES.....FEET/METERS
OCNL WAVES (HIGHEST 10 PERCENT WHENEVER WAVE HEIGHTS OF SIX FEET OR

HIGHER ARE FORECAST)….FEET/METERS

.TONIGHT...
.TOMORROW...
.TOMORROW NIGHT…

.FORECAST DAYS 3 THROUGH 5….
WEATHER… WINDS…WAVES
$$

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

http://www.weather.gov/dtx/glftable
http://www.weather.gov/lot/glftable
http://www.weather.gov/dtx/glftablesc

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 SEP 15 2016

.SYNOPSIS...HIGH PRESSURE...AVERAGING 30.30 INCHES...WILL
CONTINUE TO DRIFT OVER THE GULF OF MAINE TONIGHT INTO FRIDAY. LOW
PRESSURE...AVERAGING 29.80 INCHES...WILL DEVELOP OVER THE NORTHERN
PLAINS ON FRIDAY AND TRACK INTO NORTHEASTERN ONTARIO ON SATURDAY.
THIS LOW WILL DRAG A WEAK COLD FRONT ACROSS THE WATERS SATURDAY
NIGHT.

LHZ361-152000-
LAKE HURON FROM 5NM EAST OF MACKINAC BRIDGE TO PRESQUE ISLE LT
BEYOND 5 NM OFF SHORE-
1105 AM EDT THU SEP 15 2016

.REST OF TODAY...

WEATHER.....MOSTLY SUNNY.
SFC WINDS.....SOUTH 5 TO 10 KNOTS.
100-FT WINDS.....SOUTH 10 TO 15 KNOTS.
SIG WAVES.....1 TO 3 FEET / 1 METER OR LESS /.

.TONIGHT...
WEATHER.....MOSTLY CLEAR.
SFC WINDS.....SOUTH 10 TO 15 KNOTS.
100-FT WINDS.....SOUTH 15 TO 20 KNOTS.
SIG WAVES.....1 TO 3 FEET / 1 METER OR LESS /.

.FRIDAY...
WEATHER.....SUNNY.
SFC WINDS.....SOUTHEAST 15 TO 20 KNOTS.
100-FT WINDS.....SOUTHEAST 20 TO 25 KNOTS.
SIG WAVES.....1 TO 3 FEET / 1 METER OR LESS /...BUILDING TO 2
TO 4 FEET / AROUND 1 METER / EARLY IN THE
AFTERNOON.
OCNL WAVES.....AROUND 5 FEET / 2 METERS / UNTIL LATE
AFTERNOON.

.FRIDAY NIGHT...
WEATHER.....MOSTLY CLOUDY WITH CHANCE OF SHOWERS AND
THUNDERSTORMS...THEN CLOUDY WITH SHOWERS LIKELY
WITH A CHANCE OF THUNDERSTORMS AFTER MIDNIGHT.
SFC WINDS.....SOUTH 15 TO 20 KNOTS.
100-FT WINDS.....SOUTH 20 TO 25 KNOTS.
SIG WAVES.....2 TO 4 FEET / AROUND 1 METER /...SUBSIDING TO 1
TO 3 FEET / 1 METER OR LESS / AFTER MIDNIGHT.
OCNL WAVES.....AROUND 5 FEET / 2 METERS / UNTIL EARLY MORNING.

.FORECAST DAYS 3 THROUGH 5...

.SATURDAY...SHOWERS AND THUNDERSTORMS LIKELY...THEN CHANCE OF SHOWERS AND THUNDERSTORMS. SOUTHWEST WINDS 10 TO 15 KNOTS. WAVES 2 TO 4 FEET / AROUND 1 METER /.
.SUNDAY...WEST WINDS 5 TO 10 KNOTS. WAVES 1 TO 3 FEET / 1 METER OR LESS /.
.MONDAY...SOUTHWEST WINDS 5 TO 10 KNOTS. WAVES 1 TO 3 FEET / 1 METER OR LESS /.

$$