

EXPLANATION

This map plots design insolation to the extent shown on the surface of the earth. The design insolation is the average value of the total solar energy received each day on an optimally tilted surface during the month with the lowest solar radiation received on that surface. The unit of measurement is kilowatt-hours/m². The solar constant at the earth's surface is approximately 1.06 kWh/m² so these units are often referred to as equivalent (peak) sun hours.

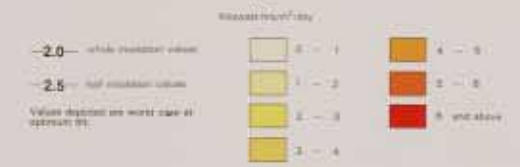
The design insolation is the figure of merit for designing solar photovoltaic systems where the electrical demand is continuous or is not expected to vary seasonally. The design insolation is used to estimate the maximum solar array size that will be required for a given electrical load at a given location.

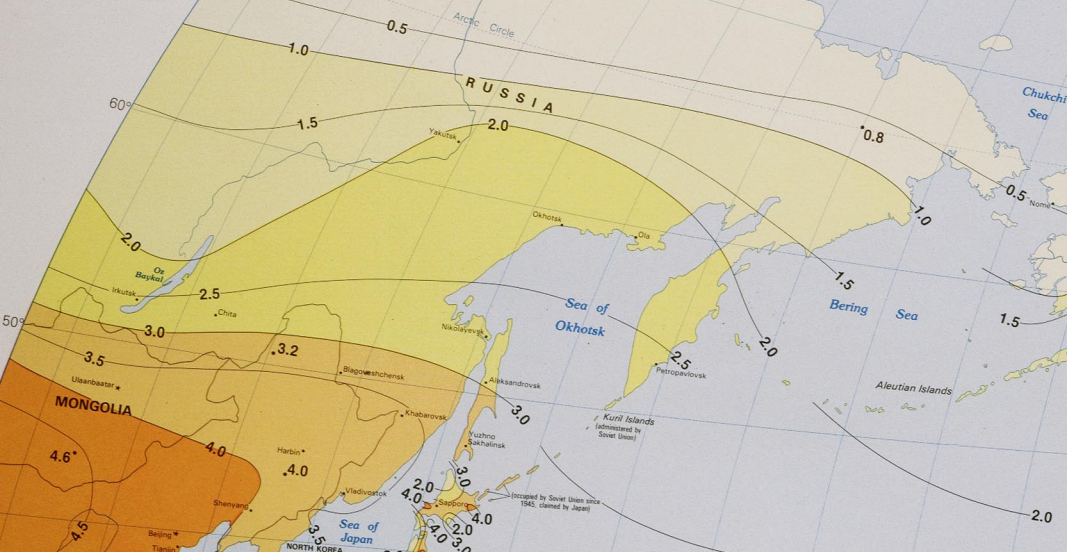
WORLD DESIGN INSOLATION

SOLAREX

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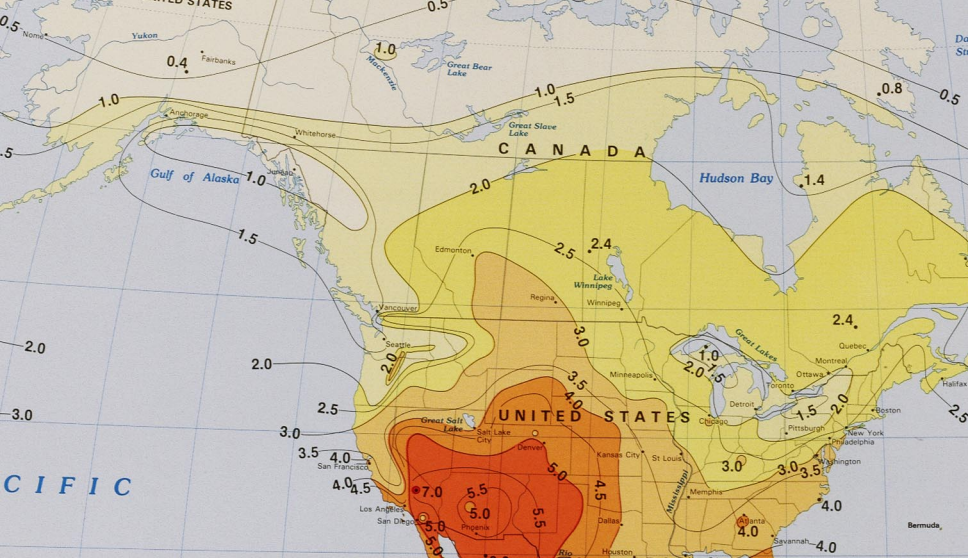
KEY



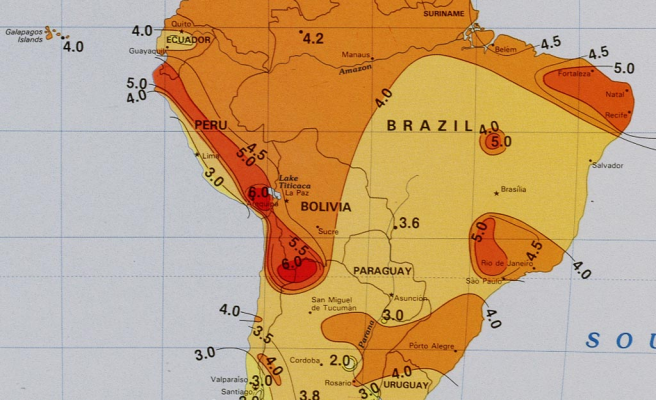


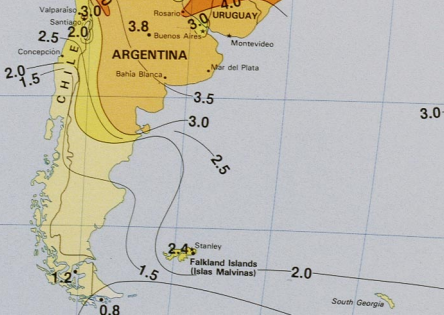




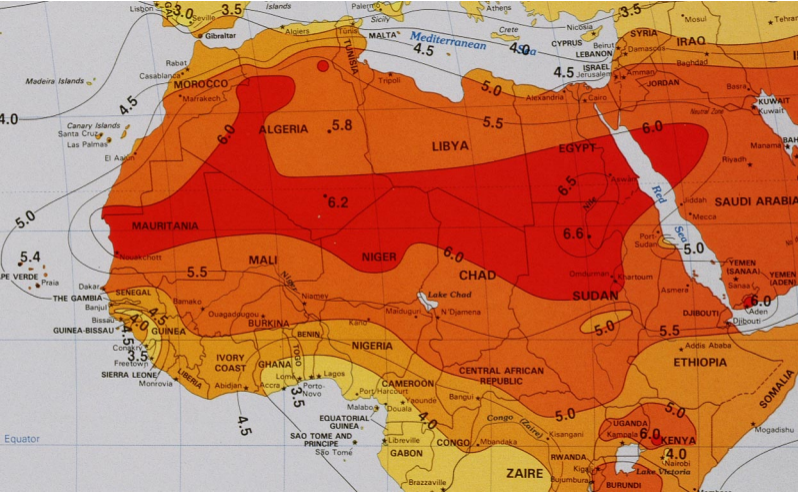


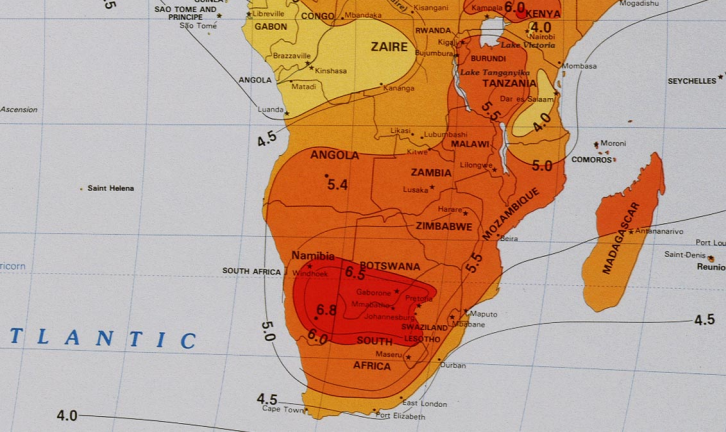






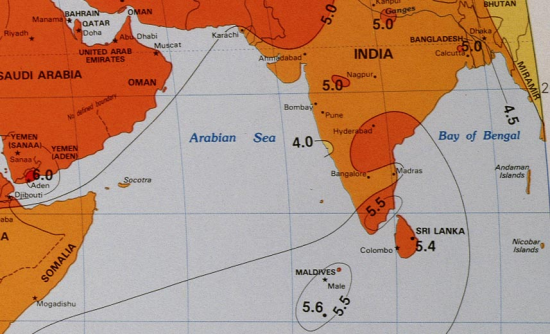












World Design Insolation Map

Solarex's World Design Insolation map plots design insolation—to the extent it has been reliably recorded—on the surface of the earth. On this map, design insolation is expressed as the average value of the total solar energy received each day on an optimally tilted surface during the month with the lowest solar radiation. This worst-month data is commonly accepted as a valid solar energy index for designing systems which must support a load 12 months per year, rather than seasonally. The unit of measurement is kilowatt-hours/m²/day, often referred to as *equivalent sun-hours*, or ESH.

The map presents color-coded areas of essentially equal insolation (see key at bottom right) in addition to point values recorded at selected monitoring stations. From the main map, you can access detailed insolation maps of any area by clicking on that area. Consult the Adobe Acrobat Reader Help menu for instructions on moving around on the map.

Select the site design insolation from the map, and enter it on line 9 of the Array Sizing Procedure form. Particularly if the site is at a latitude higher than 45°, be aware that the ESH number represents average daily insolation during the *worst month of the year*. It is not indicative of how much solar energy is available during other months, which—particularly at high latitudes—may be substantial. Contact an authorized Solarex representative for assistance in designing systems for such sites.

KEY

Kilowatt-hrs/m²/day

—2.0— whole insolation values

—2.5— half insolation values

Values depicted are worst case at optimum tilt.



0 — 1



1 — 2



2 — 3



3 — 4



4 — 5



5 — 6



6 and above