

Experimental Lightning Potential Index

Product Description Document (PDD)

Part I – Mission Connection

- a. Product Description – The Lightning Potential Index (LPI) will be 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.
- b. Product Type – Experimental
- c. Purpose – Lightning is the biggest weather killer in the state of Colorado and Utah. In Colorado during the past 10 years, there is an average of 3 documented deaths and 15 injuries per year.

With lightning a significant weather threat in Colorado and Utah, the web graphic will be designed to increase awareness of the lightning potential for day 1 and day 2.
- d. Audience – There are three groups of people that would be considered target audiences.
 1. The first group is people working or recreating outdoors. Many outdoor recreationalists plan day hikes that include “fourteeners”, peaks above 14,000 feet. Also, there are many people who work outdoors in the oil and gas industry.
 2. The second target audience is the fire weather community. The lightning potential index will have better temporal and spatial resolution than the lightning activity level (LAL). The LAL available in the fire weather zones is confined to zone boundaries.
 3. The third target group is the media (TV and radio) which may have a high level of interest in such a product.
- e. Presentation Format – The LPI is a graphical presentation (created by GFE smart tools) posted on the web. The LPI will display colored areas of negligible/very low (green), low (dark green), moderate (yellow), and high (red) threat of lightning.
- f. Feedback Method – We always are looking for feedback regarding the quality and utility of NWS products. NWS Forecast Office, Grand Junction, CO., as well as any Central Region WFO presenting this product, will provide a link to a formal customer survey as a means of soliciting feedback on this product. The

survey can be accessed through the following URL:
<http://www.weather.gov/survey/nws-survey.php?code=cr-lpi>

Each participating office will establish an evaluation period of at least 6 months, but no longer than one year, to solicit feedback regarding this service.

Part II – Technical Description

- a. Format and Science Basis – Several factors will be used to determine the lightning potential for the day. Such factors will include, but not limited to convective available potential energy, high level total totals index, upwards vertical velocity, lightning climatology, day 1 and day 2 convective outlooks and previous day lightning activity. The format will be a graphical display, created by the forecaster on the midnight shift. GFE smart tools will be used to create the graphic.
- b. Availability - The lightning potential index for day 1 and day 2 will be created in the mornings, around 6 AM, to coincide with the Hazardous Weather Outlook. The product will be updated if necessary. The first day will provide better detail than the second day, basically an expected evolution on how convection will behave that day. The second day will provide general guidance for planning purposes.