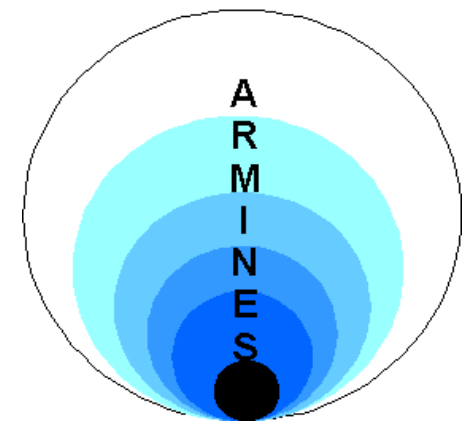


## Climatology of solar radiation

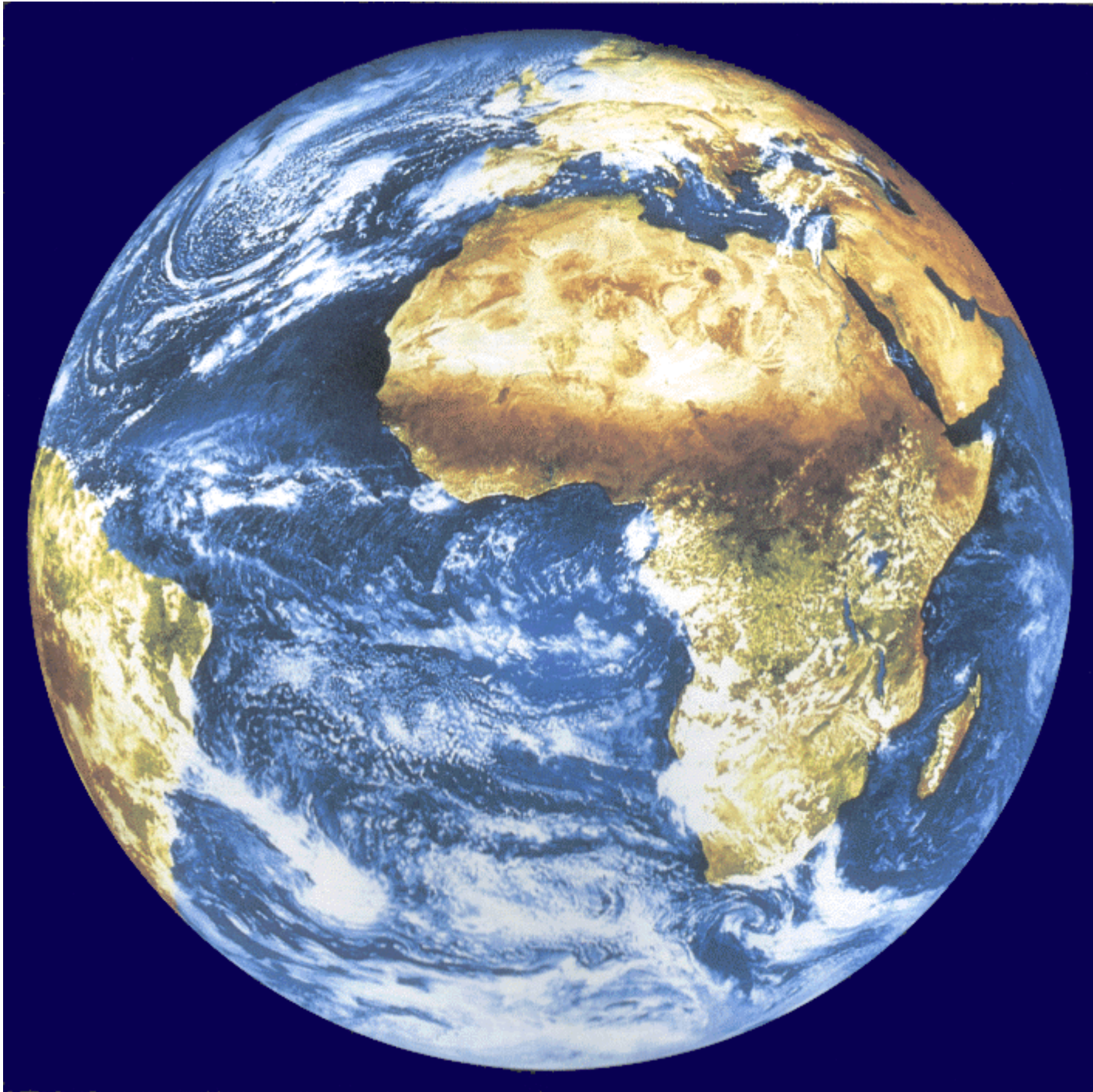


There is a need for time-series of irradiance, spatially resolved.

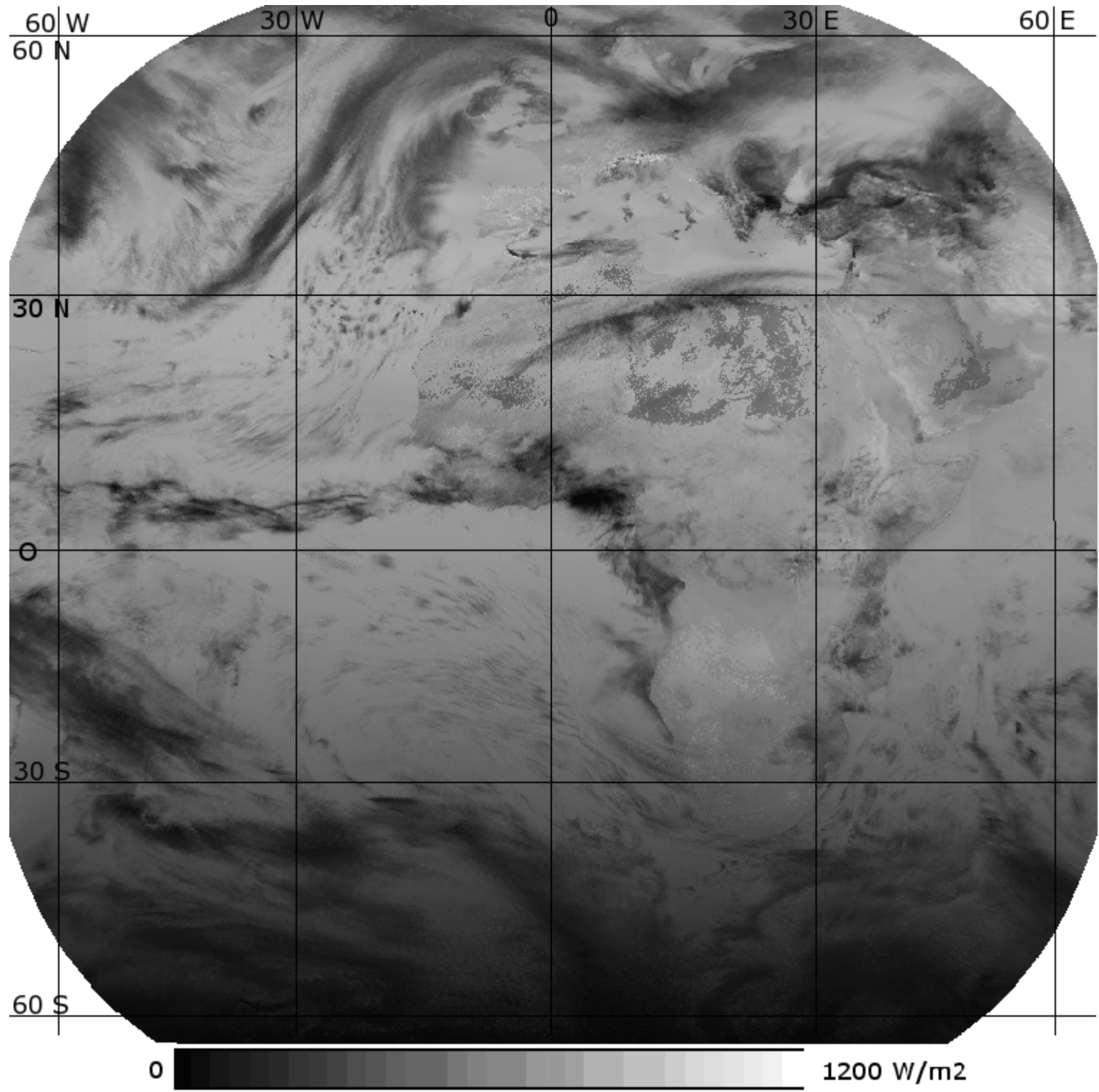
Present standard products are MeteoNorm and ESRA.  
Limitation is the obsolescence of data ( $< 1990$ ) (and for MeteoNorm, lack of spatial resolution)

Meteosat data can offer more:

- large geographical coverage
- updated time-series and long-term time-series
- spatially resolved structures of irradiance



May 15  
2004  
Daily  
mean  
irradiance  
(from  
Meteosat-8)



Databases were constructed using these Meteosat images.

Several can be accessed through Web services

SoDa: <http://www.soda-is.com>

Satel-Light: <http://www.satel-light.com>

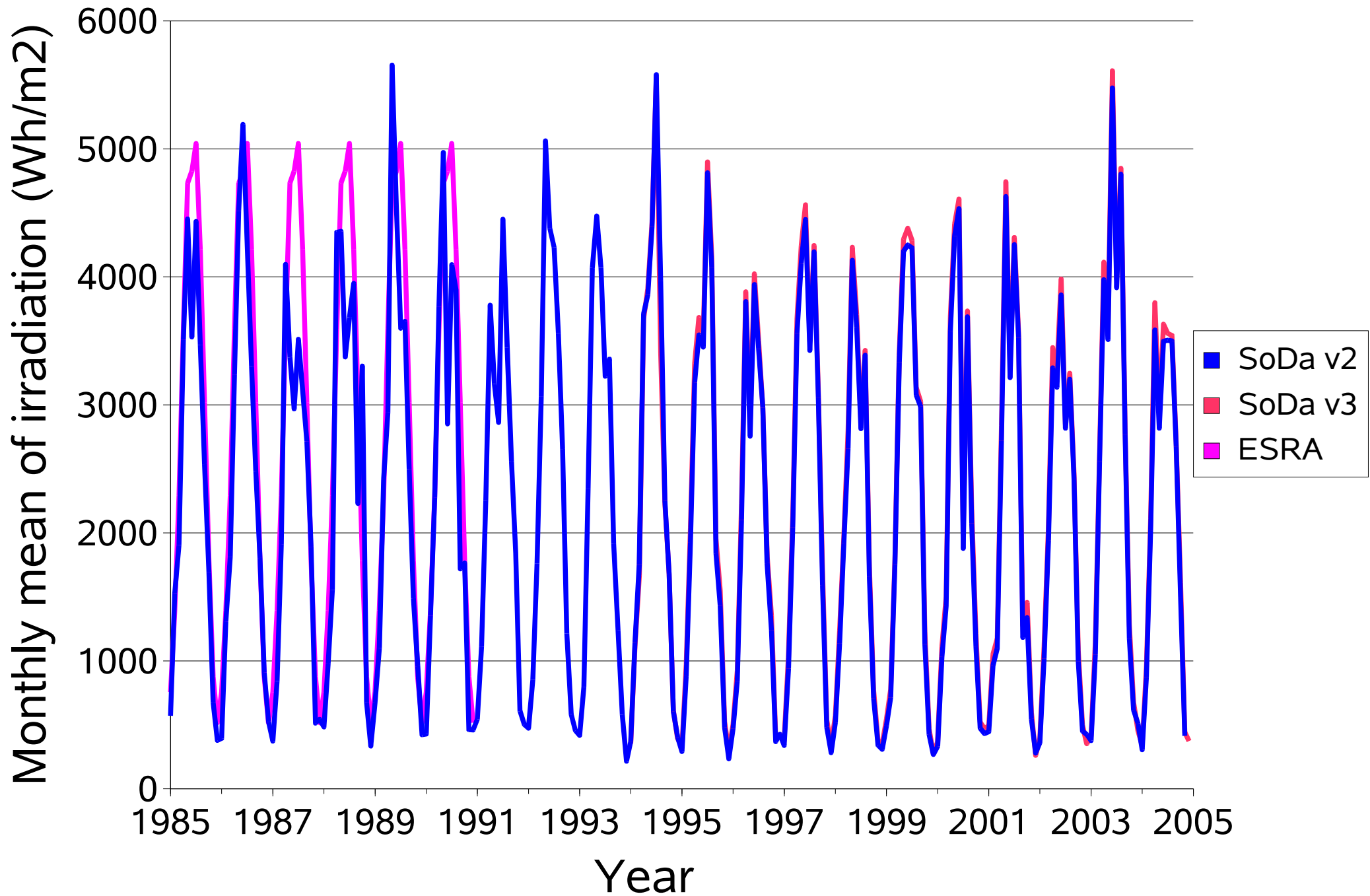
In addition,

- Satel-Light: time-series of  $\frac{1}{2}$  h irradiation, 1996-2000
- SoDa: hourly irradiation, 2004 onwards

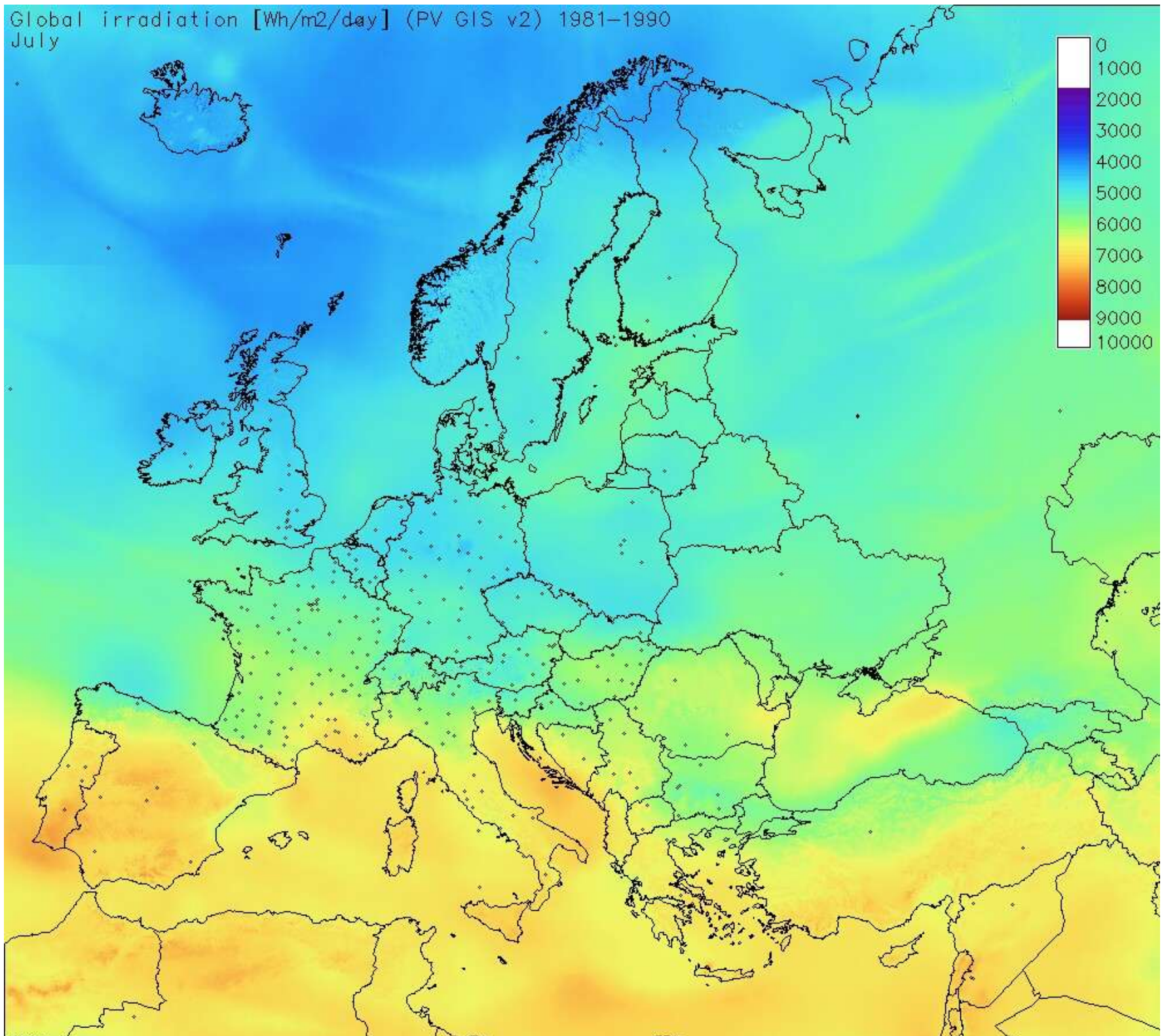
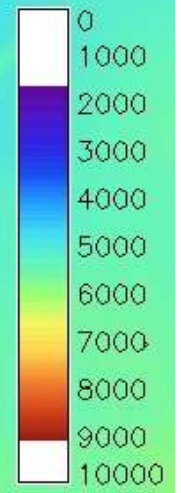
Present access to data is mostly free and unlimited.

Take your chance!

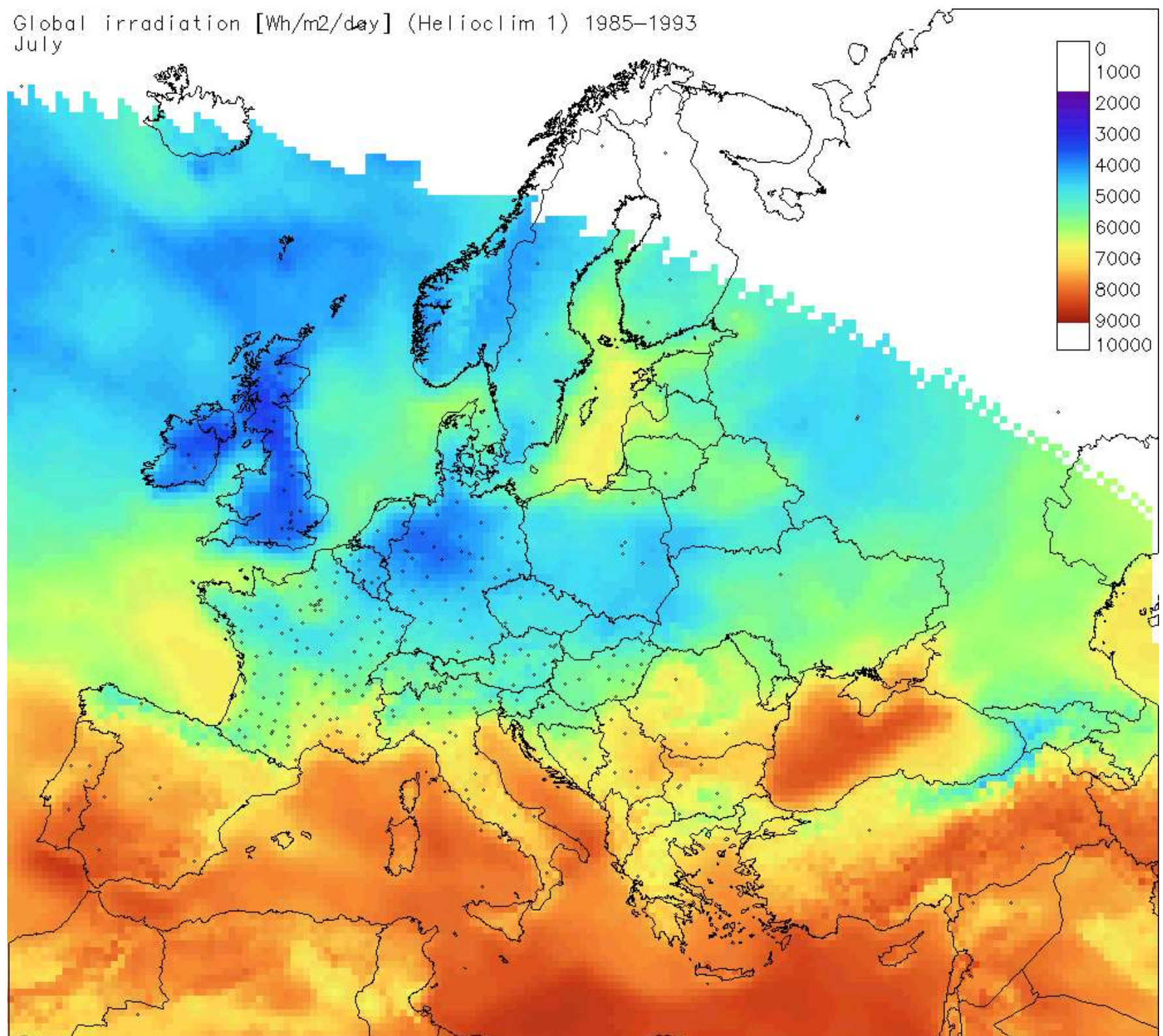
# Erfurt, Germany: 51N 10E 242 m



Global irradiation [Wh/m<sup>2</sup>/day] (PV GIS v2) 1981-1990  
July



Global irradiation [Wh/m<sup>2</sup>/day] (Helioclim 1) 1985–1993  
July



Future. Using Heliosat-3 and advanced features of Meteosat data

Proceed with the climatology of daily mean irradiances as it is or better.

Create a new climatology of mean irradiance every  $\frac{1}{4}$  h. Should include global, direct and diffuse for several wavelengths (illuminance, PAR, UV ...).

Implementation is complicated by routine exchange of data between DLR and EMP/Armines.

Daily mean irradiances computed from these  $\frac{1}{4}$  h values.

Work to be done on the access to information by customers.