

## Metadata for South America Diffuse Solar Radiation

(south\_america\_solardiffuse\_40km)

Identification Information:	
<b>Originator</b>	INPE (National Institute for Spatial Research) and LABSOLAR (Laboratory of Solar Energy/Federal University of Santa Catarina) - Brazil
<b>Title</b>	Brasil-SR Solar Model for Brazil
<b>Description</b>	Mean values of Diffuse Solar Radiation in kWh/m <sup>2</sup> /day for 40km cells for 1 year (month, season, year) based on data from 1995 to 2005
<b>Time period for which the data is relevant</b>	Indefinite
<b>Spatial Extend of Data</b>	South America
<b>Bounding Coordinates</b>	West Bounding Coordinate: 81.4251 W East Bounding Coordinate: 34.8981 W North Bounding Coordinate: 12.4450 N South Bounding Coordinate: 55.0531 S
<b>Access Constraints</b>	No restrictions
<b>Use Constraints</b>	Quoting the source is required: "INPE (National Institute for Space Research) and LABSOLAR (Laboratory of Solar Energy/Federal University of Santa Catarina) - Brazil"
<b>Contact Information</b>	<i>Contact Organization:</i> INPE (National Institute for Spatial Research) <i>Contact Person:</i> Enio Bueno Pereira Fernando Ramos Martins <i>Mailing Address:</i> INPE / CCST Av. dos Astronautas, 1758 – Jardim da Granja São José dos Campos – SP – Brasil CEP 12227-010 <i>Phone Number:</i> +55 12 3945-6741 +55 12 3945-6778 <i>Email Address:</i> enio.pereira@cptec.inpe.br fernando.martins@cptec.inpe.br <i>Website:</i> <a href="http://www.inpe.br/">http://www.inpe.br/</a>

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Data Quality Information	
<b>Lineage</b>	The BRASIL-SR model (developed by INPE - National Institute for Space Research) and the ARCVIEW software were used to produce the dataset and SHAPE files
<b>Attribute Accuracy</b>	The assessment of reliability levels of the BRASIL-SR model were performed through the evaluation of the deviations shown by the estimated values for solar radiation flux vis-à-vis the values measured at the surface (ground truth). This evaluation was done in two phases. The first phase consisted in an inter-comparison between the core radiation transfer models adopted by the SWERA Project to map the solar energy in the various countries participating in the project. The HELIOSAT model took part in this phase like benchmark due to its employment to map solar energy resources in countries from European Union. In the second phase, the solar flux estimates provided by the BRASIL-SR model were compared with measured values acquired at several solarimetric stations spread along the Brazilian territory. The BRASIL-SR model is not validated for areas covered by snow.
<b>Source Scale Denominator</b>	1

Spatial Reference Information	
<b>Spatial Object Type</b>	Vector - polygon
<b>Horizontal Coordinate Scheme</b>	
<b>Horizontal Units</b>	Decimal degrees
<b>Latitude Resolution</b>	
<b>Longitude Resolution</b>	
<b>UTM Zone Number</b>	-5
<b>Map Projection Name</b>	Geographic Coordinate System
<b>Map Projection Parameters</b>	Longitude of Central Meridian: 54° W
<b>Latitude of Projection Origin</b>	0°
<b>False Easting</b>	0
<b>False Northing</b>	0
<b>Other Coordinate System Definition</b>	
<b>Cell Width</b>	40km
<b>Cell Height</b>	40km
<b>Geodetic Model</b>	
<b>Horizontal Datum Name</b>	SAD-69
<b>Ellipsoid Name</b>	Reference ellipsoid 1967 (International Astronomical Union)

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Entity and Attribute Information	
<b>Entity and attribute overview</b>	Mean values of Diffuse Solar Radiation in kWh/m <sup>2</sup> /day for 40km cells for 1 year (month, season, year) based on data from 1995 to 2005
<b>Entity Labels</b>	south_america_solardiffuse_40km
<b>Attribute Label and Definition</b>	ID_CE: cell identification LONGITUDE: longitude of the cell center LATITUDE: latitude of the cell center STATUS: <ul style="list-style-type: none"><li>• suspicious data when the areas are covered by snow</li><li>• reliable data when the areas are not covered by snow</li></ul> JAN: monthly mean of diffuse solar radiation for January FEB: monthly mean of diffuse solar radiation for February MAR: monthly mean of diffuse solar radiation for March APR: monthly mean of diffuse solar radiation for April MAY: monthly mean of diffuse solar radiation for May JUN: monthly mean of diffuse solar radiation for June JUL: monthly mean of diffuse solar radiation for July AUG: monthly mean of diffuse solar radiation for August SEP: monthly mean of diffuse solar radiation for September OCT: monthly mean of diffuse solar radiation for October NOV: monthly mean of diffuse solar radiation for November DEC: monthly mean of diffuse solar radiation for December ANNUAL: annual mean of diffuse solar radiation SPRING: seasonal mean of diffuse solar radiation for Spring SUMMER: seasonal mean of diffuse solar radiation for Summer FALL: seasonal mean of diffuse solar radiation for Fall WINTER: seasonal mean of diffuse solar radiation for Winter

Metadata Reference Information	
<b>Metadata Date</b>	August 05, 2009
<b>Metadata Contact Organization</b>	INPE - National Institute for Space Research
<b>Metadata Contact Person</b>	Enio B. Pereira
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