

# Hours of Sunshine and Percent of Possible Sunshine Products Description Document PDD

## Part I - Mission Connection

1. Product Description - The Hours of Sunshine and Percent of Possible Sunshine Products will be graphical displays on the Internet of the number of hours of sunshine expected and the percent of total possible sunshine expected across the (PDT) County Warning Area (CWA). The products will be updated with each major Zone Forecast issuance. At 4 AM local Pacific Time, the forecasts will be for “today” and “tomorrow.” At 3 PM local Pacific Time, the forecasts will be for “tomorrow” and “the day after tomorrow.”
2. Product Type – Operational
3. Purpose - The purpose of this experimental product is to provide our customers and partners with enhanced detail on the amount of sunshine expected for the next two days.
4. Audience - The audience is any customer in the WFO forecast area that would like access to graphically depicted information on hours of sunshine or percent of possible sunshine. Anticipated users include: media, farmers, and those planning outdoor activities.
5. Presentation Format - All displays will occur via a web page interface. Forecasters will create the graphics in GFE and then a script will be run to transfer PNG files to the PDT home page. A 4-panel graphic will be displayed with the Hours of Sunshine and Percent of Possible Sunshine graphics for each period displayed side-by-side—with the first forecast period on top and the second period on the bottom of the 4-panel.
6. Feedback Method - We will solicit feedback through an existing NWS Feedback form and/or e-mail to the WFO Webmaster.
7. Example URL = <http://weather.gov/pendleton/sun>
8. PDD Approved by Vickie Nadolski, NWS Western Region Director

## Part II - Technical Description

1. Format and Science Basis - These products are being developed to provide customers enhanced information on the amount of sunshine expected for the next two days. Forecasters will create the graphics in GFE using a smart tool. Input to the tool will include: the total possible minutes of sunshine for each day of the year at Pendleton, Oregon and the total opaque sky cover from the GFE grids during the daytime. An Hours of Sunshine Grid will be created by multiplying the total possible minutes of sunshine by the opaque sky cover (in percent) at each grid point. The Percent of Possible Sunshine grid will be created by performing the mathematical operation  $(1 - \text{opaque sky cover})$  at each grid point.

2. Availability - The graphics will be available 24/7. They will be updated at a minimum of twice per day with the issuance of each major Zone Forecast Product (ZFP). However, they may also be updated at non-routine times as conditions warrant.
3. Additional Information - Forecast output from this experimental application is not intended for a specific user group. Its intent is to provide enhanced information to all of our customers.