

# 2nd Workshop on Satellites for Solar Energy Assessments February 3-4, 1999

## Presentations

Sponsored by the U.S. Department of Energy  
Organized by the Atmospheric Sciences Research  
Center and NREL

Prepared under Task No. PV907501



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NREL is a U.S. Department of Energy Laboratory  
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Contract No. DE-AC02-83CH10093

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# Introduction

The 2nd Workshop on Satellites for Solar Energy Assessments was held on 3-4 February, 1999 at the Golden Hotel in Golden, Colorado. This workshop was part of the Solar Resource Assessment Task funded by the National Center for Photovoltaics at the National Renewable Energy Laboratory (NREL). NREL is supported by the U.S. Department of Energy.

This workshop brought together researchers in satellite data analysis and experts in solar energy technologies to review the current status of techniques and products of solar data derived from weather satellite imagery. Of the more than 40 participants, many were representatives from U.S. government, laboratory, and university organizations. Federal agencies and laboratories that were represented included the National Aeronautics and Space Administration, the National Oceanic and Atmospheric Administration, and NREL. Participants also included experts in the use of solar energy for building design and concentrating solar power technologies. In addition, researchers from seven other countries (Canada, France, Switzerland, Germany, Mexico, Brazil, and Japan) as well as Puerto Rico, attended the workshop. Many of these foreign visitors were invited to give presentations on the status of research in their country.

Presentations were given on new techniques for developing climatological estimates of the solar resource at all locations on earth at a resolution of 100 km, and of developing estimates at half-hour intervals at resolutions of 10 km or less in specific locations. This workshop report provides copies of each of the presentations given by the invited speakers.

At the conclusion of the workshop, a roundtable discussion was held. Out of this discussion, the users of the data expressed a strong interest in the types of products that the satellite research community can provide. The data users also offered additional ideas of their own in which the researchers can provide even more valuable information in the future. A number of specific research topics were identified, including the idea of incorporating other key meteorological information, such as temperature and relative humidity, into the solar radiation data sets. Although satellite data should still be supplemented by quality ground measurements made at strategic locations, it is clear from this workshop that satellite techniques have become so advanced that they now represent a reasonably accurate tool for developing large area solar resource assessments, particularly in locations where ground data are limited, and for developing high resolution site/time-specific data that can be used for assessing the performance of PV technologies.

The workshop organizers hope you find this workshop summary useful, and encourage you to contact us for additional information, and to send us your comments and questions. Complete contact information can be found in the Attendee List.

Dave Renné, Center for Renewable Energy Resources (NREL)  
Richard Perez, Atmospheric Sciences Research Center, State of New York at Albany

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## **Workshop Objectives**

- Review Latest Developments and Future Plans
- Obtain Feedback from Solar Technologists
- Define Future Research Needs

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Golden, Colorado U.S.A.