



Public Health
England

The independent Advisory Group on Non-ionising Radiation (AGNIR)

Dr John O'Hagan

Group Leader, Laser and Optical Radiation Dosimetry Group

Public Health England

AGNIR – history and purpose

Set up in 1990 (under NRPB) and continued its work programme within the Health Protection Agency (HPA) from 2005, and then within Public Health England (PHE) from 2013.

Reports to the PHE Environmental Hazards Programme Board and has the following terms of reference:

to review work on the biological effects of non-ionising radiation relevant to human health and to advise on research priorities.

AGNIR - Membership

Chairman: Professor Anthony Swerdlow

Dr Leslie Coulton

Professor Francis Duck

Professor M Feychting

Professor Patrick Haggard

Professor David Lomas

Professor Hilary Powers

Professor Lesley Rhodes

Dr James Rubin

Professor Antony Young

AGNIR - Support

Secretariat - Dr S M Mann, PHE

Observer - Mr S Conney, Department of Health

PHE representatives

Dr J B O'Hagan

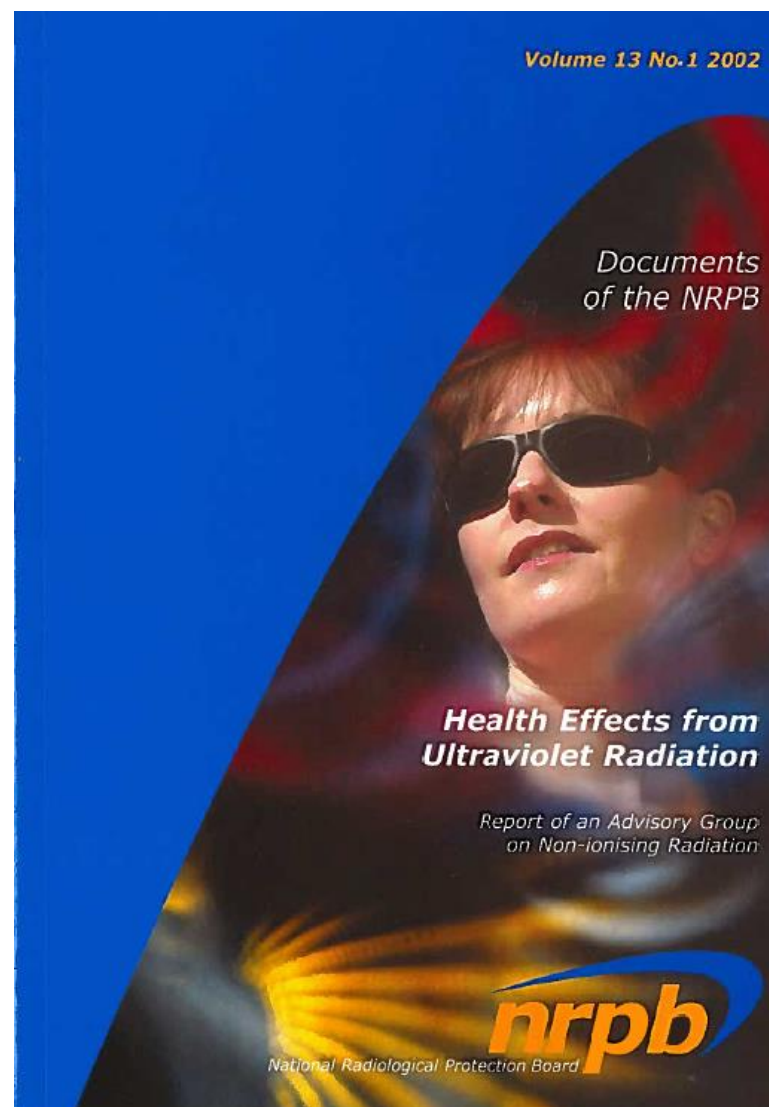
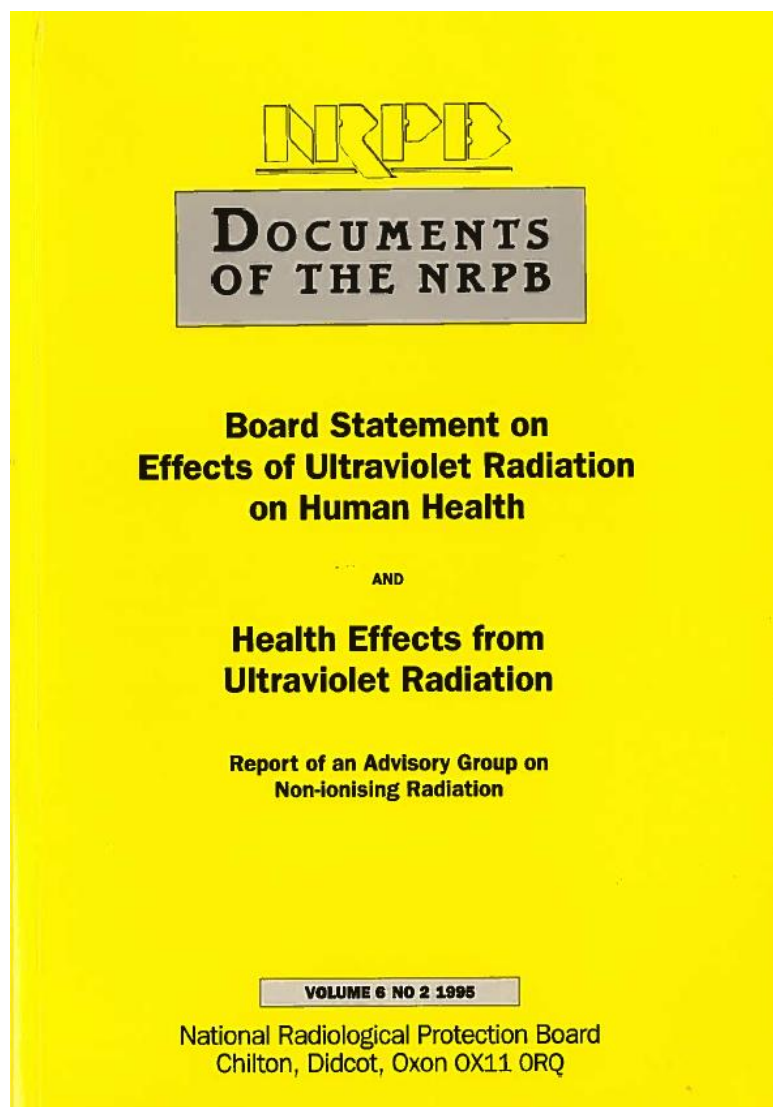
Dr M P Maslanyj

Dr J R Meara

Dr Z J Sienkiewicz

Dr A Tedstone

AGNIR - UV



AGNIR – 2002 report

Updated evidence for harmful effects from exposure to
UV radiation

Chapter on vitamin D

Warned that avoiding exposure to the sun is likely to
be detrimental to health

Scientific Advisory Committee on Nutrition

Working Group on Vitamin D

To review the Dietary Reference Values for vitamin D intake and make recommendations.

UV exposure being considered

AGNIR – Current UV Review

At present insufficient new findings have been published to need a new full review document in the near future, but there have been considerable new findings with regard to vitamin D-related aspects.

The AGNIR began work on a review of ultraviolet radiation in relation to vitamin D synthesis during 2012.

Proposed Report Contents

Introduction

Physics of Ultraviolet Radiation

Overview of Vitamin D, UV and Health

Photobiological aspects of Vitamin D

Conclusions

Research Recommendations

Process

Report prepared by AGNIR

Issued for comment

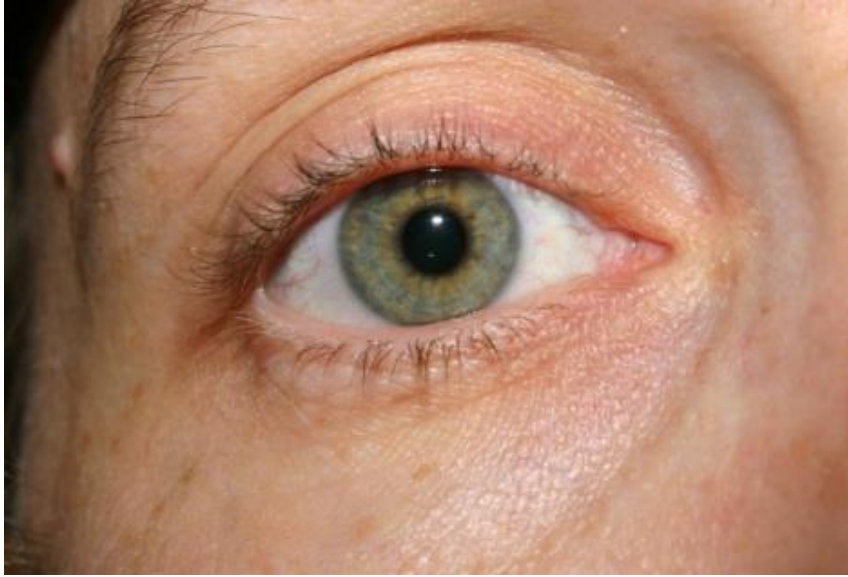
Final report to PHE

Response from PHE

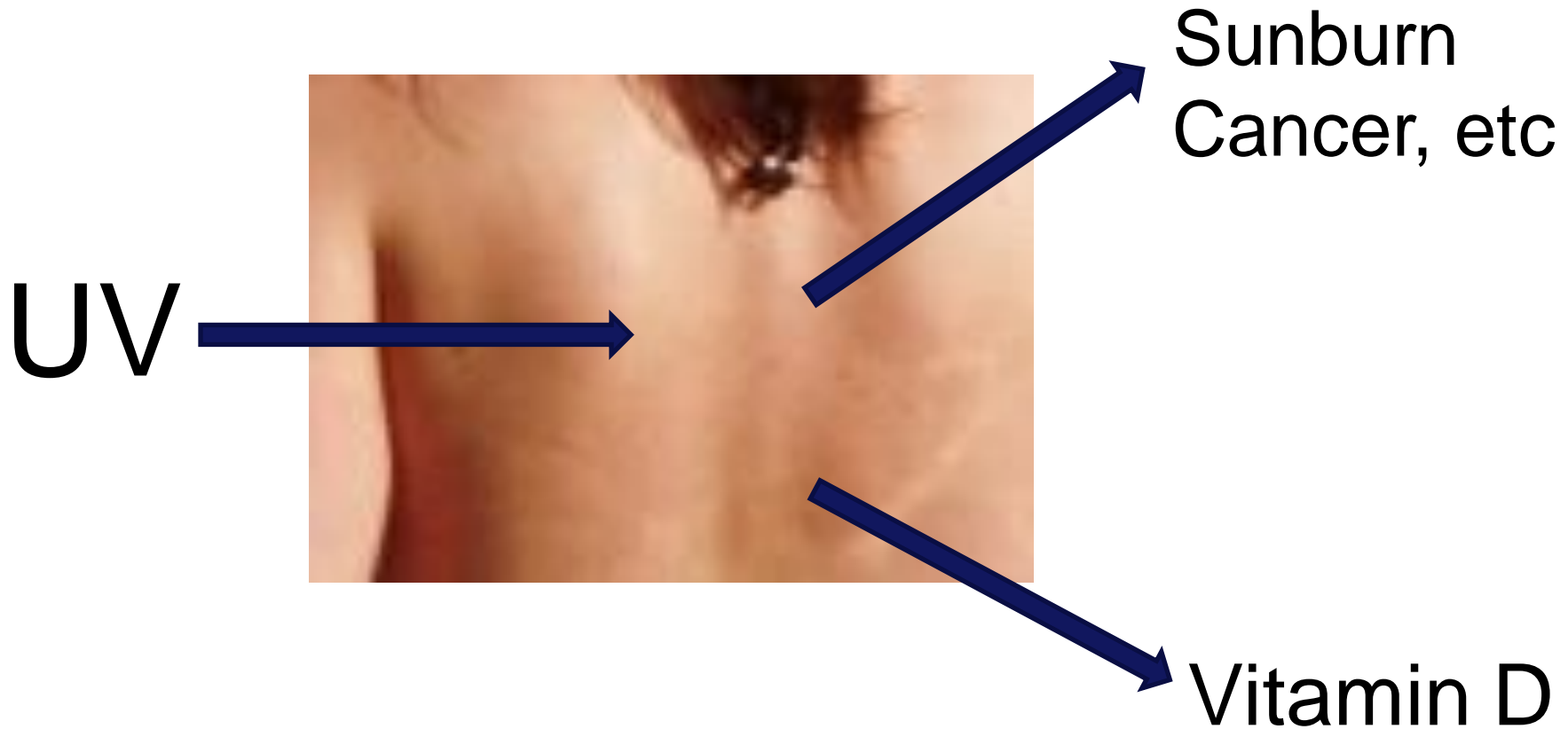
PHE prepares policy/guidelines

Cross-PHE working (Health Protection, Health & Wellbeing, Knowledge Directorates)

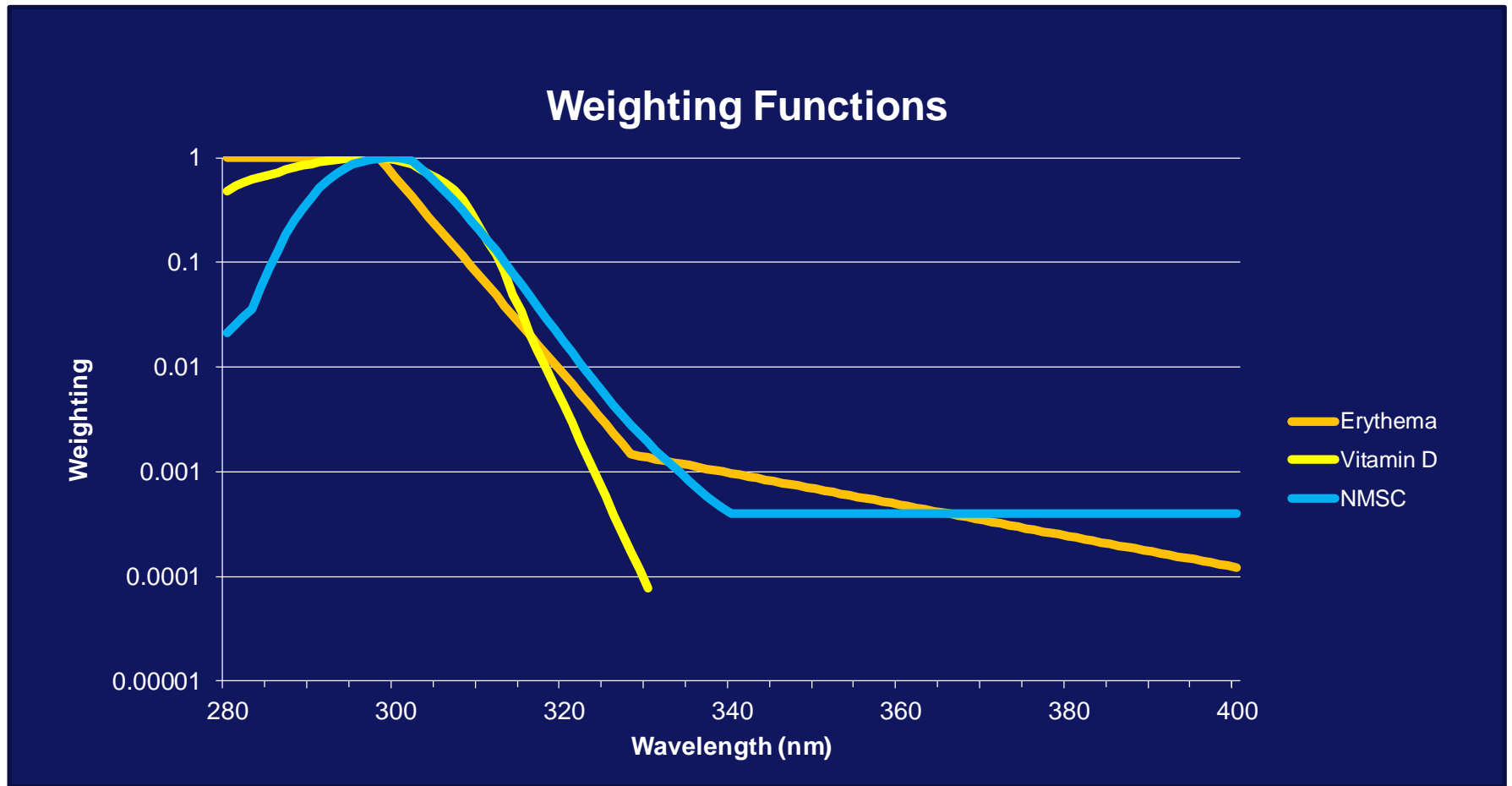
UV Radiation Interactions - People



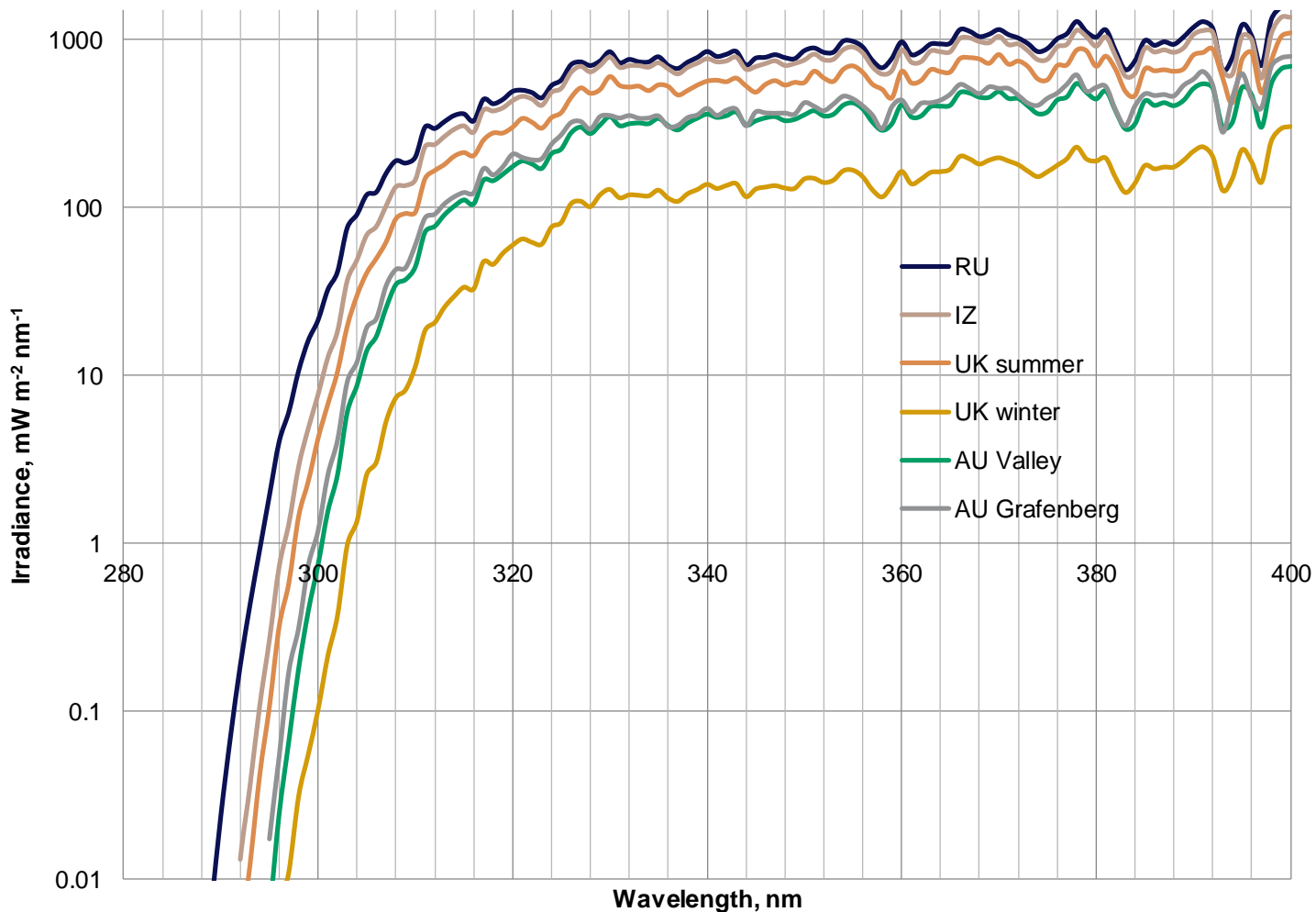
UV Radiation – Skin – Effects



CIE Weighting Functions



Solar Radiation Spectra



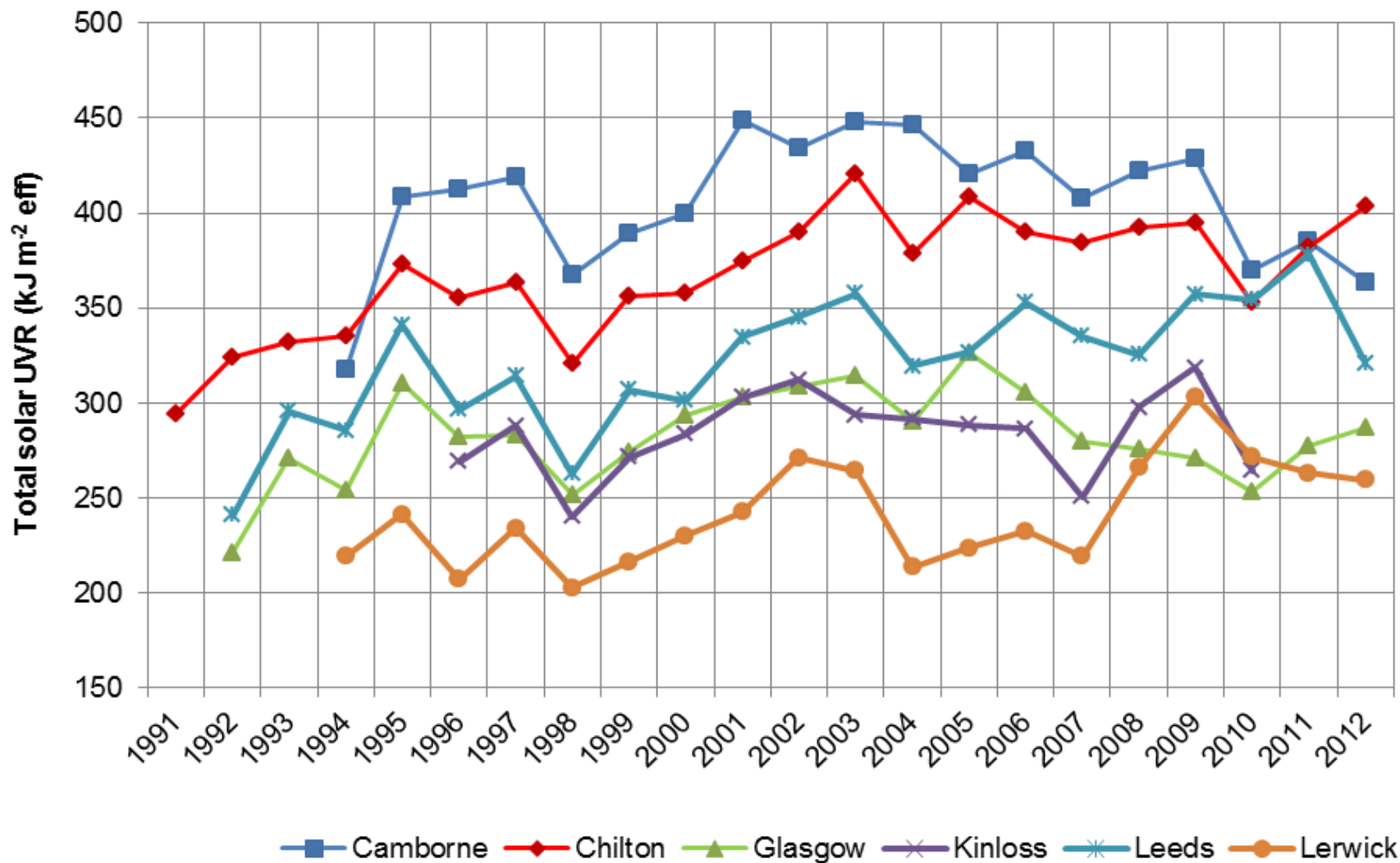
Solar Radiation Measurements



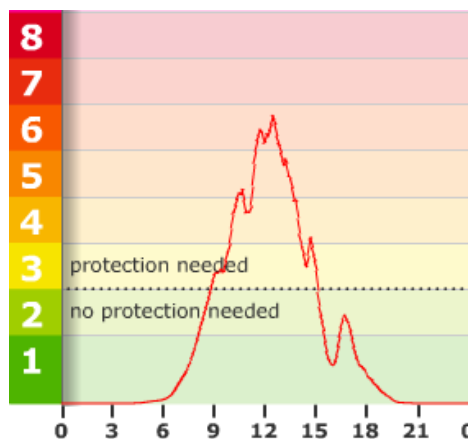
PHE Solar Monitoring Network



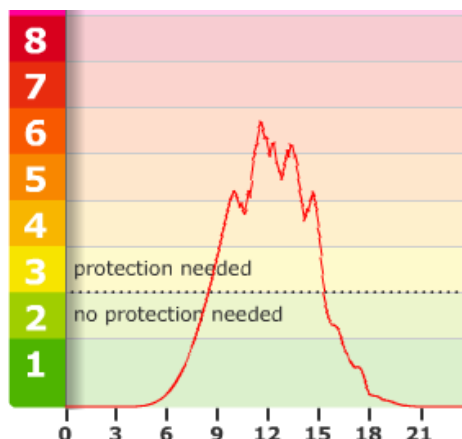
UVR Trends



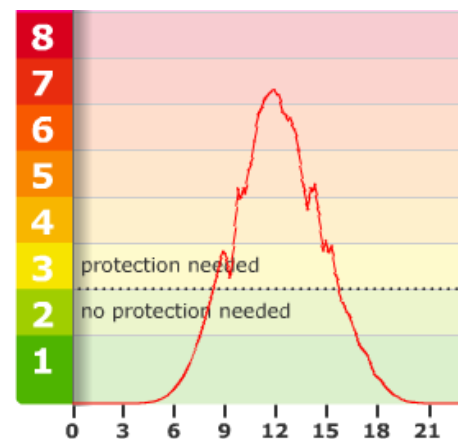
UVI Across UK – Sunday 8 June 2014



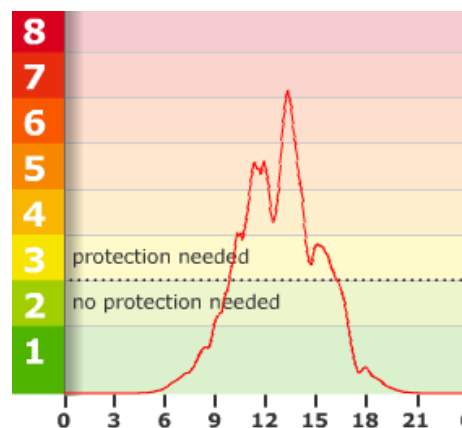
Swansea



Chilton



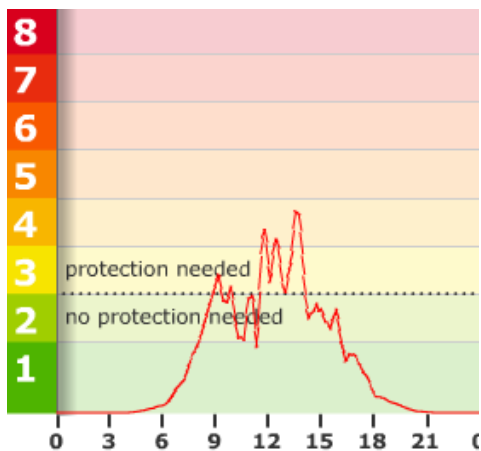
London



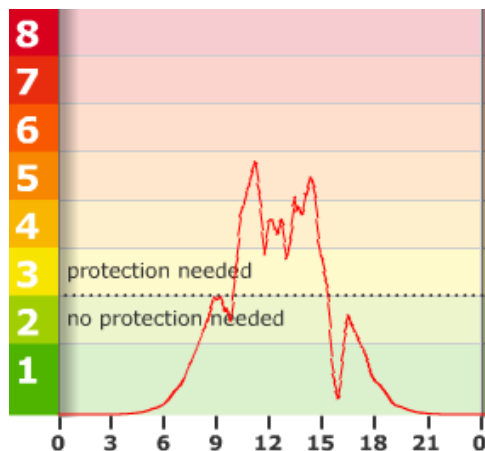
Camborne

UVI Across UK – Sunday 8 June 2014

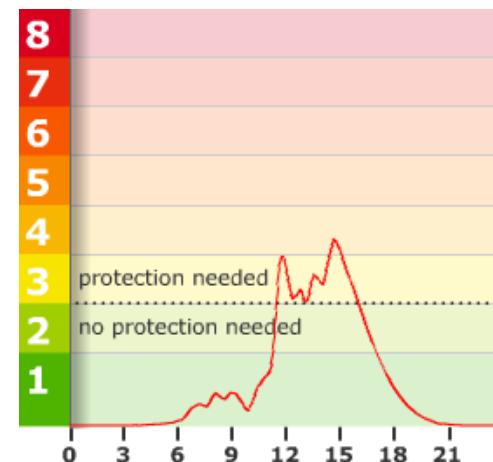
<http://uk-air.defra.gov.uk/data/uv-index-graphs>



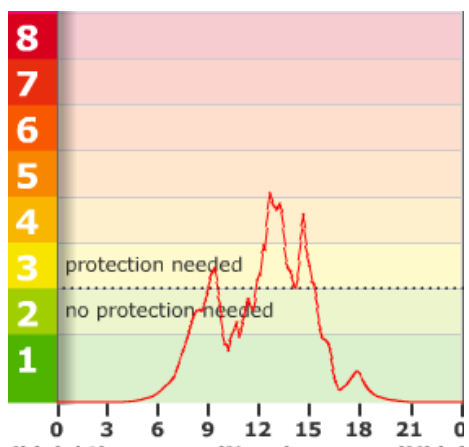
Glasgow



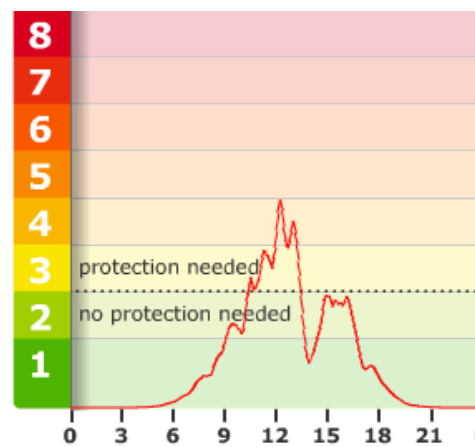
Inverness



Lerwick



Leeds



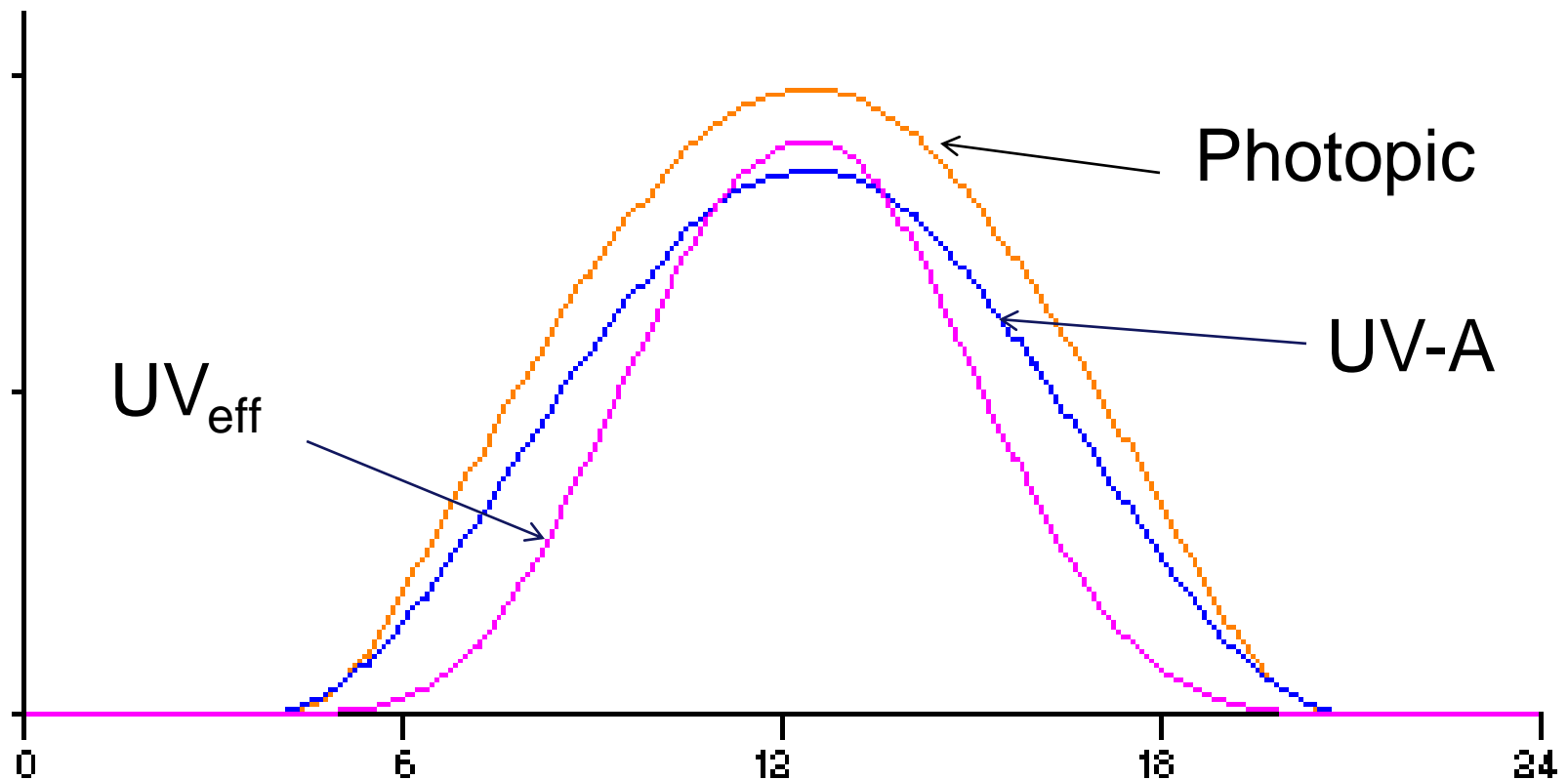
Belfast

Personal Exposure



Clear Day, Camborne

4 June 2010

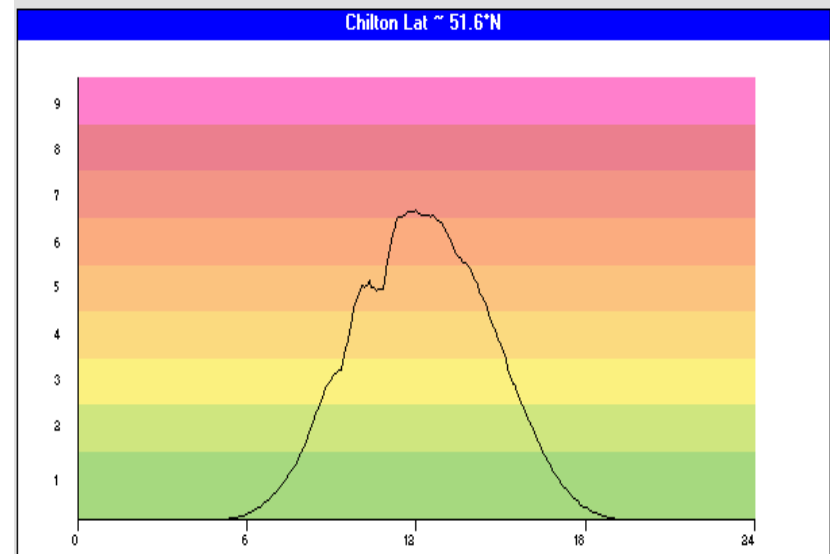
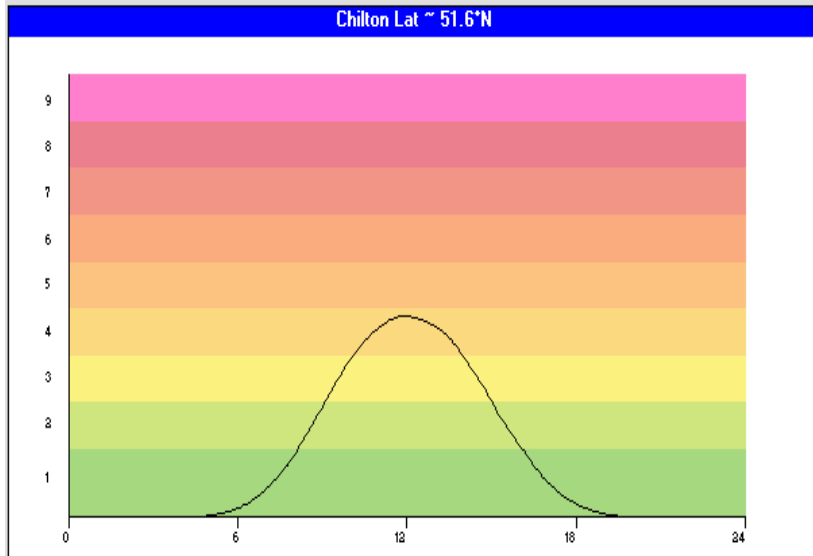


Peak values:

100 klux; 42 W/m² UV-A; 134 mW/m² UV_{eff} (UVI 5)

Ozone Event, UK – April 2013

UV Index (smoothed values)



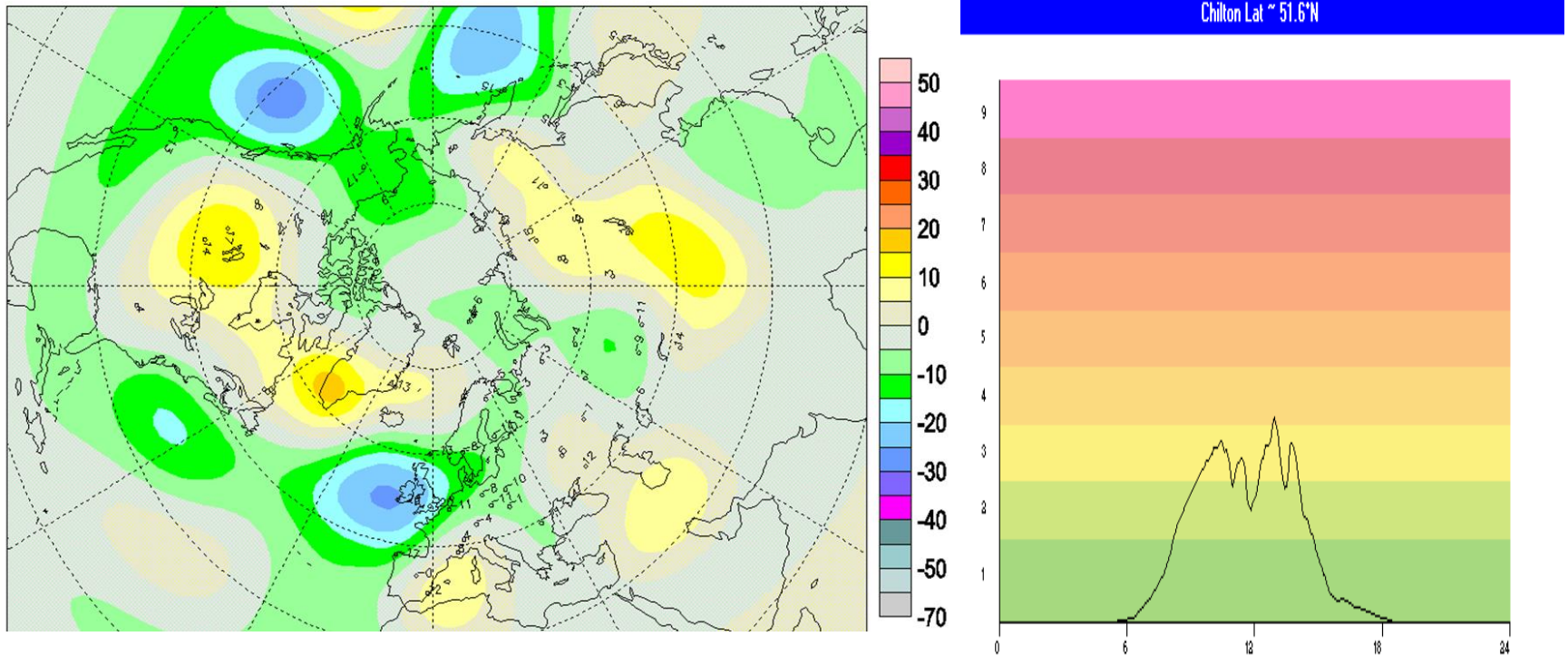
EXPOSURE CATEGORY

UVI RANGE

LOW	< 2
MODERATE	3 TO 5
HIGH	6 TO 7
VERY HIGH	8 TO 10
EXTREME	11+

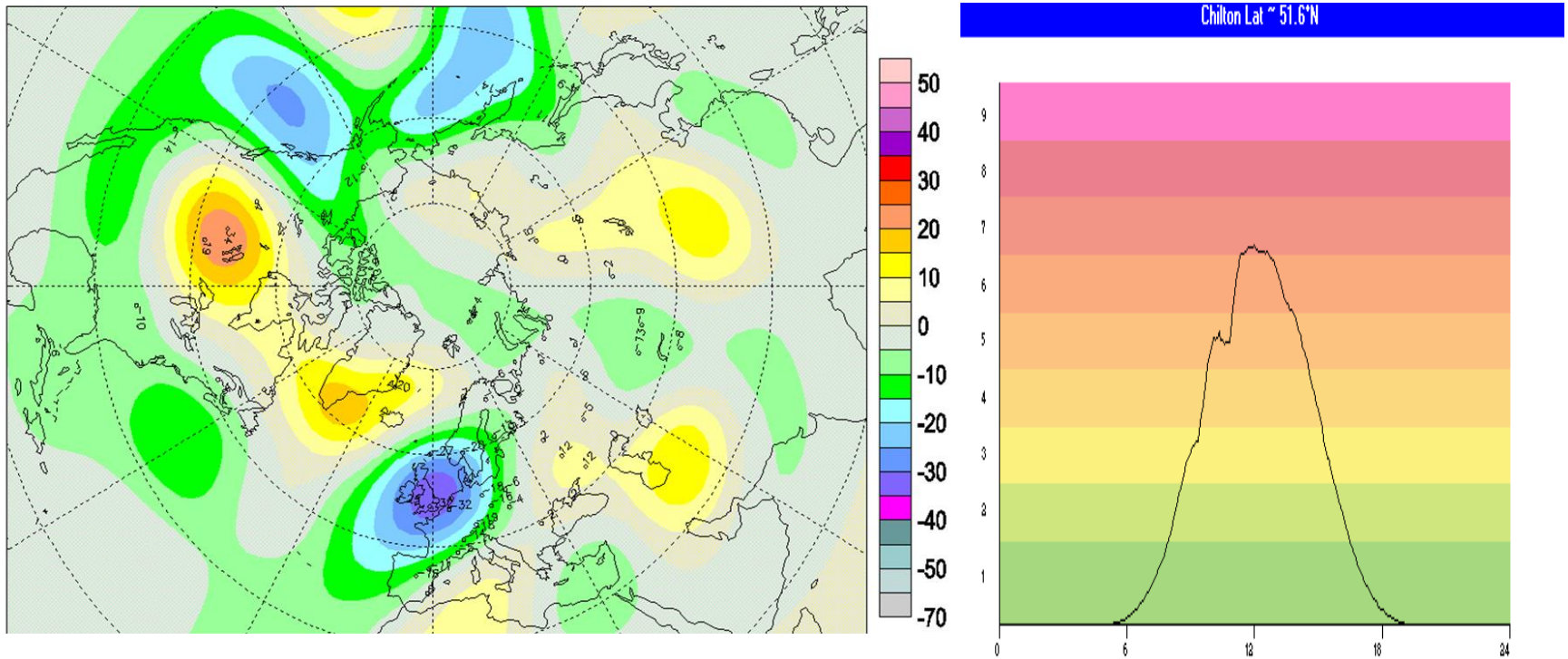
Ozone Event – Time Series

Deviations (%) / Ecart (%) , 2013/04/22



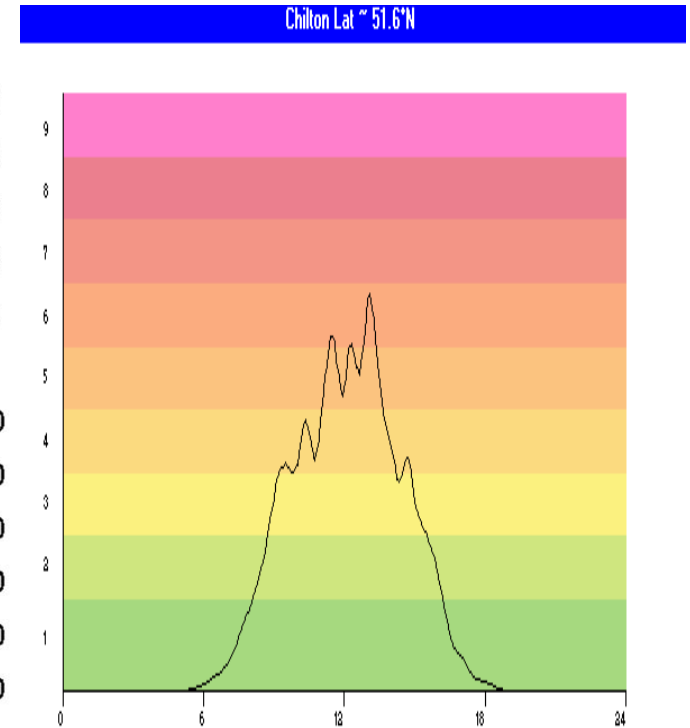
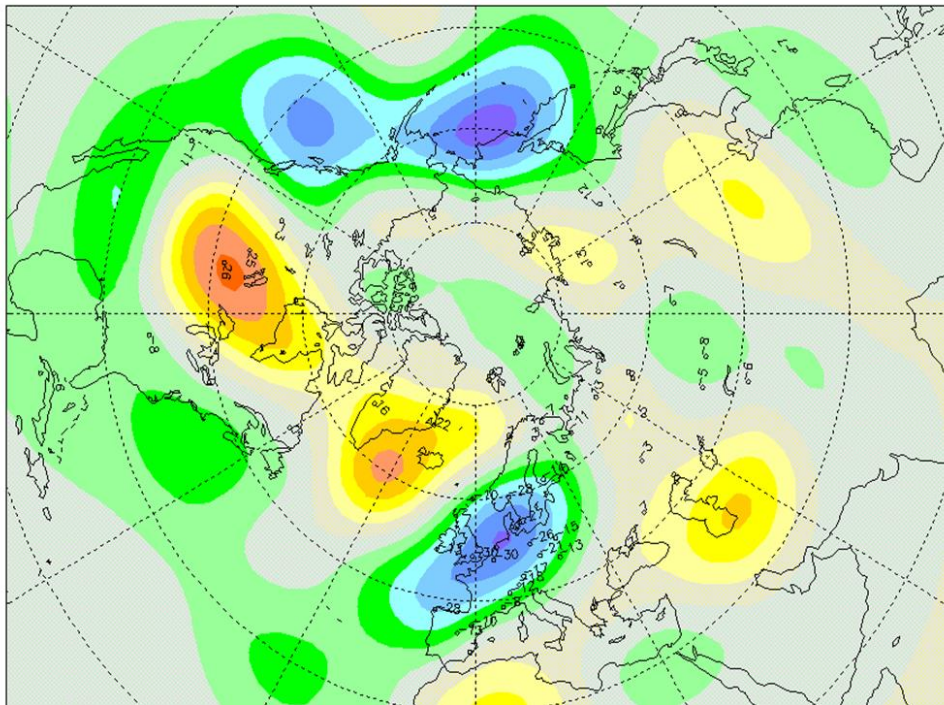
Ozone Event – Time Series

Deviations (%) / Ecart (%) , 2013/04/23



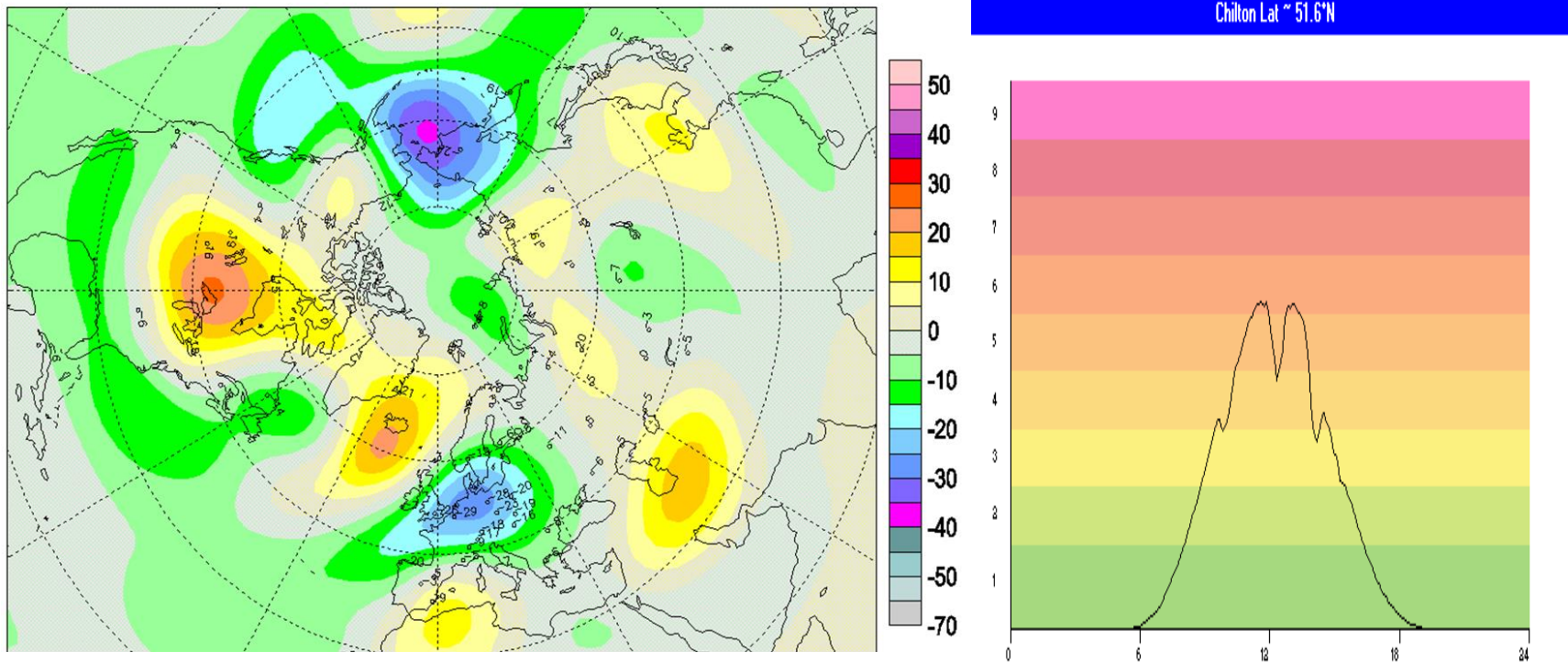
Ozone Event – Time Series

Deviations (%) / Ecart (%) , 2013/04/24



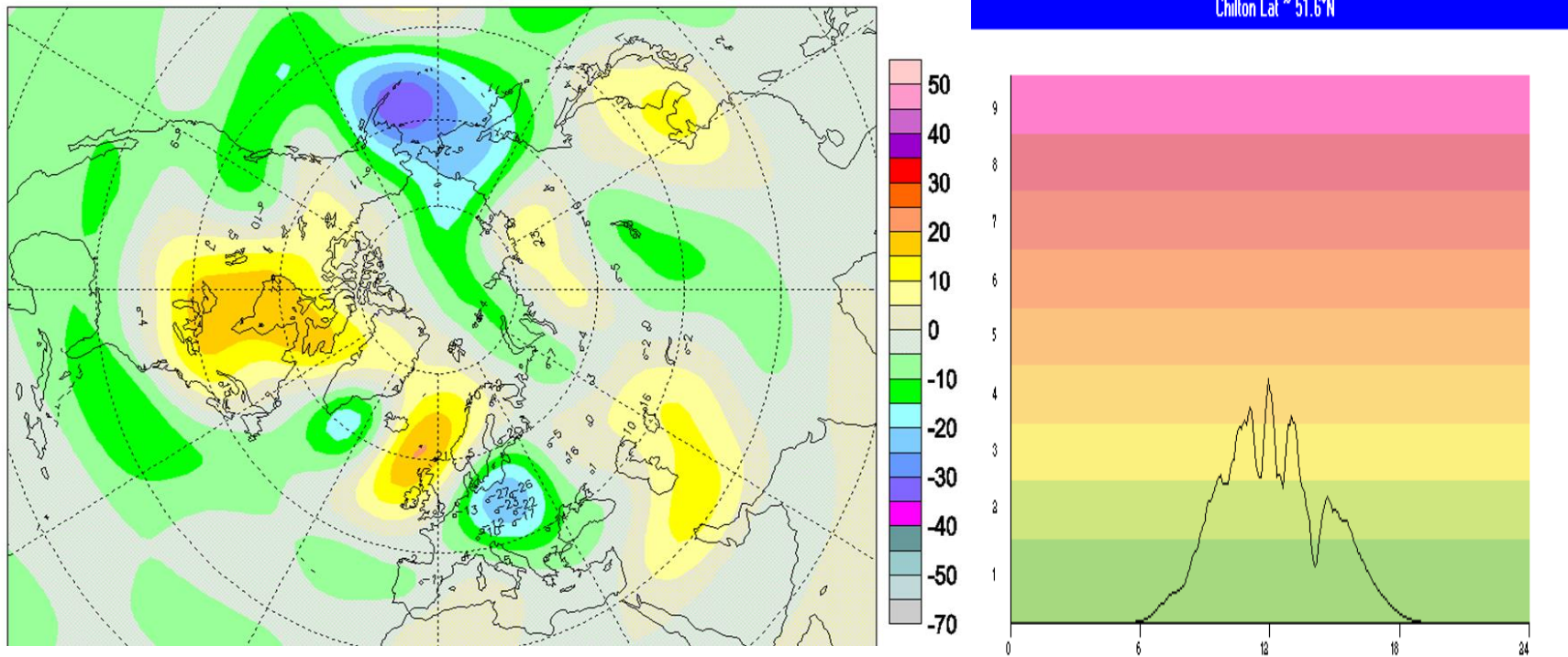
Ozone Event – Time Series

Deviations (%) / Ecart (%) , 2013/04/25



Ozone Event – Time Series

Deviations (%) / Ecart (‰), 2013/04/26



Summary

AGNIR review of UV and vitamin D

Sun safety message is complicated – risk/benefit depends on:

Geographical location

Time of year

Previous exposure history

Personal characteristics

Solar radiation spectral irradiance

Duration of exposure

Protection measures applied

Behaviour

etc

Thank you for listening

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