

SNS – SORCE News Source

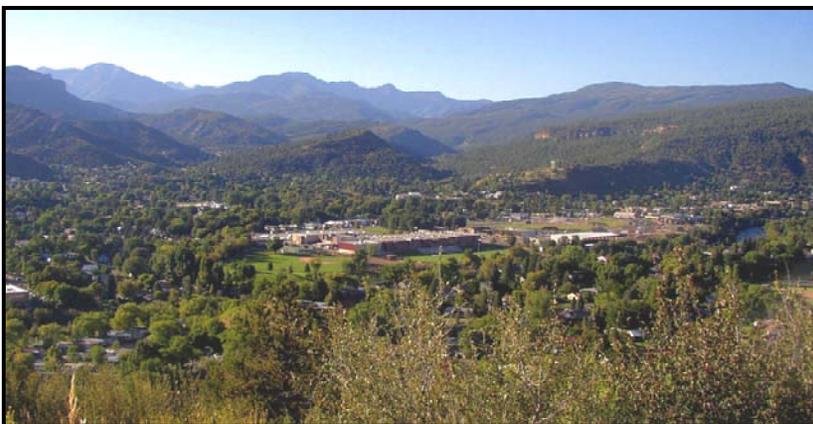
Solar Radiation and Climate Experiment Monthly Newsletter

October 2005



SORCE Meeting Addresses “Paleo Connections Between the Sun, Climate, and Culture”

The third annual SORCE science meeting was held in Durango, Colorado on 14-16 September 2005. On the afternoon before the meeting began, there was a special session in recognition of Gary Rottman’s retirement. A few colleagues and his former graduate students shared science and personal experiences in working with Gary, and how they had been influenced by his leadership. A reception followed this memorable afternoon to kick-off the SORCE Meeting.



The Durango view on 15 September, 2005. (Photo by Jeffrey Hall.)

Approximately 80 scientists attended this year’s 2½-day meeting. The detailed agenda and most of the presentations are available on the SORCE Meeting website:

<http://lasp.colorado.edu/sorce/2005ScienceMeeting/>



Some of the SORCE Science Meeting attendees enjoying the Durango sunshine.

There were five sessions to address the meeting topic:

- SORCE Observations of Solar Radiation – New Science Results
- Reconstruction of Past Solar Irradiance and Modeled Climate Responses
- Evidence for Climate Responses to Solar Variability
- Interpreting the Solar and Climate Sources of Cosmogenic Isotope Variations, and their Relationship to Solar Irradiance
- Linkages of Climate Cultural Responses and Solar Variability



^^ Judith Lean and Gary Rottman both gave presentations to open the SORCE meeting.

v v Larry Benson, Ray Bradley, and Connie Woodhouse (left to right).

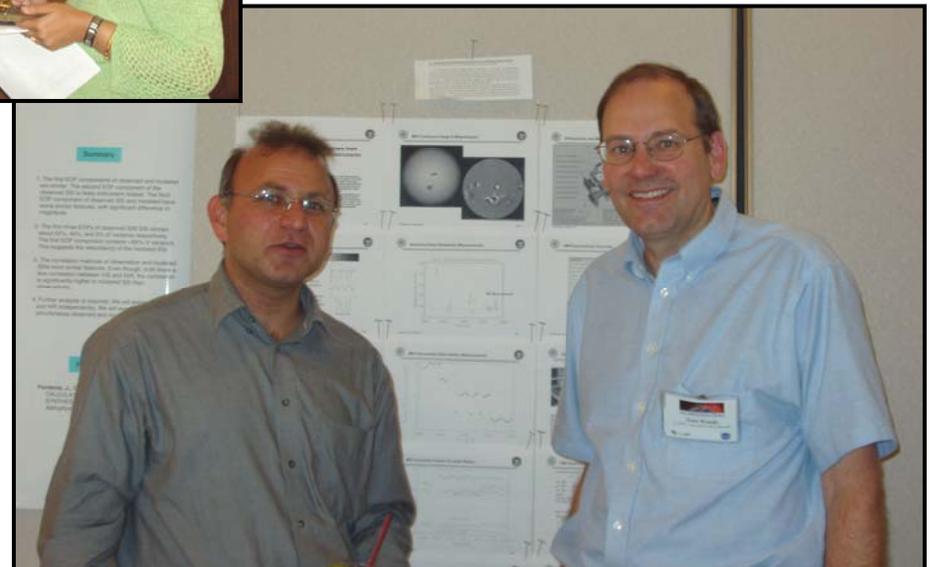


The 2005 SORCE meeting focused on both the empirical evidence and physical processes that link the sun, climate and culture over the past 1000 to 10000 years. These studies include understanding the relationship between solar irradiance and cosmogenic isotopes, whose variations are modulated by geomagnetic field changes and solar variations. An increasing number of paleoclimate records, such as in ice-cores, ocean sediments, lake levels and tree-rings, suggest a solar contribution to past climate change because many records correlate strongly with the ^{10}Be and ^{14}C cosmogenic isotopes. Some of the proposed processes linking sun, climate, and culture changes include changes in the location of the intertropical convergence zone and in various dynamical modes including the North Atlantic Oscillation, the El Niño Southern Oscillation, and in the Hadley and Walker Circulations.



< < Dan Yeloff, Univ. van Amsterdam, and Subarna Bhattacharyya, Jakkur, Bangalore, India, both made presentations at the SORCE Meeting.

Sami Solanki and Tom Woods enjoyed the Wednesday afternoon Poster Session. They both gave oral presentations earlier that day.



Civilizations most susceptible to solar-driven climate change appear to be those located in regions where rainfall and drought are especially vulnerable to changes in these climate variability modes and circulation patterns. These results emphasize the need to understand the role of the hydrological cycle in the sun, climate, and culture connection.

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A group looks at two posters presented by Aden and Marjorie Meinel.



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Jeffrey Hall and Joan Feynman discuss Jeffrey's poster, *Cyclic and Secular Activity Changes in Solar Analog Stars*.

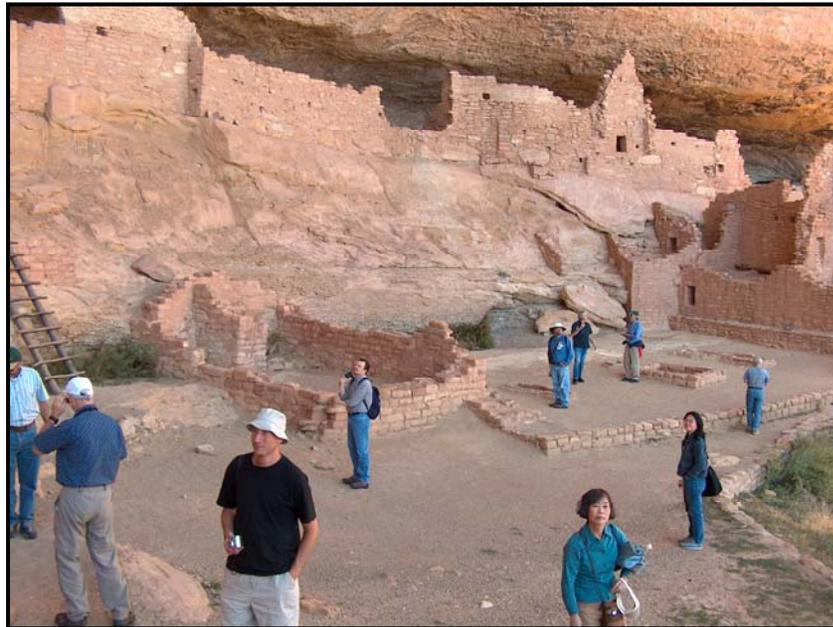


^^ Staryl McCabe Glyn and Ashish Sinha came from California State University in Dominguez Hills.

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Chris Pankratz discusses his poster, *SORCE Data Processing and Data Products*, with Peter Fox from HAO in Boulder.

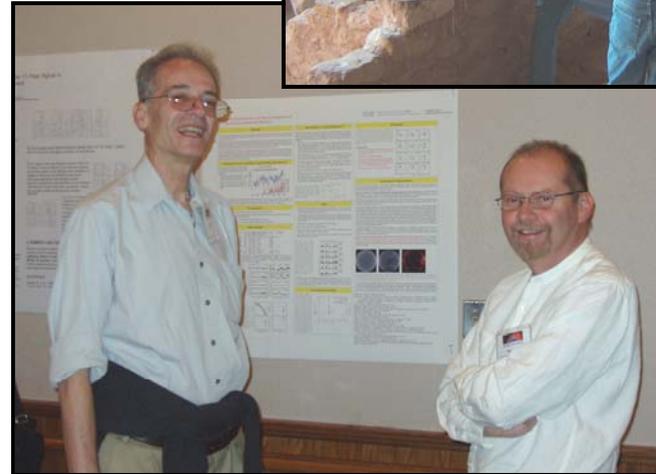


In addition to the many oral and poster presentations, attendees enjoyed a few special events. On Thursday evening participants enjoyed the Fort Lewis College's Center of Southwest Studies where the cultural history museum was open for viewing and a reception was held for the group. Later that evening, a group dinner occurred at the historical Strater Hotel in downtown Durango. The dinner speaker gave an interesting talk about the history of the Pueblo Indian settlements in the local area and how the historical ecology (e.g. drought) impacted their culture. His talk was a great introduction for Friday's optional tour of Mesa Verde National Park, where the group viewed the Anasazi ruins that are a result from sudden culture changes influenced by severe droughts at about 1300 AD.



^^ The archeological sites found in Mesa Verde National Park are some of the most notable and best preserved in the United States. (Photo by Marty Snow)

Chris Pankratz >> climbs a ladder to look over a cliff dwelling wall in Mesa Verde National Park. (Photo by Marty Snow)



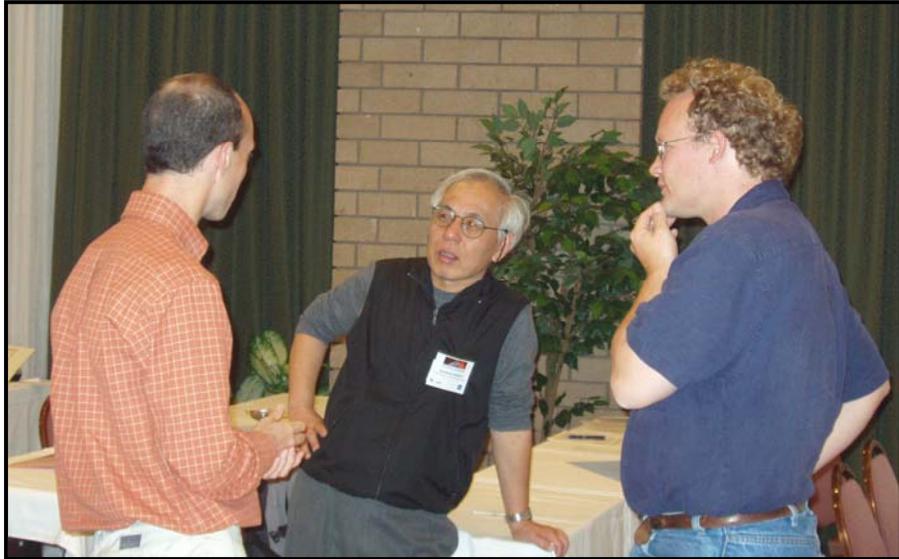
<< Juan Fontenla and Phil Judge discussing Juan's poster, *Spectral Modeling and Long-Term Trends*.

Harry van Loon >> and Sultan Hameed both gave oral presentations during the SORCE Meeting.



Mark your calendar: 2006 SORCE Science Meeting

The 2006 SORCE Science Meeting is in the planning stages. We are currently looking at the coast of Oregon between mid September and mid October. Details will be posted on the SORCE website as soon as contracts are signed. The SORCE meeting website is -- <http://lasp.colorado.edu/sorce/meetings.html>.



^^ Kalevi Mursula from the University of Oulu, Finland, and Joan Feynman from JPL, California Institute of Technology.

<< Drew Shindell, Kunihiko Kodera, and Caspar Ammann (left to right) all presented talks in Session 2, *Reconstructions of Past Solar Irradiance and Modeled Climate Responses*.

SORCE In Orbit 1000 Days!

On October 20, 2005 SORCE will hit another milestone – in orbit for 1000 days! The spacecraft and instruments are still performing flawlessly, and expectations are that SORCE will fly for several more thousand days.



Upcoming Meetings / Talks –

SORCE scientists plan to present papers or attend the following 2005-2006 meetings:

NASA Solar and Space Physics and the Vision for Space Exploration Conference, Oct. 16-20, Wintergreen, Virginia

NEWRAD 2005: 9th Intl. Conference on New Developments and Applications in Optical Radiometry, Oct. 17-19, Davos, Switzerland

AGU Fall Meeting, Dec. 5-9, San Francisco, California

SCOSTEP STP-11, March 6-10, Rio de Janeiro, Brazil