To better understand the characteristics of the region's solar resource, a preliminary study was undertaken of trends in direct normal irradiance from three sites around Oregon over a period of 25 years. An overall increase of about 13- 16% over the 25 years was found. Seasonal as well as yearly trends were studied. During the summer months an increase was observed while during the winter months a decrease was observed. Changes in clear noon values are also examined. This article analyzes direct normal data unlike other recent studies which find decreasing trends in global radiation data worldwide. The data analysis in this study is the first step in testing and refining regional climate models in the Pacific Northwest. A better understanding of the regional climate models can be achieved by utilizing longterm solar radiation data trends with changes in cloud cover, aerosol optical depth, and other meteorological changes.