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World Design Insolation

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EXPLANATION

This map plots design insolation to the extent known 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-hrs/m²/day. The solar constant at the earth's surface is approximately 1 kw/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.

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

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