



An investigation of solar erythemat ultraviolet radiation at two sites in touristic attraction areas of Thailand

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Islands on the southern coasts of Thailand are famous attractions for local and foreign tourists. Tourists usually expose their skins to solar radiation for tanning. Information on solar ultraviolet radiation (UV) is of importance for tourists to protect themselves from adverse effects of UV. In this work, solar erythemat ultraviolet radiation (EUV) at two touristic sites namely, Samui island (9.451N, 100.033E) and Phuket island (8.104N, 98.304E) was investigated. In investigating EUV, broadband UV radiometers (Kipp&Zonen, model UV-S-B-C) were installed at existing meteorological stations in Samui and Phuket islands. A one-year period of EUV data from these two sites was analyzed. The level of UV index at these sites was studied. The values of UV index higher than 12 at noon time of clear days are usually found in the summer at both sites. In addition, aerosol optical depth from MODIS together with a radiative transfer model was used to determine the EUV depletion by aerosols. Global broadband radiation measured at the sites was also used to establish correlation between EUV and global broadband radiation. Higher correlation was found for the case of clear sky as compared to the case of cloudy sky and the correlation obtained from this analysis can be used to estimate EUV from global broadband radiation. Finally, seasonal variation of EUV at both sites was investigated. It was found that the tropical monsoons have strong influence on this variation.