Enhanced Hazardous Weather Outlook (EHWO)
Product Description Document (PDD)

Part 1 – Mission Connection

1. Product / Service Description:

The NWS core mission is to provide accurate and timely hazardous weather information for the protection of life and property. Although the textual Hazardous Weather Outlook (HWO) plays a significant role in supporting the NWS mission, effectively conveying hazardous weather information in a textual or narrative format can prove challenging to an increasingly diverse customer base.

The Enhanced Hazardous Weather Outlook (EHWO) is a decision support service that aids preparedness and response efforts prior to and during hazardous weather. In conjunction with the textual HWO, the clear and concise Internet-based EHWO graphics provides decision makers with convenient access to potential weather hazard information by graphically depicting the risk of multiple weather hazards out to seven days in the future.

The Advanced Weather Interactive Processing System (AWIPS) Graphical Forecast Editor (GFE) produces EHWO packages multi-level color-coded hazard graphics and text within a comprehensive web page suite. Ultimately, workload is conserved through the use of existing local GFE grids as well as grids from national centers such as the Storm Prediction Center (SPC) and the Weather Prediction Center (WPC). The use of consistent grid input also supports a seamless office-to-office presentation.

2. Product Type - Experimental

3. Purpose/Intended Use:

The EHWO is designed to provide decision makers with convenient access to the expected type, severity, coverage and potential impacts of hazardous weather events. The EHWO and its integrated product suite can be utilized as a decision support tool that aids preparedness and response efforts both before and during hazardous weather events. The graphical approach to the EHWO in conjunction with the textual HWO product will provide end users with a comprehensive picture of current and expected hazards.

4. Audience:

This service is intended to provide critical weather information to a wide range of decision makers including emergency managers, media, and the general public. Any person with Internet access will have the ability to utilize this service.

The EHWO also serves internal NWS operations by enhancing situational awareness and ensuring service consistency. The integration of GFE generated forecast grids, national guidance, warning and advisory thresholds, as well as impacts, result in a system that readily alerts forecasters when critical thresholds and impacts are being approached or exceeded. The

inclusion of national guidance and watch, warning, and advisory criteria into the generation of the EHWO graphics also promotes product integrity and continuity of services.

4. Presentation Format:

EHWO graphics are generated within GFE. The plan view maps (one for each valid hazard and day) are uploaded to the WFO web site and automatically ingested into a comprehensive web page consisting of integrated graphics, text, and links to supporting products including threat level and impact definitions, safety information, packaged self-brief services, etc. WFO EHWO websites will depict threat levels for particular hazards and time periods in an all-encompassing situational awareness web display. For example, a single web page will display “chicklets” that depict the maximum CWA threat levels for each hazard out to seven days.

Offices may link to the EHWO graphics and disseminate in a variety of ways. This may include the use of news story headlines, social media, etc. WFOs may choose to customize the format (compliant with NWS Instruction 10-517 and related supplements) and terminology of the textual HWO to match the risk levels and criteria depicted in the EHWO.

5. Feedback Method:

Continuous feedback is available via a web page e-mail link to the developers, or via a web-based survey. User feedback from emergency managers, other government agencies, local media, and the public provide valuable suggestions that have been integrated into the product suite. Continued feedback from users will be vital to ensuring that the EHWO presentation provides decision makers with the information they desire.

The comment period will run through June 30, 2019. At the end of the comment period, if feedback is favorable, the product will be evaluated for national availability to supplement the HWO, where this product is provided.

An online survey is available at: https://www.surveymonkey.com/r/EHWO

Technical or general comments for the EHWO product may be addressed to:

National Weather Service

Attn: Greg Schoor, Derek Deroche, and Andy Foster
or e-mail comments to: Gregory.Schoor@noaa.gov, Derek.Deroche@noaa.gov,
Andy.Foster@noaa.gov

Part 2 – Technical

1. Format and Science Basis:

The EHWO is comprised of a series of plan view maps depicting risk levels for multiple hazards out to seven days in the future.

EHWO elements will be initialized automatically utilizing model and national center output and existing office GFE grids thus promoting a consistent message. Little to no additional workload is required through the activation of a single procedure containing several smart tools that further refines each grid-based graphic. Offices may elect to manually edit EHWO graphics that cannot be realistically initialized from other GFE elements. Offices may also elect to manually alter those grids initialized from national agencies if they feel local value may be added. This initialization approach will drastically reduce the amount of time necessary to produce the array of hazard graphics.

Risk levels for each hazard should be defined based on factors such as likelihood of occurrence, frequency of occurrence (climatology), magnitude, and the overall threat to life, property, and economic interests. Definitions of specific risk levels are generally aligned with advisory and warning criteria, as well as guidance from national agencies. Doing so will promote integrity amongst products and services, ranging from the EHWO to long-fused products as well as consistency of services between neighboring offices. The goal is to further integrate impact-based information to derive a spatial depiction of weather-related hazard risk levels over a forecast period.

2. Availability:

This service will be available 24 hours a day and 7 days a week.
Real-time access is available for the following offices:

Central Region Offices (19)
- WFO Aberdeen, SD (ABR) - http://www.weather.gov/abr/ehwo
- WFO La Crosse, WI (ARX) - http://www.weather.gov/arx/ehwo
- WFO Boulder, CO (BOU) - http://www.weather.gov/bou/ehwo
- WFO Dodge City, KS (DDC) - http://www.weather.gov/ddc/ehwo
- WFO Mt. Pleasant, MO (EAX) - http://www.weather.gov/ddc/ehwo
- WFO Sioux Falls, SD (FSD) - http://www.weather.gov/fsd/ehwo
- WFO Hastings, NE (GID) - http://www.weather.gov/gid/ehwo
- WFO Grand Junction, CO (GJT) - http://www.weather.gov/gjt/ehwo
- WFO Green Bay, WI (GRB) - http://www.weather.gov/grb/ehwo
- WFO Northern Indiana, IN (IWX) - http://www.weather.gov/iwx/ehwo
- WFO North Platte, SD (LBF) - http://www.weather.gov/lbf/ehwo
- WFO Chicago, IL (LOT) - http://www.weather.gov/lot/ehwo
- WFO St. Louis, MO (LSX) - http://www.weather.gov/lsx/ehwo
- WFO Milwaukee WI (MKX) - http://www.weather.gov/mkx/ehwo
- WFO Twin Cities, MN (MPX) - http://www.weather.gov/mpx/ehwo
- WFO Marquette, MI (MQT) - http://www.weather.gov/mqt/ehwo
- WFO Omaha, NE (OAX) - http://www.weather.gov/oax/ehwo
- WFO Springfield, MO (SGF) - http://www.weather.gov/sgf/ehwo
- WFO Rapid City, SD (UNR) - http://www.weather.gov/unr/ehwo

Eastern Region Offices (23)
- WFO Wakefield, VA (AKQ) - https://www.weather.gov/akq/ehwo
- WFO Albany, NY (ALY) - https://www.weather.gov/aly/ehwo
- WFO Binghamton, NY (BGM) - https://www.weather.gov/bgm/ehwo

• WFO Boston, MA (BOX) - http://www.weather.gov/box/ehwo
• WFO Burlington, VT (BTV) - http://www.weather.gov/btv/ehwo
• WFO Buffalo, NY (BUF) - https://www.weather.gov/buf/ehwo
• WFO Columbia, SC (CAE) - http://www.weather.gov/cae/ehwo
• WFO Caribou, ME (CAR) - http://www.weather.gov/car/ehwo
• WFO Charleston, SC (CHS) - http://www.weather.gov/chs/ehwo
• WFO Cleveland, OH (CLE) - http://www.weather.gov/cle/ehwo
• WFO State College, PA (CTP) - https://www.weather.gov/ctp/ehwo
• WFO Greenville/Spartanburg, SC (GSP) - https://www.weather.gov/gsp/ehwo
• WFO Gray ME (GYX) - http://www.weather.gov/gyx/ehwo
• WFO Wilmington, NC (ILM) - http://www.weather.gov/ilm/ehwo
• WFO Wilmington, OH (ILN) - http://www.weather.gov/iln/ehwo
• WFO Sterling, VA (LWX) - https://www.weather.gov/lwx/ehwo
• WFO Newport/Morehead City, NC (MHX) - http://www.weather.gov/mhx/ehwo
• WFO New York, NY (OKX) - http://www.weather.gov/okx/ehwo
• WFO Pittsburgh, PA (PBZ) - http://www.weather.gov/pbz/ehwo
• WFO Philadelphia, PA (PHI) - https://www.weather.gov/phi/ehwo
• WFO Raleigh, NC (RAH) - https://www.weather.gov/rah/ehwo
• WFO Charleston, WV (RLX) - https://www.weather.gov/rlx/ehwo
• WFO Blacksburg, VA (RNK) - http://www.weather.gov/rnk/ehwo

Southern Region Offices (10)
• WFO Albuquerque, NM (ABQ) - https://www.weather.gov/abq/ehwo
• WFO Amarillo, TX (AMA) - https://www.weather.gov/ama/ehwo
• WFO Peachtree City, GA (FFC) - https://www.weather.gov/ffc/ehwo
• WFO Lake Charles, LA (LCH) - https://www.weather.gov/lch/ehwo
• WFO New Orleans, LA (LIX) - http://www.weather.gov/lix/ehwo
• WFO Lubbock, TX (LUB) - http://www.weather.gov/lub/ehwo
• WFO Midland/Odessa, TX (MAF) - http://www.weather.gov/maf/ehwo
• WFO Norman, OK (OUN) - https://www.weather.gov/oun/ehwo
• WFO Tulsa, OK (TSA) - http://www.weather.gov/tsa/ehwo

Western Region Offices (1)
• WFO Great Falls, MT (TFX) - http://www.weather.gov/tfx/ehwo

3. Additional Information:

(a) EHWO information can be accessed from the following link:

https://www.weather.gov/crh/ehwoinformation