



2004 SORCE Science Meeting ***Call for Papers –***

Abstract Deadline – Sept. 10
Registration / Lodging Deadline – Sept. 24

We are pleased to announce the 2004 SORCE Science Meeting – *Decadal Variability in the Sun and Climate*. This NASA/EOS motivated meeting is set for October 27-29 in Meredith, New Hampshire. Meredith is a small town on the west side of Lake Winnepesaukee, which is in the heart of New Hampshire's lakes region. Complete meeting information is available at -- <http://lasp.colorado.edu/sorce/2004ScienceMeeting/meeting.html>, where you will find a detailed science program description, online abstract and registration forms, as well as lodging and other logistical information. We encourage your participation and hope that you will share this announcement with colleagues.

Discerning the role of the Sun in climate variations on time scales of decades is a challenging task. That climate forcing is well correlated with variations in the Sun's energy output is now relatively well established for total and UV irradiance using high-precision, space-based solar measurements spanning more than two decades. When the Sun is near the maximum of its activity cycle, it is about 0.1% brighter overall, with much greater changes at UV wavelengths. SORCE measures these variations with unprecedented accuracy, precision, and spectral coverage across the UV, visible, and IR. But the climate response to these measured solar variations presents a major puzzle. This SORCE Meeting seeks new understanding of the evidence for and mechanisms involved in decadal variability in the Sun and climate.

Widespread empirical evidence from the extensive Earth climate datasets suggests the presence of an 11-year solar signal of order 0.1K in surface, atmospheric, and ocean temperatures. But general circulation models (GCMs) underestimate this response by as much as a factor of five. The GCMs account primarily for direct forcing by changing incoming total radiation and assume that the response time for climate feedback processes to this external forcing is of order 100 years. Processes and pathways not included in the GCMs may help facilitate the larger than predicted climate response to



Church Landing is a new facility (opened May 2004) at *The Inns at Mill Falls*, where the next SORCE Science Meeting will be held. The Inn's website is <http://www.millfalls.com/>. Lodging information for Church Landing and the other two guestroom facilities at *The Inns at Mill Falls* is available on the SORCE meeting website. We suggest you make your reservations at this popular resort village as soon as you are able to commit – it will fill quickly.

decadal solar variability. Solar variations in the UV spectrum modulate stratospheric ozone concentrations, which may couple to climate via radiative and dynamical pathways. These pathways may involve the Northern and Southern annular modes, allowing a solar signal to be amplified and reach Earth's surface. Internal atmosphere-ocean oscillations such as the NAO and ENSO may also play a role. Clouds may expedite the feedback process, as they appear to also exhibit variability with the solar cycle. Stochastic climate variability may amplify the relatively small solar variations. Other, non-linear, climate processes are speculated.

The agenda will consist of both invited and contributed oral presentations and posters. Complete abstract submittal information is available on the website, and the abstract deadline is September 10th. Sessions include:

- Solar Radiation – Status of Current SORCE Measurements
- Decadal Variability in the Atmosphere and Oceans
- Mechanisms and Modes of Decadal Solar Variability
- Climate Variability Modes (e.g. ENSO,NAO/AO, PDO) and Nonlinear Responses

A science dinner is planned for Thursday, October 28th. The guest speaker will be Dan Schrag from Harvard University, and he will be addressing “*The Climate History of Earth and Her Neighbors*.” As an added bonus, the dinner happens to occur on the same evening of a total lunar eclipse! Depending on the weather, viewing from the deck of the *Gunstock Ski Lodge* could be spectacular!

The science program organizing committee members are Mark Baldwin from NorthWest Research Associates, Inc., Bellevue, Washington; Greg Kopp from LASP, University of Colorado; and Judith Lean from Naval Research Laboratory, Washington, DC.



Please put the *SORCE* meeting dates (Oct. 27-29) on your calendar now. For meeting information, visit the website: <http://lasp.colorado.edu/sorce/2004ScienceMeeting/meeting.html>

SORCE to Celebrate 18 Months On-Orbit Next Month –

Eighteen months of successful operation on-orbit is a crucial milestone for *SORCE*, because this is the criterion point NASA considers to determine the mission a success. In NASA’s eyes, *SORCE* has been on-orbit long enough to have obtained scientific success by collecting continuous TSI and SSI measurements. *SORCE* was launched on Jan. 25, 2003 from Kennedy Space Center in Florida. The spacecraft, instruments, and ground systems are all functioning flawlessly. The scientific data are released although further refinement of the algorithms and data validation are on-going.

Plans are in the works to acknowledge this special NASA accomplishment, and details will be forthcoming. Of course, everyone anticipates many more *SORCE* milestones in the years to come on this 5-year mission.

SORCE Team Produces Timely Venus Transit News Release –

The *SORCE* team responded quickly last week to produce one of the first press releases on the Venus Transit. The attention has brought *SORCE* into the limelight at NASA, where they are producing a follow-up story for national release about *SORCE* and its importance to Earth science. NASA’s EOS publication, *The Earth Observer*, will also be issuing a follow-up story about *SORCE* and Venus Transit science results.

Locally, the *Boulder Daily Camera* also became interested in the latest *SORCE* developments following the Venus Transit special edition newsletter, and wrote an article on *SORCE*. The article is on-line at -- http://www.dailycamera.com/bdc/buffzone_news/article/0,1713,BDC_2448_2958048,00.html.



Venus crossing the Sun as seen from Mauritius Island in the Indian Ocean. *Courtesy of Sid Leach.*

57,455
Hits to the *SORCE* Website
(Since 4/21/03, As of 6/14/04)

Upcoming Meetings / Talks –

SORCE scientists plan to present papers or attend the following 2004 meetings:

COSPAR Meeting, July 18-25,
Paris, France

SORCE Science Meeting, October 27-29,
Meredith, New Hampshire

AGU Fall Meeting, Dec. 13-17,
San Francisco, California

To submit information to this newsletter, please contact:
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