



Australian Government

Australian Radiation Protection and Nuclear Safety Agency

Skin cancer in Australia
Submission 20 - Supplementary Submission

SOLAR UVR and SKIN CANCER IN AUSTRALIA

Dr Peter Gies

**The Australian Radiation Protection
and Nuclear Safety Agency**





INTRODUCTION

- ARPANSA is an Australian Govt Agency in the Department of Health
- MISSION : Protecting people and the environment from the harmful effects of radiation
- ARPANSA is a WHO Collaborating Centre for Radiation Protection and a member of the WHO Intersun Project
- 2009: IARC reaffirmed UV Radiation as “carcinogenic to humans” (Group 1). *(Ref: IARC 2009)*
- “Exposure to UVR is considered to be a major factor for all three forms of skin Cancer” ICNIRP *(Ref: ICNIRP 2004)*

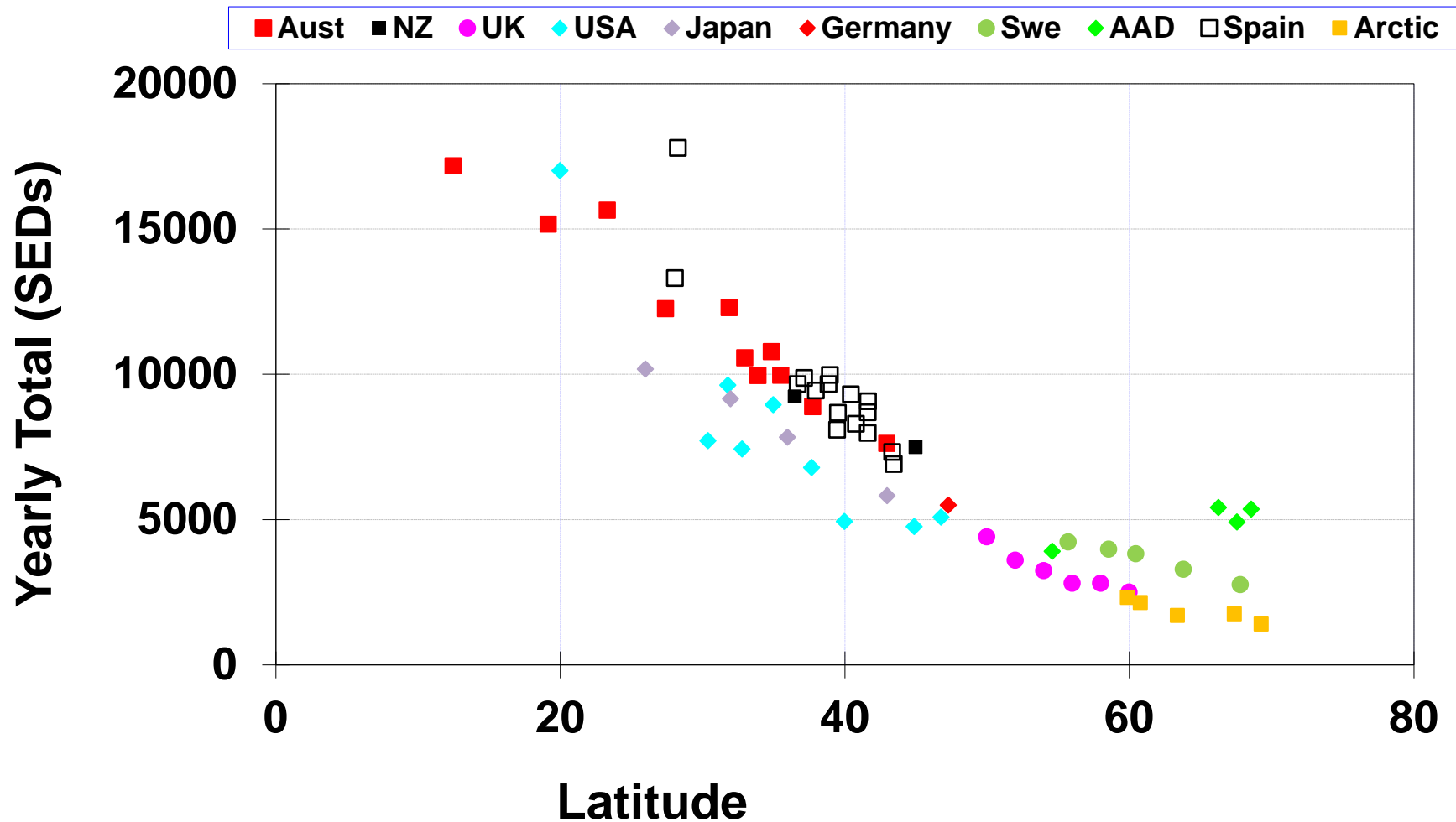


ARPANSA UV Activities

- Has a network that monitors solar UVR levels at major cities around Australia since the early 1990's > <http://www.arpansa.gov.au/uvindex/>
- Has collaborative research programmes to measure UVR exposures of at risk groups such as children and outdoor workers
- Provides services to test the UV protective capability of clothing, sunglasses, shade items, materials see <http://www.arpansa.gov.au/uv/>
- Development of Standards and guidance > (*Ref RPS12*)



UVR Levels around the World



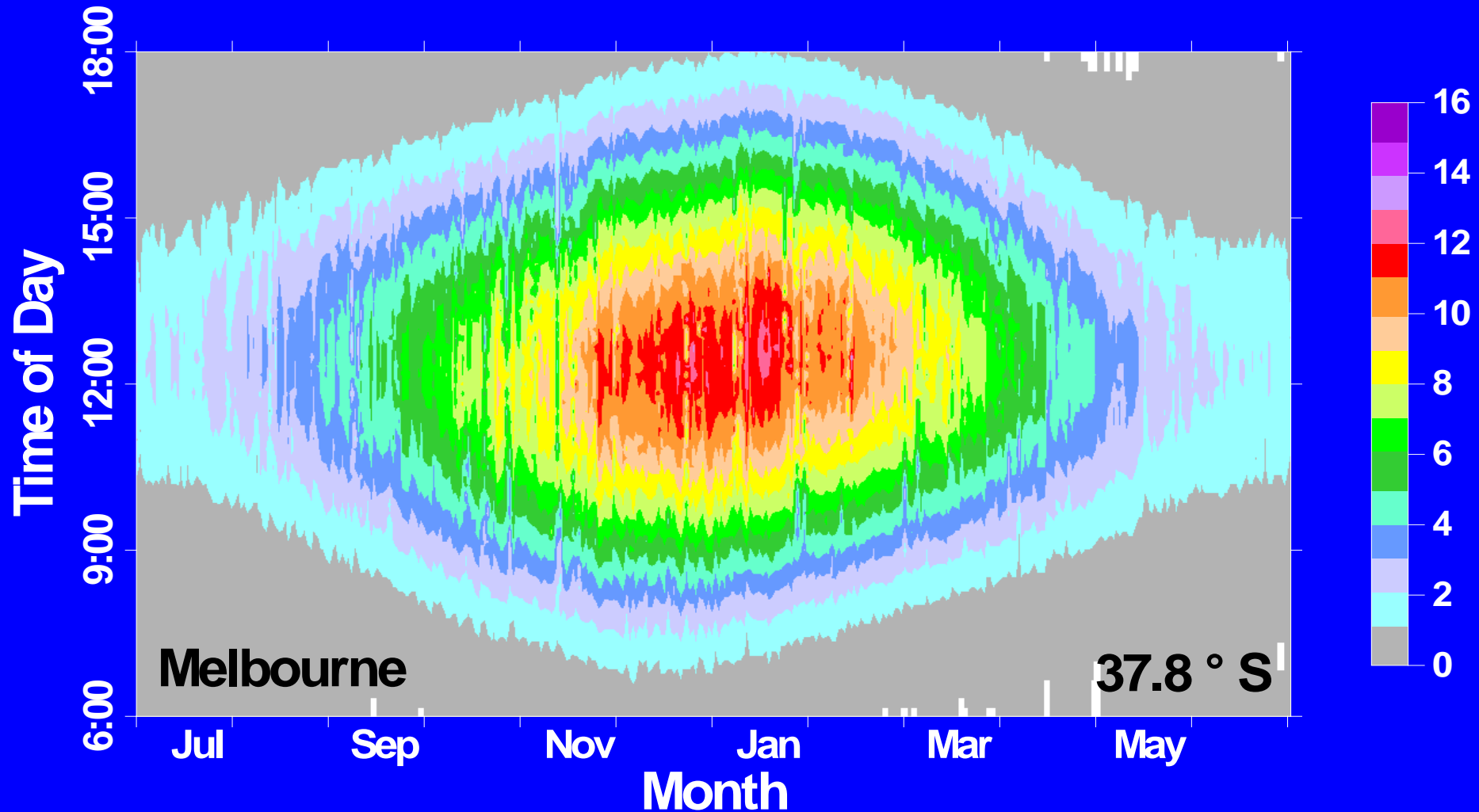


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UV Index MELBOURNE 37.8°S

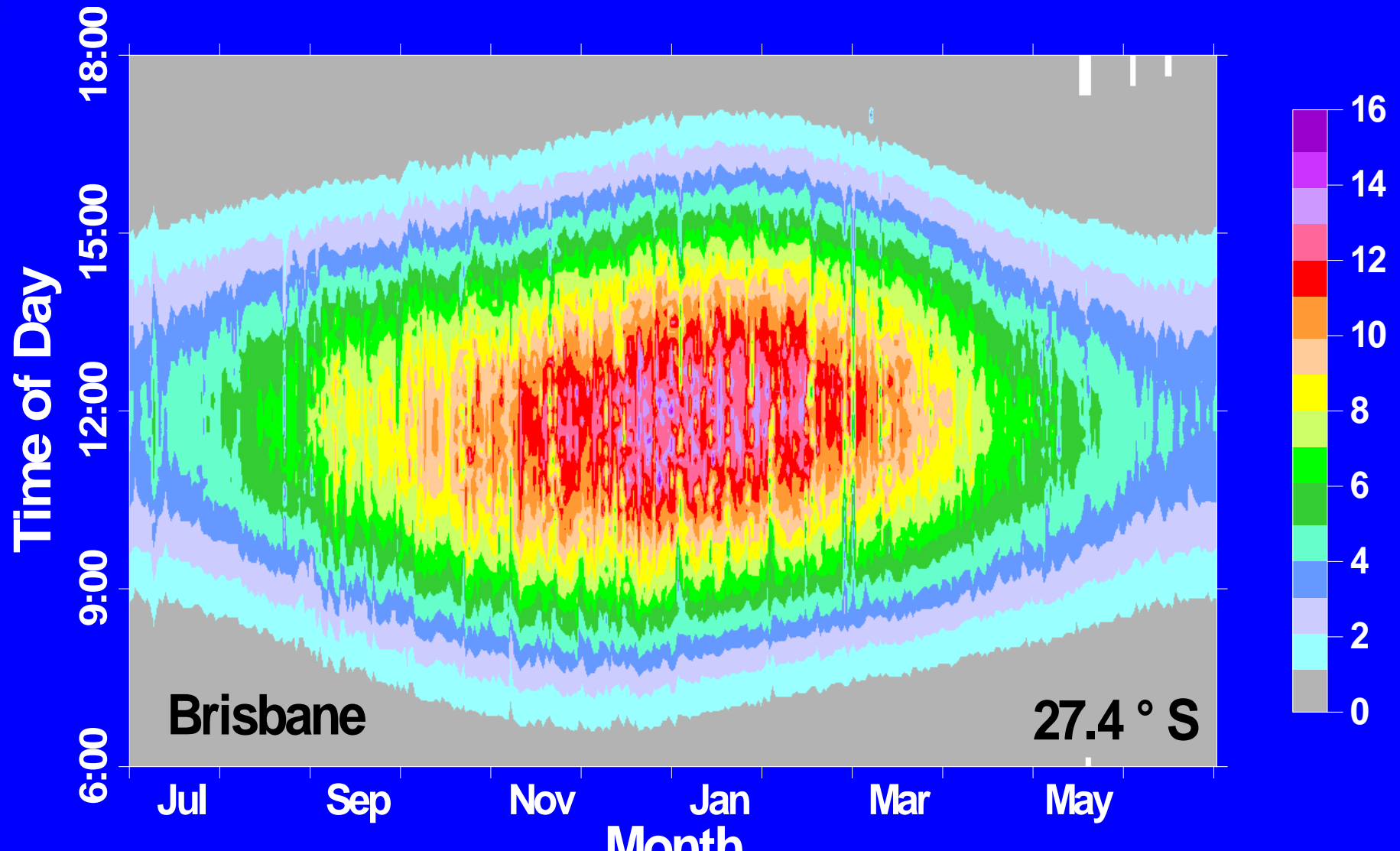




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UV Index BRISBANE 27.4°S





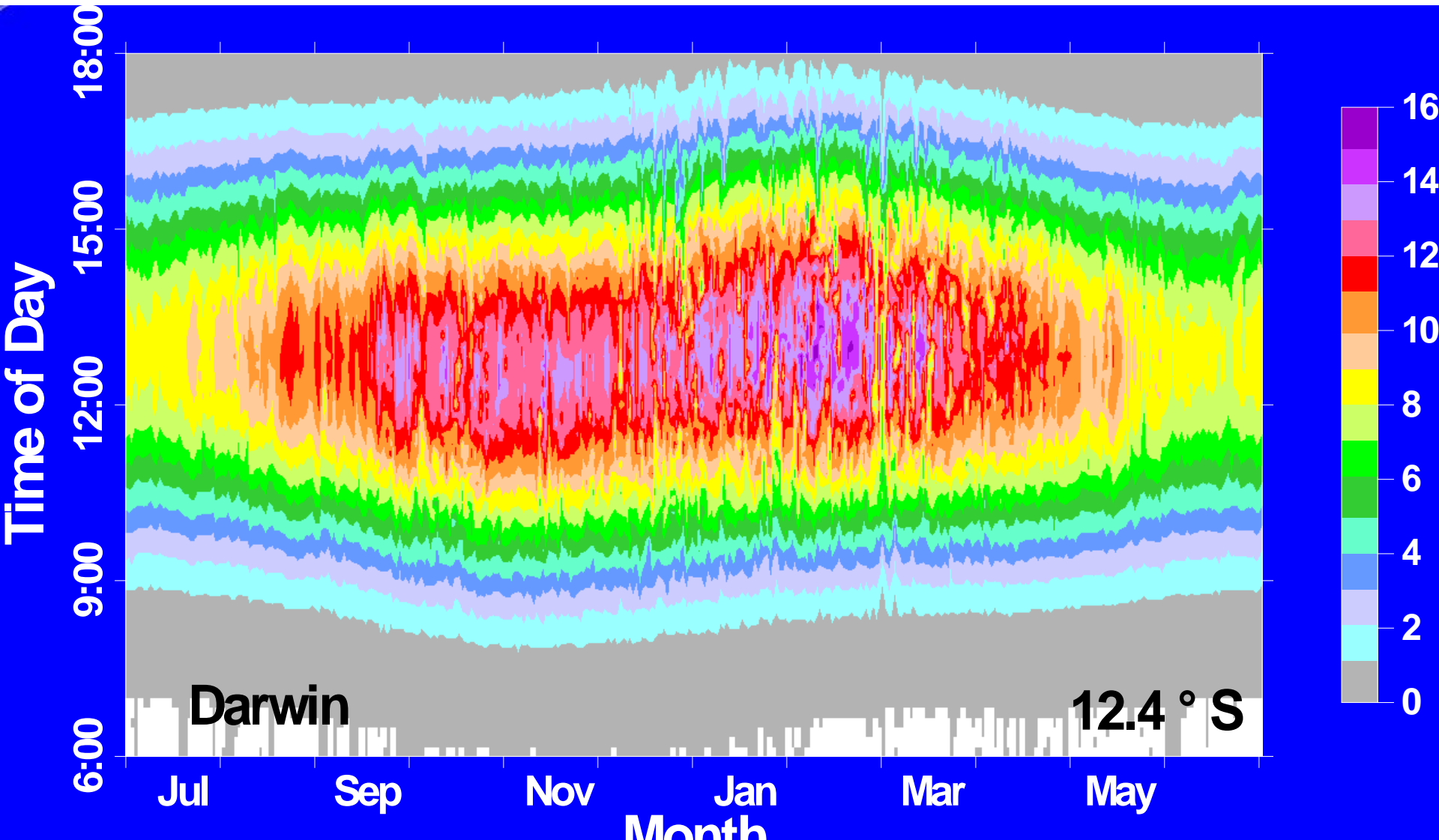
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UV Index

DARWIN

12.4°S

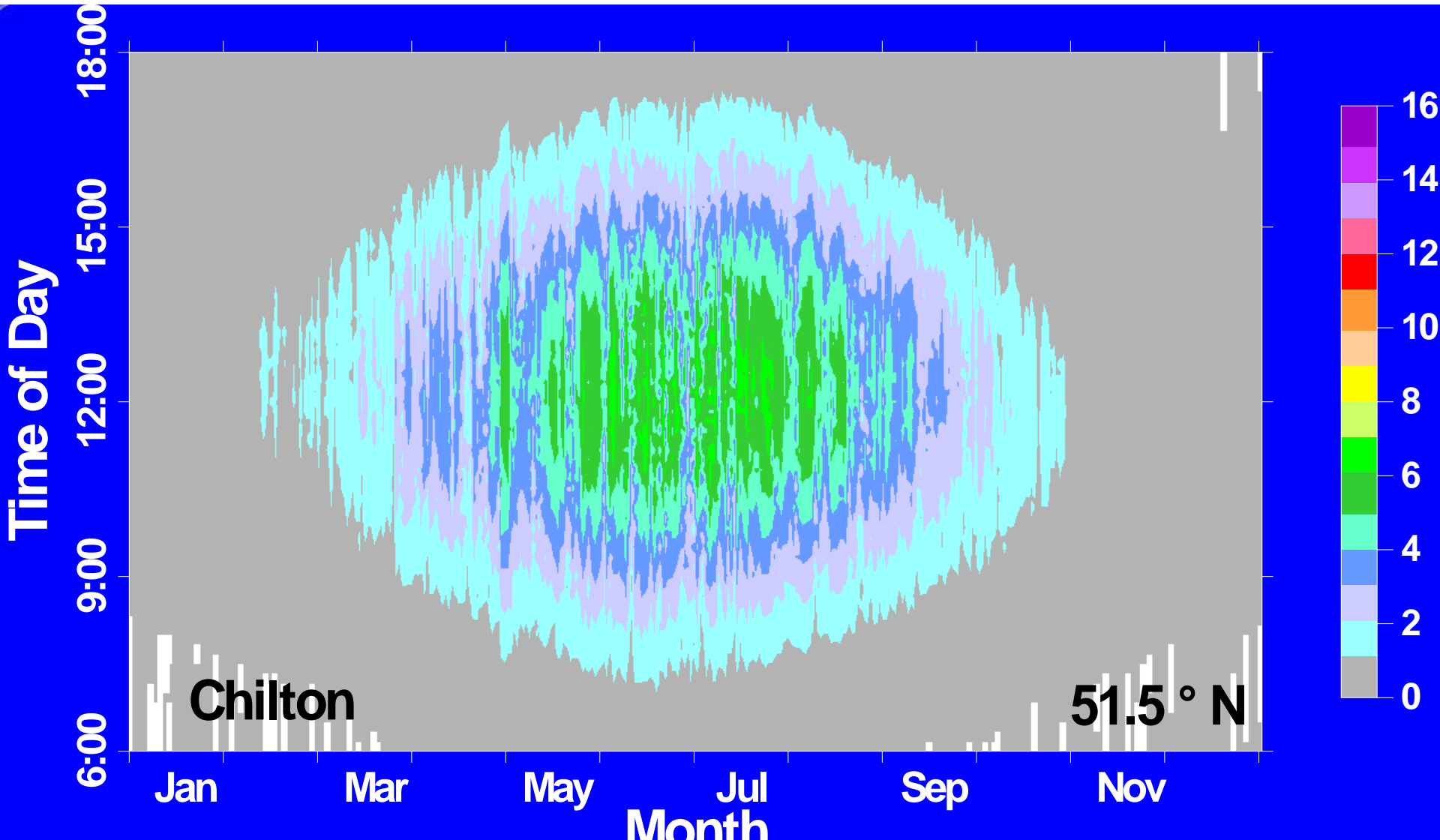




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UV Index OXFORD, UK 51.5°N





SKIN TYPE MATTERS

- People with fairer skin have higher risk from UV exposures
- Fitzpatrick Skin Type Chart *(Ref Fitzpatrick 1988)*

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Fitzpatrick Skin Type

The most commonly used scheme to classify a person's skin type by their response to sun exposure in terms of the degree of burning and tanning was developed by Thomas B. Fitzpatrick*, MD, PhD. Examples are given below.

* Fitzpatrick, T.B. (1988) The validity and practicality of sun reactive skin types I through VI. Arch Dermatol 124: 869-871.

Eye colour

0. Light colours

1. Blue, gray or green
2. Dark
3. Brown
4. Black

Natural hair colour

0. Sandy red

1. Blond
2. Chestnut or dark blond
3. Brown
4. Black

Your skin colour (unexposed areas)

0. Reddish

1. Pale
2. Beige or olive
3. Brown
4. Dark brown

Freckles (unexposed areas)

0. Many

1. Several
2. Few
3. Rare
4. None

If you stay in the sun too long?

0. Painful blisters, peeling

1. Mild blisters, peeling
2. Burn, mild peeling
3. Rare
4. No burning

Do you turn brown?

0. Never

1. Seldom
2. Sometimes
3. Often
4. Always

How brown do you get?

0. Never

1. Light tan
2. Medium tan
3. Dark tan
4. Deep dark

Is your face sensitive to the sun?

0. Very sensitive

1. Sensitive
2. Sometimes
3. Resistant
4. Never have a problem

How often do you tan?

0. Never

1. Seldom
2. Sometimes
3. Often
4. Always

When was your last tan?

0. +3 months ago

1. 2-3 months ago
2. 1-2 months ago
3. Weeks ago
4. Days

Score

0-6

Skin Type I

Always burns, never tans (pale white skin)

7-13

Skin Type II

Always burns easily, tans minimally (white skin)

14-20

Skin Type III

Burns moderately, tans uniformly (light brown skin)

21-27

Skin Type IV

Burns minimally, always tans well (moderate brown skin)

28-34

Skin Type V

Rarely burns, tans profusely (dark brown skin)

35+

Skin Type VI

Never burns (deeply pigmented dark brown to black skin)

* The information published here is not intended to take the place of medical advice. Please seek advice from a qualified health care professional.



SUMMARY

- Higher UV exposure > higher skin cancer rates
- UV levels are higher in Australia than most overseas sites
- Skin cancer is preventable
- Increasing public awareness of the need to protect against UV will contribute to reducing skin cancer rates
- ARPANSA works with the Cancer Councils to promote UV protection



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THANK YOU

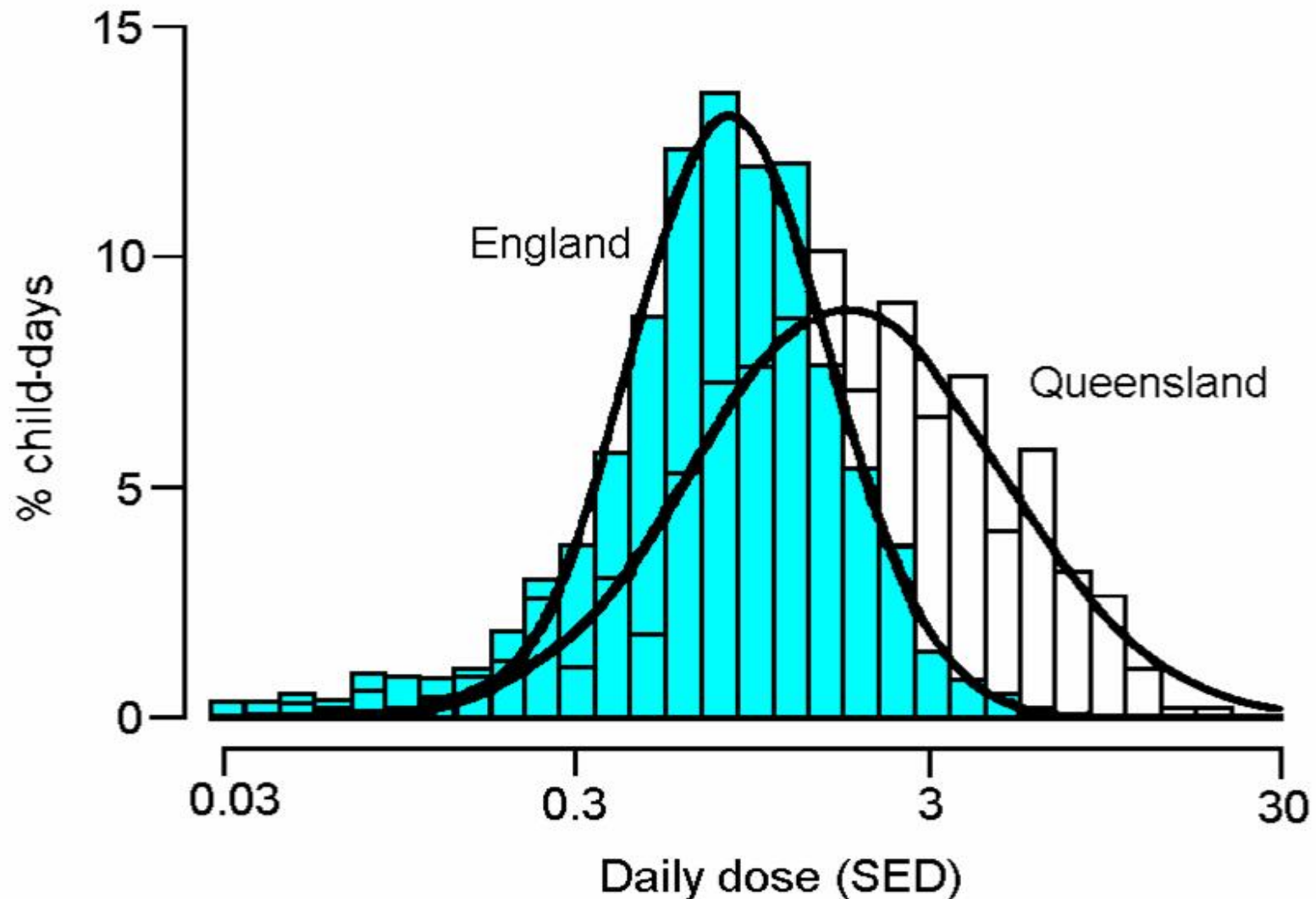
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Distribution of Solar UVR Exposures

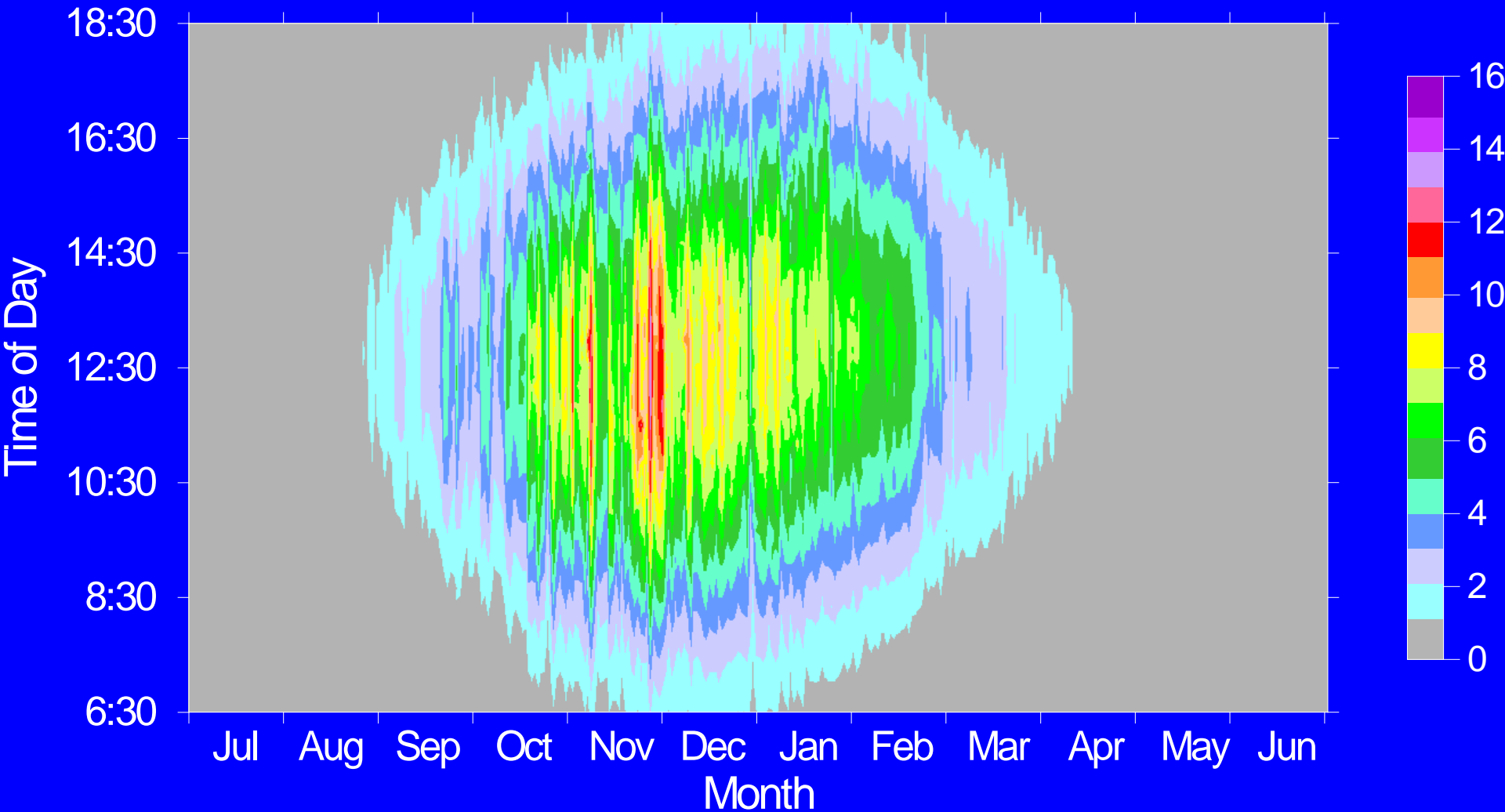




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CASEY STATION



Measured Solar UV Levels



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In the U.K.
the UV Index
doesn't exceed

6



UV Index Maximum



ARPANSA Measurement Sites

www.arpansa.gov.au/uvindex



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