COST

Thursday, 10. April 2008, 9:00 – 15:00

1. Welcome
2. Adoption of the agenda
3. Adoption of the Minutes of MCM9 and WG3
4. Decisions from the core group meeting in Munich – Peter Koepke

- Adoption of the Minutes of WG1/2/3 core group meeting

5. New information on input data – Hugo de Backer

- Report STSM Anders Lindfors, by Jussi Kaurola

Coffee break 10:30 – 11:00

6. New results from UV modelling and interpolation – Peter Koepke

   Last UV mapping developments – Jean Verdebout

   About uncertainties of solar CMF derived from interpolated maps – H. Staiger

   New information on aerosol climatology – Natalia Chubarova

   Long-term variability of surface UV from the reconstr. time series – J.Krzyscin

Coffee break 12:30 – 13:00

Separate Core Group and WG4 meetings [going on after lunch]

Agenda

COST Action 726, MCM10, 10 - 11 April, 2008, El Arenosillo, Spain

Friday, 11. April 2008, 8:30 – 15:00

9. Decisions on final products of the action – Peter Koepke

- Spectral and weighted UV
- e-atlas, report, booklet

10. Information from COST Office - Chandrasa Sjamsudin
11. Preliminary work plan of the Action for June 2008 – June 2009

- Application for prolongation the end date
    - Information on summer school – Alois Schmalwieser
    - Place and dates of MCM11 (autumn 2008) and MCM12 with a Workshop (spring 2009)

12. Any other business
13. Closure

Decisions from the core group meeting in Munich 11 – 12 January 2008

Peter Koepke

Decisions Meeting Munich January 2008

D1 The proposed Agenda was accepted.

D2 The best possible ozone data sets (COST/NIWA) will be taken for reconstruction on daily basis.

For any statistical analysis, monthly mean values will be used.

D3 The 'ozone effect' will be analyzed comparing UV irradiance modeled using other ozone data sets.

[different ozone sets: Yearly dose 5 % variability (Pieter den Outer)]

Decisions Meeting Munich January 2008

D4 The aerosols will be included in UV maps in the following way:

AOD at 308nm obtained from actual Angstrom parameter, monthly mean values, variable in space (Mrs. N. Chubarova), with improved spatial resolution using MODIS data (Mr. H.Staiger). The AOD will be automatically reduced over oceans;

[see N. Chubarova: Topic 6]

Angstrom coefficient set to 1 for the UV region;

AOD altitude correction to the average altitude of UV maps grid will be done using the neighbor stations algorithm provided by Mrs. N.Chubarova and Mr. H.Staiger;

Decisions Meeting Munich January 2008

D4 ff

SSA constant value in space and time: 0.94

Assymetry factor: constant value in space and time: 0.75

No longtime variation included: AOD the same for all years back to 1955. However, the time dependent AOD effect will be estimated from the comparison of ERA40 and measured global irradiance for cloud free conditions.

Decisions Meeting Munich January 2008

D5 The albedo Tanskanen 2004 MTW climatology available from PROMOTE web site will be used for UV maps construction. However, for no snow ERA-40 pixels, the albedo for snow free conditions will be applied.

D6 The altitude effect in ozone and air molecules will be taken into account in the radiative transfer models.

D7 The assimilation scheme for ERA-40 CMF correction will be validated by comparing the results with pyranometer data that are not included into the scheme.

[for consideration of cloud effects : Topic 5 STSM A. Lindfors
Topic 6: J. Verdebout; H. Staiger]

Decisions Meeting Munich January 2008

D8 The UV climatology will be calculated for the period of 1958-2002, what covers ERA-40 period.

[can we do something to get 50 years of UV in Europe]

D9 The UV maps based on ERA-40 data will be produced on daily basis, whereas the maps based on UV values reconstructed for stations will be created only for monthly averages.

D10 The work will be to separated into two parts. Firstly, UV maps will be used for analysis of UV general variability over Europe and will be published/made available at one place. Secondly, the trend analysis will be performed for selected stations on the base of measurements and published separately.

Decisions Meeting Munich January 2008

D11 No other than ERY weighted quantities will be produced. Thereby, the appropriate decision made during MCM9 in Davos has been changed.

D12 ATLAS spectrum will be used as extraterrestrial spectrum for UV reconstruction.

D13 Spectral data will be provided only for cloud free conditions.

COST-726 REPORT ON FINAL RESULTS

Introduction (Z.Litynska, P.Koepke,)

UV Reconstruction background

- Basic methods with necessary input data (P.Koepke)
- UV measurement quality (J.Gröbner)

Data (H. de Backer)

- Ozone (J.Krzyścin)
- Aerosol (N.Chubarova)
- Albedo (NN)
- Cloud information (H.Staiger, J.Kaurola, A.Lindfors, P.den Outer; J.Verdebout)
- Global irradiance (A.Lindfors, U.Feister)
- Measured UV (J. Gröbner)

COST-726 REPORT ON FINAL RESULTS

Methods to get UV maps and station reconstruction (H.Staiger, J.Verdebout)

UV Radiation in the past

- Maps (J.Verdebout)
- Stationresults (J.Krzyścin)
- Validation

UV Influence on ecosystem (A.Schmalwieser, WG3)

Applications for users -- user guide

References

UV web sites

E-Atlas attached

New results from UV modelling and interpolation

Last UV mapping developments
– Jean Verdebout

About uncertainties of solar CMF derived from interpolated maps
– Henning Staiger

New information on aerosol climatology
– Natalia Chubarova

Long-term variability of surface UV from the reconstructed time series
– Janusz Krzyscin

Decisions

General:

Time range:

for maps:1958 – 2002

for time series selected stations: 50 years

Quantities:

Daily dose erythemally weighte Irradiance

Daily dose at „some“ wavelenghts that can be used to model other weighting

Decisions

Atmospheric properties:

Ozone: D2 Munich

Aerosol: D4 Munich

Albedo: D5 Munich, plus information from Swiss snow line

Altitude effects: D6 Munich

Cloud effects: CMFsol after global irr measurements and ERA 40, interpolated to 1deg Spatial resolution, converdted to CMFuv with high spatial resolution using dtat from jeans model

National delegates decide for additional data of measured solar global irradiance measurements for their, after quality check

Henning check the CMF maps with and without additional solar data

Decisions

Maps

Area: 20 W -35 E; 31 – 74 N .

Spatial resolution : 0.05 deg

Temporal resolution: daily doses (electronic atlas)
shown as monthly mean (report)
plus integration procedure for larger areas
format ususal for most users (GISS)

Interpolation sheme: as used by Jean

Decisions

Maps

Modelling proceure:Henning (corrected CMF) ; Jean(maps)

Decisions

Time series:

Temporal resolution: daily dosesreconstructed from time series of global irradiation

Positions: >>79 Places with measured solar irradiance data

Harry Slaper

Descripton: Trend etc from station data;

station data can be usd to check quality of the maps

Decisions

Report

Introduction (Z.Litynska, P.Koepke,)

UV Reconstruction background

- Basic methods with necessary input data (P.Koepke)
- UV measurement quality (J.Gröbner)

Data (H. de Backer)

- Ozone (J.Krzyścin)
- Aerosol (N.Chubarova)
- Albedo (Laurent)
- Cloud information (H.Staiger, J.Kaurola, A.Lindfors, P.den Outer; J.Verdebout)
- Global irradiance (A.Lindfors, U.Feister)
- Measured UV (J. Gröbner)

Decisions

Report II

Methods to get UV maps and station reconstruction (H.Staiger, J.Verdebout, H.Slaper)

UV Radiation in the past

- Maps (J.Verdebout)
- Station results (J.Krzyścin, H. Slaper),
- Validation against real measurements Ery (Natali, Colette, Harry)
- Uncertainty analysis by using other input data (H. Slaper)

UV Influence on ecosystem (A.Schmalwieser, WG3) Variable weighting functions

Applications for users -- user guide

How to use spectral data with other weighting functions

References

UV web sites

Electronic Atlas

(~~~~~~100 pages maps, 50 pages text~)

Decisions

Booklet

Short version of the Report, created for public

Decisions

E-atlas

Information of the report plus

- selection of the product (map or time series)
- showing large range of action spectra
- possibility of user to add own action spectrum
- possibility to model UV dosis for new action spectra, using the information given for the “some“avelengths or high spectral resoltion data

Decisions

Further Publications

Quality assurence

Trend analysis

Combination with GISS

Decisions

Bureaucratic Questions

All Data free for non commercial scientific use,with COST acknowledge and reference to the report

Use on your own risk

Others