

Meteorology meets public health: UV forecasts and reports for sun safety

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In Australia, we experience extreme levels of solar ultraviolet radiation because of our location in the Southern Hemisphere and our relatively clean and cloudless skies.¹ This environment, coupled with a predominantly fair-skinned population that favours an outdoor lifestyle, puts our population at high risk for skin cancer.

It is possible to forecast daily solar UV levels and to report UV levels for past days. UV forecasts and reports provide an additional avenue for educating the Australian public about the heightened need for sun protection. UV levels are reported using the UV Index, which is an internationally standardised index for reporting the maximum daily intensity of biologically effective solar UV radiation.² In Australia, the following danger categories are used in association with numerical values of the UV Index: Moderate (below 3), High (3 to 6), Very High (7 to 9), Extreme (10 and above).

In response to recommendations from a national workshop of health, meteorology and radiation experts³ and findings from focus group discussions,⁴ the Bureau of Meteorology Research Centre, the Centre for Behavioural Research in Cancer and the Australian Radiation Protection and Nuclear Safety Agency (ARPANSA) have collaborated to develop a standard visual presentation format for UV Index reports and forecasts. Graphic presentation of clear sky UV forecasts are now available daily on the Bureau of Meteorology's website at <http://www.bom.gov.au/weather/national/> by clicking on the link 'UV index forecast graphs for capital cities'. A method of incorporating cloud-adjusted UV values into these forecasts is being developed.

Figure 1 shows sample UV forecasts for Darwin and Melbourne, printed in black and white. (To see colour presentations of the UV forecasts, visit the website.) Higher index values are observed for Darwin mainly because the sun is higher in the sky and the ozone amount is smaller than in Melbourne. During the day the

index values in both cities increase from morning to noontime, decreasing towards the afternoon following the sun from lower to higher then lower positions in the sky. This illustrates the heightened need for sun protection during the middle of the day.

ARPANSA is setting up procedures for displaying daily measured UV Index values for Brisbane, Sydney, Newcastle, Melbourne, Adelaide and Perth on the ARPANSA website, <http://www.arpansa.gov.au>. This will achieve consistency of presentation for the web-based UV forecasts and reports. The availability of this information presents an opportunity to further educate the public about the strength of solar UV in Australia and prompt appropriate sun protection behaviour.

References

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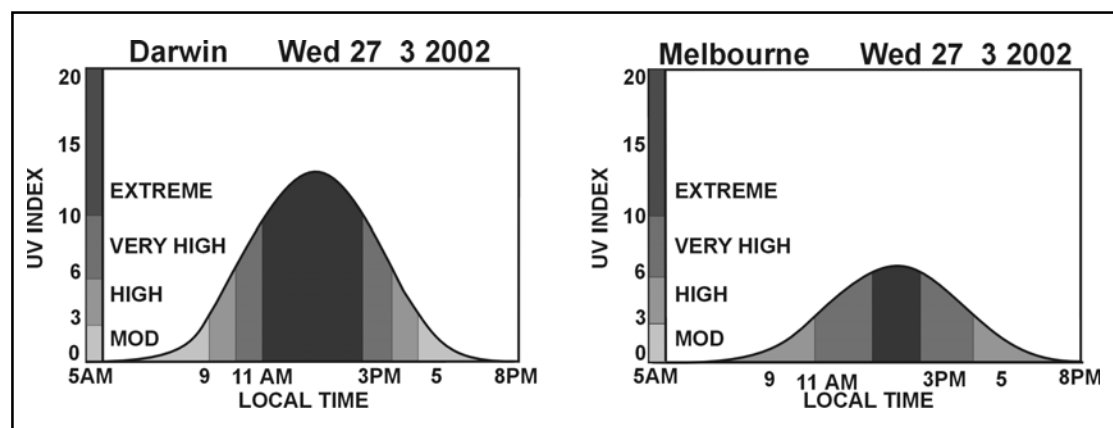


Figure 1. Daily clear sky UV Index forecast for Darwin and Melbourne for 27 March 2002