



# EN-07-03 Energy Policy Planning

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POC



# EN-07-03 Activities

- Develop a project to facilitate the expansion of the SoDa database and thereby enhance solar data access for developed and developing countries.
- Approach: Databases services will be combined to create a compound global service that offers the best of each of them. The SoDa Service (<http://www.soda-is.com/>) will act as a testbed.
- Develop a GEO Energy project based on the integration (or federation) of a series of existing projects (portfolio)
  - (i) make a list of existing projects (inside member institutions) that could contribute to the implementation of the foregoing task,

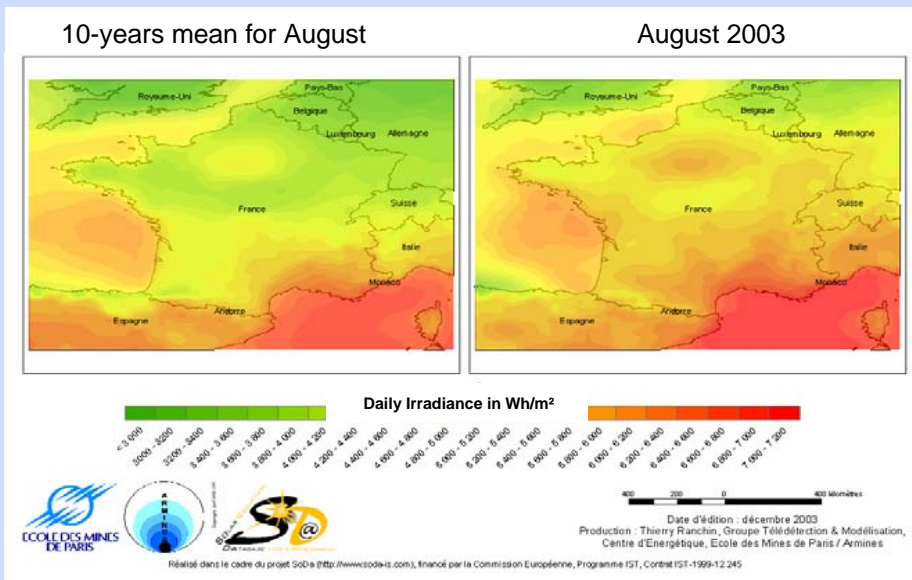


## Helioclim Database



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

- Database and time-series of irradiance or irradiation
- Produced by the processing of satellite images, especially from the Meteosat series of satellites
- Covering Europe, Africa, the Mediterranean Basin, the Atlantic Ocean and part of the Indian Ocean
- Period runs from 1985 onwards



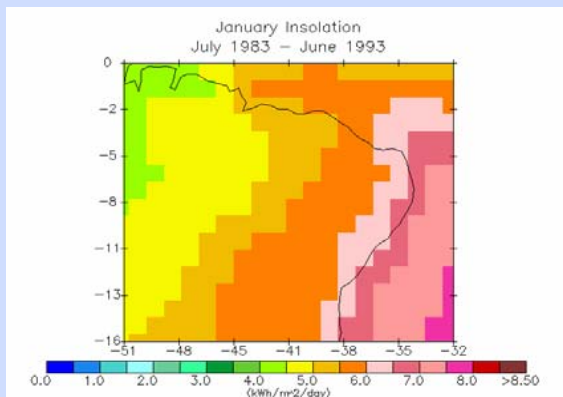
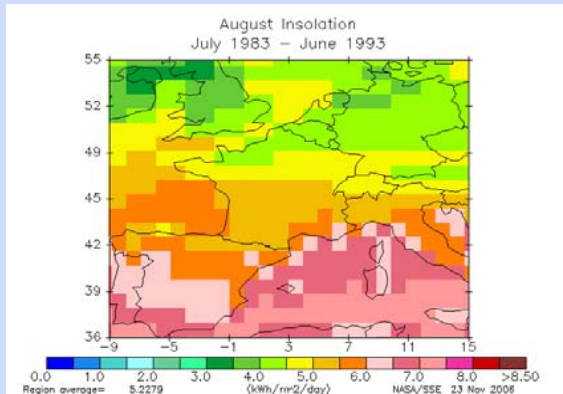


## SSE Data Set



Access through:

<http://eosweb.larc.nasa.gov/sse/>



- Monthly averaged from 11 years of data (1983-1993)
- Data tables for a particular location
- Color plots on both global and regional scales
- Over 200 satellite-derived meteorology and solar energy parameters
- Data for the RETScreen<sup>®</sup> Clean Energy Project Analysis Software



## The SoDa Service Integrator

**www.soda-is.com**

**Code Snippet:**

```

Gc = I0 * [ sin γs * exp(-0.8662 * TL * m * δE(m))
          + T10(TL) * F1(γs, TL) ]
procedure clearsky(Gc,I0,gamma,TL,day)
{
double *Gc, *I0, *gamma, *TL;
double B, D, epsilon;
int *day,error;
call diffuse(gamma,TL,&D);
call direct(gamma,TL,&B);
call eccentricity(day,&epsilon);
Gc=I0*epsilon*(B+D);
return(error);
}
    
```

**SoDa: Services for Professionals in Solar Energy and Radiation**

Home About Overview Services Consistency Free Beta FAQ

Parameters selection

Note that, once you have clicked in the form below, when clicking the "back" button of the browser, a message will appear for confirmation.

Interpolation of global radiation (monthly record)

Select interpolation:

Over latitude and longitude (decimal degrees), use precision indicator for degree, minute, second) OR search city by name (select city by name below) OR click in the map

Latitude:  Longitude:

Latitude unit:

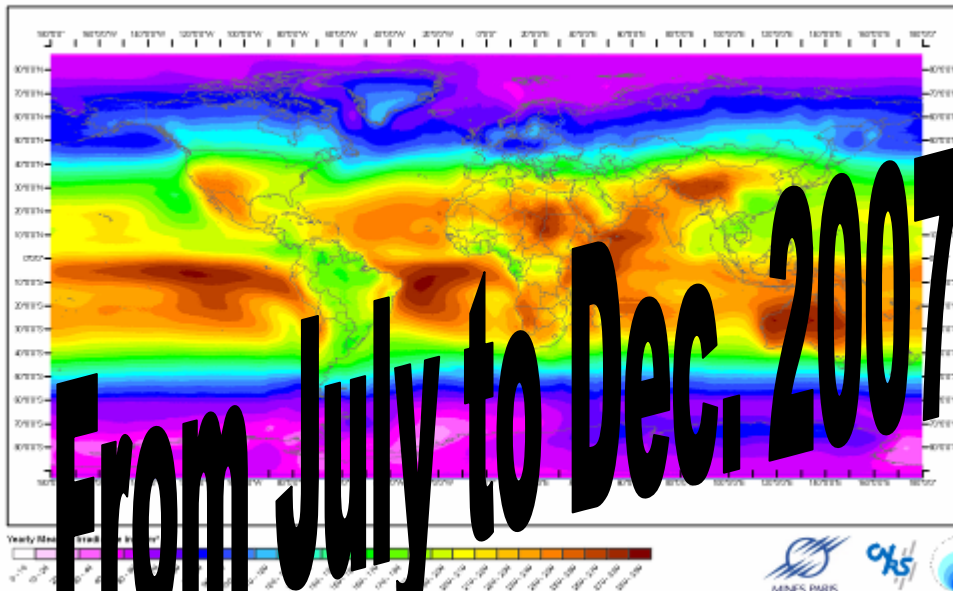
**Visualizations:**

- A line graph showing three data series (red, green, blue) with markers, plotted against a horizontal axis. The y-axis ranges from 0 to 1500.
- A bar chart showing a series of vertical bars in various colors (red, orange, yellow, green, cyan, blue, purple), plotted against a horizontal axis. The y-axis ranges from 0 to 60.



## The Proposed Compound Service

Averaged Solar Radiation 1990-2004



**From July to Dec. 2007**

### Benefits:

**3000 single users**

- World-wide coverage
- An Easy Web access
- Heterogeneous Services for Energy

- Demonstration of GEOSS Proof of Concept
- A Driver for Development of New Services



Realized by Marjolaine Audebert, Mirabelle Lefevre, Loïc VIGNON  
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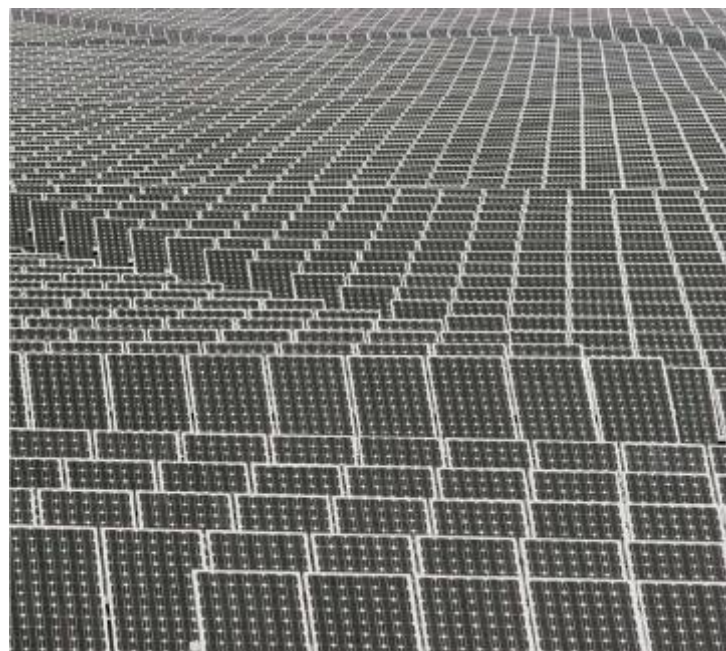
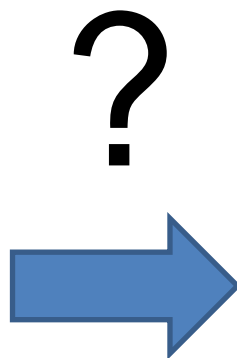
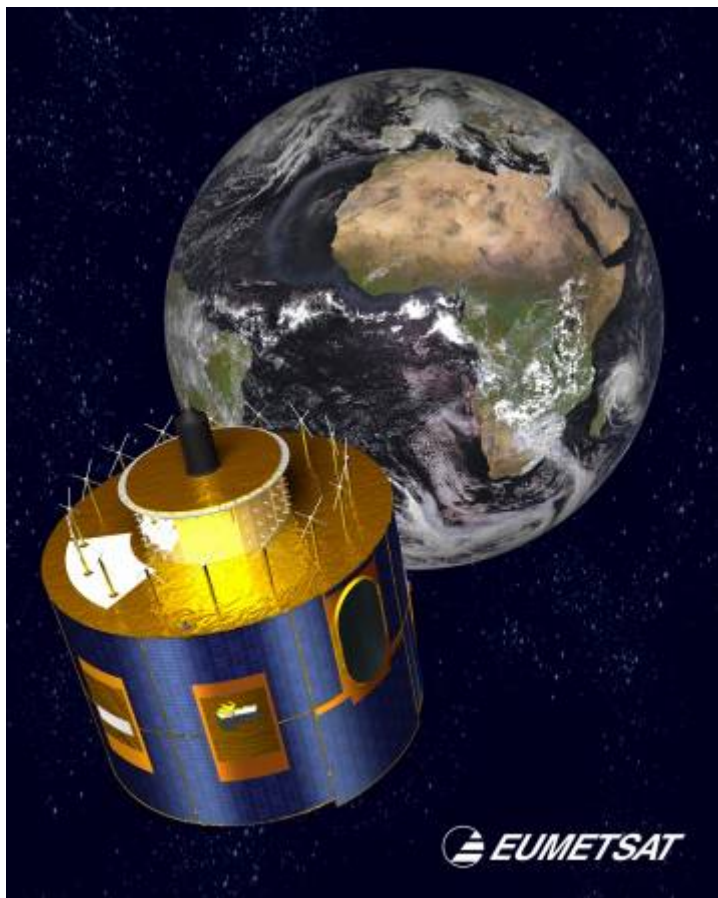
# Answer to ADC AIP call

- Community objectives (from Annex B) linked with Task EN-07-03:
  - Renewable energy sources (RES) for electricity production
  - The exploitation of these energies requires accurate knowledge of the resources and of their availability (in space and time) as well as accurate forecasts in the different phases of an energy system life cycle.



# Scenario objectives

- Support the SBA Energy by developing services providing irradiance data among other parameters
- Simulating the case of the siting of a solar power plant.





# **EnerGEO project**

## **Earth Observation for Monitoring and Assessment of the Environmental Impact of Energy Use**

**Coordinator : Emile ELEWAUT (TNO)**



# Framework

- Project under negotiation
- European Commission call for proposals
- Framework Programme 7
- Environment, including Climate Change
  
- Budget > EUR 7 million
- Start date early 2009
- Duration 48 months
  
- Closely related to EN-07-02 and EN-07-03