

Product Description Document

Lightning Potential Index

Part 1 – Mission Connection

1. Product Description – The Lightning Potential Index (LPI) is a web graphic that displays an index of lightning potential for various parts of the day, with a second day for planning purposes. This product will be issued routinely in the morning and updated as necessary.

2. Product Type – Operational

3. Purpose - The LPI gives users a quick, visual 2-day forecast of the current thinking regarding location and likelihood of significant lightning activity developing in the area of responsibility for the host forecast office. Users might include interagency communications centers, the U.S. Forest Service, the BLM and other land agencies, fire planners, burn bosses, dispatchers, Fire Weather Center managers and forecasters, etc. The product provides a graphic depiction of the probability that lightning conditions will develop. The product adds value to the standard thunderstorm forecast by providing a visual image of specific areas of concern for new fire ignitions, or for simply planning outdoor activities. For the fire weather community, there are additional decision factors affecting fire ignitions and growth, such as fuel moisture, energy release component, burn index, etc., which are not considered in the preparation of this product. It is intended to supplement, not replace, official forecast products.

4. Audience - The main audience includes interagency communications centers, the U.S. Forest Service, the BLM and other land agencies, fire planners, burn bosses, fire dispatchers, fire weather centers, etc. However, since it is available on the internet, a broader audience, including outdoor recreationalists, media partners, etc., may make use of the information.

5. Presentation Format - The LPI is a graphical representation (created by GFE/IFPS) posted on the internet, showing areas of negligible/very low (green), low (dark green), moderate (yellow), and high (red) threat of lightning. An explanation of the product is included on the graphic, along with a caveat for what it may and may not be interpreted to imply for decision makers.

6. Feedback Method – Feedback is primarily solicited via comments to the host office webmaster. Direct, face-to-face feedback opportunities will typically occur in the context of fire weather customer forums, media workshops, and other public outreach events.

For further Information please contact:

Doug Crowley, Meteorologist in Charge
WFO Grand Junction
792 Eagle Drive
Grand Junction, Colorado 815506
Email: Doug.crowley@noaa.gov

Part 2 – Technical Description

1. Format and Science Basis – This product was developed because of the need for a graphical representation of areas where lightning is expected to occur during the short term (3 to 36 hour time frame). The LPI attempts to address that void. The product takes into consideration such factors as convective available potential energy and other instability information, forcing for upward motion, lightning climatology, SPC convective outlooks, etc. It does not attempt to account for fuel moisture, energy release component or burn index parameters. The LPI is intended to be used as general guidance information for illustrating current thinking concerning the relative risk of lightning conditions developing in the WFO Grand Junction area of forecast responsibility. The presentation format is a graphical display, created by the forecaster on the midnight shift, using GFE smart tools.
2. Availability – The lightning potential index for day 1 and day 2 will be created in the morning, around 6 AM, coinciding with production of the Hazardous Weather Outlook. The product will be updated at forecaster discretion. The first day provides more detail than the second day, basically an expected evolution of convective development for that day. The second day will provide general guidance for planning purposes.

The product is produced and updated via the SFO GJT website at:

<http://www.crh.noaa.gov/gjt/?n=lightningpotentialindex>