Description of Version 0 SeaBASS Data Format NSF UV Monitoring Network:
Daily Dose

Filename: SITE_Daily_Dose.csv

where SITE is MCM for McMurdo Station, Antarctica
PAL for Palmer Station, Antarctica
SPO for South Pole, Antarctica
USH for Ushuaia, Argentina
SAN for San Diego, California
BAR for Barrow, Alaska
SUM for Summit, Greenland

Daily Doses were calculated by integrating dose-rates over 24 hours. Gaps in data were filled by interpolation using an algorithm described in Section 4.2.4 of the 2004-2005 Operations Report, available at: http://www.biospherical.com/nsf/report_0405/CHAPTER4.PDF.

Column Assignment

Label	Description	Unit	Remark
Date	Date and time assigned to daily dose values	yyyymmdd	1
Time		hh:mm:ss	1
Volume	Data volume label		
Minimum_Zenith	Minimum solar zenith angle occurring during solar scans of the integration period.	degree	2
Maximum_Time_Gap	Maximum time gap in solar measurements during the integration period	seconds	3
E290to315	Daily dose for the spectral integral 290 - 315 nm	kJ/m²	
E290to320	Daily dose for the spectral integral 290 - 320 nm	kJ/m²	
E320to360	Daily dose for the spectral integral 320 - 360 nm	kJ/m²	
E360to400	Daily dose for the spectral integral 360 - 400 nm	kJ/m²	
E400to600	Daily dose for the spectral integral 400 - 600 nm	kJ/m²	
E289_855to294_118	Daily dose for the spectral integral 289.855 - 294.118 nm	kJ/m²	
E294_118to298_507	Daily dose for the spectral integral 294.118 - 298.507 nm	kJ/m²	
E298_507to303_03	Daily dose for the spectral integral 298.507 - 303.03 nm	kJ/m²	
E303_03to307_692	Daily dose for the spectral integral 303.03 - 307.692 nm	kJ/m²	
E307_692to312_5	Daily dose for the spectral integral 307.692 - 312.5 nm	kJ/m²	
E312_5to317_5	Daily dose for the spectral integral 312.5 - 317.5 nm	kJ/m²	
E317_5to322_5	Daily dose for the spectral integral 317.5 - 322.5 nm	kJ/m²	
E322_5to327_5	Daily dose for the spectral integral 322.5 - 327.5 nm	kJ/m²	
E327_5to332_5	Daily dose for the spectral integral 327.5 - 332.5 nm	kJ/m²	

E332_5to337_5	Daily dose for the spectral integral 332.5 - 337.5 nm	kJ/m²	
E337_5to342_5	Daily dose for the spectral integral 337.5 - 342.5 nm	kJ/m²	
E342_5to347_5	Daily dose for the spectral integral 342.5 - 347.5 nm	kJ/m²	
Dose3_CIE_ Erythema	Spectral irradiance weighted with CIE erythema action spectrum (This is the most widely used erythema action spectrum)	kJ/m²	4
Setlow	Spectral irradiance weighted with action spectrum for DNA damage by *Setlow*, 1974; BSI parameterization	kJ/m²	4
Hunter	Spectral irradiance weighted with action spectrum for northern anchovy by *Hunter*, 1979	kJ/m²	4
Caldwell	Spectral irradiance weighted with action spectrum for generalized plant response by *Caldwell*, 1971	kJ/m²	4

Remarks

1 - Date and time are provided in Universal Time (UT). Time refers to approximate local solar noon (01:00 for McMurdo Station; 16:00 for Palmer Station; 12:00 for South Pole Station; 17:00 for Ushuaia; 20:00 for San Diego, 21:00 for Barrow, and 15:00 for Summit). Integration boundaries for daily dose calculations are the given time +/- 12 hours. For example: The daily dose for San Diego assigned to the Date/Time stamp 19921108 20:00:00 (i.e. 11/08/92 20:00 GMT) is the integral of spectral irradiance between 11/08/92 08:00 GMT and 11/09/92 08:00 GMT.

2 - Solar zenith is the true solar zenith angle, i.e., the angle between the zenith and the Sun if the Earth had no atmosphere. Due to refraction of the Earth's atmosphere, the Sun appears to an observer, who is standing at the surface of the Earth, at a smaller angle.

3 - Maximum time gap in solar measurements during the integration period between sunrise and sunset in seconds. If the time-gap is larger than 15000 seconds, no doses are published. Gaps smaller than this limit are filled by spline-interpolation. A description of the procedure can be found in Section 4.2.4 of the 2004-2005 Operations Report, available at: http://www.biospherical.com/nsf/report_0405/CHAPTER4.PDF. If the gap is larger than 7500 seconds (i.e., approximately two hours), data have to be treated with caution because the interpolated values may deviate significantly from the actual radiation levels.

4 - For parameterization of action spectra see links in document http://www.biospherical.com/nsf/Version2/description-Version2-Database3.html