



UV-B Monitoring and Research Program

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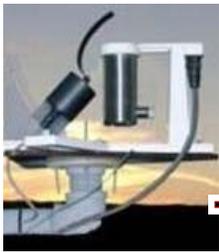
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What's New

Last updated: 21 March 2008

- February 2008 -- The USDA UV-B Monitoring and Research Program (UVMRP) was invited to submit a proposal to AmericaView, National Consortium for Remote Sensing Education, Research and Applications to help establish a Colorado consortium.

AmericaView is a nationwide program with state-level consortiums that focus on providing satellite remote sensing data and technologies in support of applied research, K-16 education, workforce development, and technology transfer. It is administered through a partnership between the U.S. Geological Survey and the AmericaView Consortium, and comprised of university-led, state-based consortia working together to build a nationwide network of state and local users.

AmericaView supports the goals of the AV Program by further expanding communications networks, facilities, and capabilities for acquiring and sharing remotely sensed data among AmericaView members. The Consortium is actively working with the USGS and universities across the country to expand participation in the AV Program to all 50 states.

On February 13, 2008, America View, National Consortium for Remote Sensing Education, Research and Applications, formally confirmed the acceptance of ColoradoView, under the leadership of Colorado State University, to new Affiliate membership in the AmericaView national consortium. Other individuals who will have a major role in the consortium are Dr. Thomas Stohlgren, USGS Fort Collins Science Center, and Dr. Michael Lefsky, Forest Rangeland Watershed Stewardship, Colorado State University.
- November 2007 -- Five representatives from East China Normal University, Shanghai visited CSU to sign an International Memorandum of Understanding that will facilitate the exchange of faculty and students and develop cooperative research programs between these sister Universities during the coming years. Over the course of the day they had meetings with President Larry Penley, Dr. Tony Frank, Dr. Peter Dorhout, Dr. James Cooney and the deans and department heads from the Colleges of Warner College of Natural Resources, Education, Engineering and the Natural Resource Ecology Laboratory. Dr. Wei Gao helped to host the delegation.
- November 2007 -- Dr. Wei Gao presented a talk about his research into modeling of cotton yields at the SPIE/COS Photonics Asia 2007 Conference, at the Jihua Grand Convention and Exhibition Center in Beijing, China.
- November 2007 -- William Durham, senior site technician, represented our project at the 50th anniversary celebration of Hawaii's Mauna Loa Observatory, which included a commemoration of their 50 years of carbon dioxide measurements and NOAA's 200th anniversary. In addition, Bill added two additional UV-B sensors to our array at the high-altitude Mauna Loa Observatory site, which will enhance our ability to monitor the calibration and stability of these aging instruments. Also, a write-up about the Program is included in the commemorative book about the MLO facility's 50 year history, written by Forrest Mims.
- October 25, 2007 -- Dr. Wei Gao was a contributor to the recently published 600 page tome *Global Environment Outlook (GEO-4) Environment for Development*, launched by the United Nations Environment Programme (UNEP). The GEO-4 report is a culmination of a complex global consultative process which involved some 400 individual scientists and policy makers, and more than 50 GEO Collaborating Centres and other partner institutions around the world. [The] GEO-4 provides a comprehensive, reliable and scientifically credible, policy-relevant, up-to-date assessment of, and outlook for, the state of the global environment.
- October 12, 2007 -- Dr. James Gibson, original Director and co-PI of the UVMRP, passed away on 10 October 2007, at age 77, after a multi-year fight with prostate cancer. Jim had been part of the group that USDA had assembled in 1991 and 1992 to explore the need for this program. Dr. Gibson was also a prior Director of NREL, and Interim PI of the National Atmospheric Deposition Program (NADP) which was originally headquartered at NREL. He retired in March 1999.
- October 2007 -- Dr. Jim Slusser was selected by the Department of Physics at Western Michigan University to receive a College of Arts and Sciences Alumni Achievement Award. There he presented a talk entitled, *Solar UV-B Radiation: Measurements, Models and Effects*, to the undergraduate physics club and his mentors from where he received his

masters in Physics in 1980.

- September 2007 -- Dr. Wei Gao, presented recent advances in U.S. hyper spectral infrared remote sensing. September 2007, At the 16th China National Remote Sensing Symposium, Beijing, China.
- September 2007 -- Dr. Jim Slusser, senior research scientist, UVMRP, traveled to Italy, Switzerland and France for several collaborations related to his research in various aspects of UV radiation. He was co-chair of the SPIE Remote Sensing of Clouds and the Atmosphere Conference in Florence. At Davos he presented a poster about the UVMRP's ten years of UV data to the Solar UV Radiation Research Conference. In Paris, he consulted with Drs. Alain Sarkissian on a joint paper and Slimane Bekki of Service d'Aeronomie, on Global Warming.
- August 2007 -- Maosi Chen comes to the UVMRP as a Graduate Assistant through CSU's GDPE (Graduate Degree Program in Ecology) pursuing his Ph.D. under the guidance of his major professor, Dr. Wei Gao.
- August 2007 -- Bill Smith, a graduate student in Ecology whose major advisor is Dr. Wei Gao, was a recipient of NREL's 2007 Francis Clark Soil Biology Scholarship. The grant helps fund his Master of Science research on the effects of Ultraviolet-B radiation on the microbial community of plant litter, being conducted at the Agricultural Research Center in Fort Collins. His thesis focuses on determining the quantitative effect of Ultraviolet-B radiation on decomposition rates when combined with water stress. The Francis Clark Soil Biology Scholarship provides support to students in the Natural Resource Ecology Laboratory whose emphasis is research in soil biology topics.
- August 2007 -- Dr. Wei Gao chaired the *International Conference for the Remote Sensing and Modeling of Ecosystems for Sustainability IV* at the SPIE Optics and Photonics 2007 Symposium held in San Diego, CA on August 25-30. A record attendance of more than 70 scientists participated in this conference.
- July 2007 -- Dr. Wei Gao was appointed as Director of the UV-B Program effective July 1, 2007. In addition, Dr. Gao will coordinate the Center of Remote Sensing and Modeling for Agricultural Sustainability within the UV-B Program.
- July 2007 -- Maosi Chen comes to the UVMRP as a Graduate Assistant through CSU's GDPE (Graduate Degree Program in Ecology) pursuing his Ph.D. under the guidance of his major professor, Dr. Wei Gao.
- June 15, 2007 -- [Scientists Study Sun's Radiation To Track Pollution Sources](#). [Science Daily](#). Colorado State University scientists are studying the reduction of solar ultraviolet radiation by atmospheric particles to learn how the various sources of pollution - biomass burning, auto exhaust and oil refining - affect the atmospheric chemistry and air quality of Mexico City.
- June 2007 -- Significant improvement in most UV-MFRSR lamp calibrated data after 2001 was implemented on July 2, 2007. Lamp-calibrated irradiance values for the 311, 317, 325, 332, 368 channels have increased, on average, 8.8%, 22.1%, 12.1%, 11.2%, and 4.0% respectively. The 300 and 305 channels are essentially unchanged as well as the Langley calibrated data. For more detailed information [click here](#).
- June 2007 -- We have a new web page. The synthetic spectra product has been enhanced/fixed, along with a new category called Data Gaps under the Data Plots menu item. It will show all the gaps in the data for the location selected. Also numerous problems/bugs were fixed.
- May 2007 -- Dr. Wei Gao and Dr. John Moore (Director, NREL) traveled to Beijing, China to participate in the Eco Summit 2007. The Summit focused on a theme of *Ecological Complexity and Sustainability: Challenges and Opportunities for 21st-Century's Ecology*. During the summit, Drs. Moore and Gao met with Dr. Wang Hao, Head of the China Institute of Water Resources and Hydropower Research, to discuss future research collaborations between the two organizations.
- March 2007 -- We have compiled a list of our data users and web usage. Please click [here for the pdf](#).
- March 2007 -- A new Agricultural Impact research section has been added to our web page. Please click on the UV-B Ag Impact button in the lower right hand corner to view this new section.

- February 2007 -- We now have available our 2006 data collection statistics. For our climatological sites, the median for our visible instruments was 99.27% collection rate. The median for our UVRSR instrument was 98.62% collection rate. For a further breakdown see the pdf [2006 Data Collection Statistics](#).
- November 2006 -- Dr. Jim Slusser attended the EPA Star UV-B meeting in Boulder and presented a paper titled *A History of the USDA UV-B Network*.
- November 2006 -- Dr. Barry Lefer from University of Houston visited with UV-B staff to discuss Houston's measurements. Dr. Lefer is PI with Dr. Slusser as co-PI of an EPA funded study of Houston's pollution aerosols and UV-B.
- October 2006 -- Xinli Wang spent the month of October in Champaign, Illinois working with researchers to build the infrastructure to incorporate a crop model into the regional climate model-Climate Extension Weather and Research Forecasting Model.
- October 2006 -- Dr. Wei Gao was the leading editor for *Remote Sensing and Modeling of Ecosystems for Sustainability III* which was published by The International Society of Optical Engineering.
- September 2006 -- Dr. Wei Gao was co-editor for a two-volume book *Earth Science Satellite Remote Sensing*, which was published by Tsinghua and Springer.
- September 2006 -- Dr. Jim Slusser traveled to Stockholm, Sweden to Chair the SPIE Europe Conference: Remote Sensing of Clouds and Atmosphere. He presented a paper written by recent graduate student Tommy Taylor titled *Determining Ozone and Aerosol Optical Properties from UV-RSS*. He also presented *Ultraviolet Ground and Space-based Measurements, Models, and Effects Research* authored by Dr. Peter Kiedron, NOAA. Dr. Slusser also traveled to Hanover, Germany for a meeting with Dr. Gunther Seckmeyer, Institute for Meteorology and Climatology, University of Hanover, a world expert in calibration and analysis of UV-B data.
- August 2006 -- Dr. Gao, a SPIE symposia committee member of the International Society of Optical Engineering, chaired the international conference *Remote Sensing and Modeling of Ecosystems for Sustainability III* during the society's annual meeting in San Diego. Dr. Gao and his graduate students presented several papers.
- August 2006 -- A big welcome to Bill Smith, from North Carolina, and Chelsea Corr, from Albany, New York, to our program this fall. Bill Smith is working with Dr. Wei Gao, Dr. Jim Slusser, Drs. Bill Parton/Heidi Steltzer, NREL, and Dr. Jack Morgan, USDA-ARS-Rangeland Resources, to study the influence of UV-B on competition between native grasses and invasive Tamrisk, typical in Colorado Rangeland. Dr. Slusser and Dr. Sonia Kreidenweis, Department of Atmospheric Science will be mentoring Ms. Chelsea Corr as she analyzes optical and chemical UV data for air quality study in Houston, TX. This study will investigate the interactions between UV transmission through a polluted atmosphere and the pollution process itself.
- August 2006 -- Dr. Alain Sarkissian visited for this month from the Centre National de la Recherche Scientifique, Verrieres-Les-Buisson, France. Dr. Sarkissian is world renowned for his work in trace gas aerosol retrieval of planetary atmospheres. With the aging of our seven channel UV-B radiometers it is imperative that we begin work on the next generation of instrumentation. Dr. Sarkissian worked with Dr. Slusser and Roger Tree to test a new short focal length spectrometer that will have direct sun pointing capabilities. He performed thermal, optical and electronic tests to demonstrate the feasibility of using these spectrometers in the field.
- August 2006 -- The 36th climatologic site in our network was installed early this month at the University of Houston, Texas. The equipment is owned by UH, as part of a suite of instruments being used by Dr. Barry Lefer for intensive in-situ monitoring and research of Houston's atmospheric pollution. The site is atop one of the 19-story tall residence halls, the North Moody Tower, about midway between downtown Houston and the Port of Houston.
- July 2006 -- Andres Hernandez, graduate student in Mexico City, Mexico, evaluated the results of the NSF project, *Collaborative Research: Impact of aerosols on the photochemistry of Mexico City*, using the data set from the MIRAGE-Mex. Colorado State University provided the Ultraviolet Multifilter Rotating Shadowband Radiometer (UV-MFRSR) to measure the total and diffuse downwelling irradiance at several UV wavelengths to calculate aerosol optical depths during

cloud-free conditions.

- May 2006 -- Dr. Wei Gao was nominated as an Editor-in-Chief of the Journal of Applied Remote Sensing. His term is for three years. He was also invited to be an advisory board member for the Center for Capacity Building in NCAR.
- May 2006 -- Two of Dr. Gao's graduate students, Shuyan Liu and Qifeng Lu, received their Ph.D. degrees in May. Shuyan is working for Beijing Normal University as an assistant professor and Qifeng accepted a job at the China Meteorological Administration as a research scientist.
- April 2006 -- A new option is available from our web site. An instrument's deployment history by serial number along with its calibration co-efficient is available. This info can be obtained by selecting Stations/Data, Instrument Characteristics, and Serial Number Deployment History.
- March 2006 -- We have 3 new short term sites opened in Mexico: [Tenango, Mexico, Mexican Institute for Petroleum \[IMP\]](#), and the [Technical University of Tecamac \[UTTEC\]](#). Data for the site in Tenango, Mexico (80 km south of Mexico City) can be found under site location: Mexico,Mexico City, CASA(S1); data for the site at the Mexican Institute for Petroleum [IMP] can be found under site location: Mexico,Mexico City, T0(S2); data for the site at the Technical University of Tecamac [UTTEC] can be found under site location: Mexico,Mexico City, T1(S3).
- March 20, 2006 -- Welcome aboard Bruce Hundermark. Bruce is joining our staff as a scientific programmer. He will help in the software development of future research products as well as developing more quality control procedures for our data stream. Bruce can be reached at 491-3606 or by email at bruce.hundermark@colostate.edu.
- March 2006 -- Dr. Jim Slusser traveled to Mexico City to meet with Dr. Michel Grutter and Andres Hernandez to work on the infrastructure and equipment for a NSF Grant to study pollution in the Mexico City area. Colorado State University's field suite of spectrally-resolved UV radiation instrumentation will be deployed for the NSF sponsored MIRAGE-Mex field campaign at three Mexico City "supersite" ground stations. This UV radiation package includes instrumentation from Colorado State University and the University of Houston.
- February 2006 -- The UV-B Monitoring Program received a letter from Senator Ken Salazar, D-Colo., giving thanks for the outstanding research done at CSU. "Your work has provided greater understanding of the effects of ultraviolet light on plants and animals to the scientific community and the nation as a whole," wrote Salazar. "Thank you for keeping Colorado State's tradition of excellence a reality."
- February 2006 -- Drs. Jim Slusser, Wei Gao and Xinli Wang attended a workshop on the molecular aspects of plant secondary metabolism in response to UV-B radiation in San Antonio, Texas, February 2-3. The workshop was sponsored by the USDA CSREES and the USDA UV-B Monitoring Program, NREL.
- January 2006 -- Dr. Slusser has been selected to chair the 11th Conference on Remote Sensing of Clouds and the Atmosphere in Stockholm, Sweden, Sept 11-16. The conference will focus on all aspects of remote sensing of clouds and the atmosphere with several planned specialist sessions.
- January 2006 -- Dr. Wei Gao attended the SPIE Photonics West 2006 meeting in San Jose, California, Jan. 21-26. Dr. Gao presented papers describing ultraviolet ground- and space-based measurements, models and effects research. The meeting also gave Dr. Gao the opportunity to network with other researchers from around the world. SPIE is the largest international force for the exchange, collection, and dissemination of knowledge in optics, photonics and imaging.
- January 2006 -- Welcome aboard Tommy Taylor. Tommy is joining our staff to develop additional scientific products for UVB radiation. He is currently working with aerosol retrievals.
- November 29, 2005 -- We wish Gwen Scott a fond farewell. We would like to thank Gwen for her years of service and her commitment in maintaining the quality of our data. Gwen is retiring and hopes to be traveling a lot with her husband. Have fun Gwen!
- November 29, 2005 -- A faster improved web page is now available. Looking at and downloading data should be a lot

- faster. Our data format has also changed when downloading. Please see [Readme](#).
- October 2005 -- We would like to welcome Dr. Xinli Wang as the newest member of the UV-B program. Dr. Wang will be working with Dr. Wei Gao. His emphasis will be on crop and cotton modeling.
 - October 2005 -- The UV-B Monitoring and Research program is looking for a Data Quality Control/Scientific Programmer Research Associate III. This person will be responsible for ensuring the quality of our data stream as well as programming various scientific applications using our data stream. Deadline for applying is October 29, 2005. Please see our [job description](#).
 - June 2005 -- The UV-B Monitoring Program is looking for a full-time Research Scientist I. The position will be responsible for developing and programming the interface coupling of a regional climate model with several crop models for climate variability/change impact studies and to be a team member of an on going effort to produce USA UV-B climatology. Please see our job description. Deadline for applying is July 15, 2005.
 - June 2005 -- Jim Slusser has been asked to serve as first opponent to Taddeo Ssenyonga's thesis defense in Bergin, Norway. The thesis addresses solar ultraviolet radiation, ozone, and aerosol loading, which makes Jim's invitation obvious. Have fun Jim, and good luck, Taddeo.
 - June 2005 -- We would like to welcome Scott Janssen as the newest member of the UV-B program. Janssen started July 1 as our new computer administrator. We're glad to have him aboard and confident that our computer system will keep him busy.
 - May 2005 -- The UV-B Monitoring and Research Program was invited by the UV monitoring network in Oslo, Norway, to participate in an intercomparison of multiband filterradiometers. The purpose of the intercomparison was to harmonize UV monitoring instruments and exchange experience and knowledge gathered by instrument users.
 - March 2005 -- Congresswoman Marilyn Musgrave, R-Colo., sat down with Jim Slusser and Wei Gao to discuss the UV-B Program and its relevance on agriculture, livestock, and human health. After the meeting, Musgrave showed her strong support for the program and toured some of the other programs at Colorado State University. [A picture of the congresswoman, Jim and Wei](#).
 - March 2005 -- The UV-B Monitoring and Research program is looking for a system administrator to maintain/enhance our network of PC's and Unix workstations. Deadline for applying is April 25, 2005.
 - March 2005 -- Bill Davis has accepted a position as the Network Security Administrator for Student Housing at Colorado State University. Congratulations Bill. Bill can still be reached at William.S.Davis@colostate.edu.
 - February 2005 -- A new look to our web page along with additional options. Take a look at Site Information and get a history of an instrument. We also now offer Langley Calibrated Data as well as Langley and Synthetic Spectra data. We have a new menu system to allow one click access to pages. For more information please see the [Stations/Data Readme file](#).
 - October 2004 -- A new [climatological site](#) has been installed at Fargo, ND. The site is located on land owned by [North Dakota State University](#). The site is operated by NDSU at their Microclimatic Research Station. This is part of the state wide [North Dakota Agricultural Weather Network](#) - NDAWN.
 - September 2004 -- A new menu item, [Data Processing Procedures](#), has been added to our Instrumentation category. This new item contains detailed information about angular corrections and calibration applied to our shadowband data, as well as procedures for the generation of Langley voltage intercepts (V-naughts).
 - August 2004 -- UVMRP personnel will have a strong presence at [SPIE's International Symposium on Optical Science and Technology and 49th Annual Meeting](#), 2-6 August 2004 at the Colorado Convention Center, Denver, CO, USA. Wei Gao is chairing the [Remote and In-Situ Sensing](#) program of the Remote Sensing and Space Technology session, which includes the two conferences at which UVMRP personnel are making presentations. Jim Slusser and Wei Gao are co-chairs, along

with Jay Herman of NASA Goddard Space Flight Center and Germar Bernhard of Biospherical Instruments Inc., of the [UV Ground- and Space-based Measurements, Models, and Effects IV \(5545\)](#) conference. Presentations at this conference will be made by Jeff Hicke, John Davis and George Janson, with a poster presentation by Roger Tree and two posters by Wei Gao. In addition, Wei Gao is co-chair with David Shaw of Mississippi State University of the [Remote Sensing and Modeling of Ecosystems for Sustainability \(5544\)](#) conference, during which he will have two poster presentations. A meeting of all the UV effects sub-contractors working with UVMRP data is scheduled during this conference. Of particular note is that our USDA-CSREES Project Officer, Dr. Daniel Schmoltdt, is the invited keynote speaker for the Monday morning start of the Remote Sensing and Space Technology session. Also during this week, personnel from NASA Goddard Space Flight Center will tour the UVMRP office and field facilities, plus the Atmospheric Sciences Center at CSU, in Fort Collins, as well as the Central UV Calibration Facility (CUCF) laboratories on the NIST Campus in Boulder.

- May 2004 -- PAR sensor added to Wye, MD site, which is the last of the existing climatologic sites to be so equipped. All future sites (the newest of which is planned for [Fargo, ND](#) sometime this autumn) will have a PAR sensor. [Status map](#)
- April 2004 -- A portable version of our UV-MFRSR with PAR instrument has been developed and deployed at the [Indiana site](#) to study UV and PAR levels under a canopy. Two support mechanisms exist -- a 12 foot long [track](#) where the instrument cluster can be manually pulled along while under a row crop, and an (up to) 7 foot tall [tripod](#) to follow the growth of a tall crop. Researchers interested in using this apparatus should contact Dr. Wei Gao by phone at 970-491-3609 or by e-mail at wei.gao@colostate.edu to discuss its applicability to their research, and schedule its availability.
- April 2004 -- A Data Corrections menu item has been added to our Stations/Data category. Although quality control procedures are routinely followed during the transformation of raw data to our data products disseminated through our web site or by special request, subsequent corrections are sometimes necessary. This new menu item gives a brief description of such changes.
- March 2004 -- A new [climatological site](#) has been added at [Texas Lutheran University](#) in Seguin, Texas. This instrument was installed on the roof of the Science Building.
- February 2004 -- PAR sensors added to [Jornada, NM](#) and [Big Bend, TX](#) climatological sites.
- February 2004 -- Jim Slusser and Wei Gao are co-chairs of two of the conferences that will be part of [SPIE's International Symposium on Optical Science and Technology and 49th Annual Meeting](#), 2-6 August 2004 at the Colorado Convention Center, Denver, CO, USA. The "Call for Papers and Announcement" for each conference are available by clicking the respective links: [UV Ground- and Space-based Measurements, Models, and Effects IV \(AM104\)](#) and [Remote Sensing and Modeling of Ecosystems for Sustainability \(AM103\)](#). Several UVMRP personnel will be making oral and poster presentations at these conferences.
- February 2004 -- We've just published our **2003 Annual Report**, available as a .pdf document [here](#).
- February 2004 -- A new web interface for the Stations/Data menu item has been implemented. Additional features include:
 - Data Products section with Ozone retrievals, and optical depths
 - Instrument Characteristic's section so you can see our Calibration files, Filter Function files and Timeseries analysis
 - An expanded Data Plot's section which allows you to view the Angular Corrected Wavelength data as well as all Broadband, PAR and UVA for any date. Please see the [Readme File](#) for more details.
- January 2004 -- PAR sensors added to Homestead, FL and Mauna Loa, HI climatological sites.
- January 2004 -- With the start of the new year, it is our pleasure to introduce to you our third field engineer, Roger Tree. He comes to us from private industry with 20+ years of experience installing and maintaining atmospheric monitoring equipment throughout the USA. He will accompany Bill and George on our first trips in 2004, with George to Hawaii [Paul, please hold the snow!] and with Bill to New Mexico, then we turn him loose to do Texas solo. Roger's contact info: roger.tree@colostate.edu, 970-491-3622. So please welcome Roger to our program.
- December 2003 -- A new [research site](#) has been established at the [Lamar Community College](#) in southeastern Colorado,

- consisting of a vis-MFRSR and a UV-MFRSR, with no ancillary instrumentation. The purpose is to provide continuous aerosol optical depth (AOD) data to a CSU Physics Department project investigating Ultra-High Energy Cosmic Rays, as part of the international [Pierre Auger Observatory](#). Our AOD data will be used to verify the cleanliness of the air in the region, as the absence of aerosols and other contaminants is crucial to the successful detection of these Ultra-High Energy Cosmic Rays. If the atmosphere is clean enough, this southeastern Colorado area could become the northern hemisphere component of the Pierre Auger Cosmic Ray Observatory, with the southern hemisphere component currently under construction in the Pampa Amarilla region of Argentina.
- December 2003 -- PAR sensor added to Toronto, ON climatological site.
 - October 2003 -- PAR sensors added to Burlington, VT; Presque Isle, ME and Griffin, GA climatological sites.
 - September 2003 -- PAR sensors added to Poplar, MT; Regina, SK; Grand Rapids, MN and Billings, OK climatological sites.
 - September 2003 -- The UVMRP is looking to hire a third field technician, to start later this autumn.
 - August 2003 -- Four UVMRP personnel attended [The International Symposium on Optical Science and Technology, SPIE's 48th Annual Meeting](#), on 3-8 August, at the San Diego Convention Center. The Ultraviolet Ground- and Space-based Measurements, Models, and Effects III conference was jointly chaired by Jim Slusser and Wei Gao of the UVMRP and Jay Herman of NASA GSFC. [Dr. James Gibson](#), the original director of the UVMRP, was presented with an Excellence Award *"for a career of excellence in network design and instrumentation development in UV radiation"*. In addition, another Excellence Award *"for a career of excellence in measurement and interpretation of UV radiation"* was presented to [Dr. James Kerr](#) of Environment Canada. Nearly 100 people interested in or actively studying UV radiation attended this UV conference. Over 30 [oral programs](#) and 18 [posters](#), representing UV research from [19 nations](#), were presented, including some by Jim Slusser, Wei Gao and George Janson.
 - August 2003 -- PAR sensor added to [Dancy, WI](#) climatological site.
 - July 2003 -- PAR sensors added to [Storm Peak Lab, CO](#) and [Pellston, MI](#) climatological sites.
 - June 2003 -- From the 13th to 23rd of this month, the [2003 UV Intercomparison](#) was conducted at CUCF's Table Mountain Test Facility, 8 miles north of Boulder, Colorado. This year, [participants](#) enjoyed the use of fiber optic cable and T-1 line connections, thanks to the persistent efforts of it's director, Patrick Disterhoft. Participants came from around the world representing various organizations, including ASRC, CMDL, EPA, IMUK, NASA, NIWA, NOAA, NSF, SERC and USDA. A formal report is in progress at CUCF.
 - June 2003 -- PAR sensors added to [Baton Rouge, LA](#) and [Fairbanks, AK](#) climatological sites. We have now reached the halfway point of these deployments, with 16 of 32 sites having PAR sensors.
 - May 2003 -- PAR sensors added to [Raleigh, NC](#) and [Grand Canyon, AZ](#) and [Davis, CA](#) climatological sites.
 - May 2003 -- PAR data is now being reported in calibrated units of micromol/m²/sec on the web site.
 - April 2003 -- PAR sensors added to [Pullman, WA](#); [Beltsville, MD](#); [Bondville, IL](#); [Holtville, CA](#) and [Mead, NE](#) climatological sites.
 - April 2003 -- One of our UV-MFRSR instruments was in service at [CENICA](#) in [Mexico City, Mexico](#) to assist with their intensive air pollution study, which ran from 4 April to 3 May. Data for this site is accessible via our 'Cimatological/Research' page.
 - March 2003 -- PAR sensor added to [New Zealand](#) climatological site.
 - February 2003 -- Plans are underway to add a PAR sensor ([LI-COR LI-190SA Quantum](#)) to each climatological site (on the UV datalogger). Currently, five sites have this PAR sensor -- West Lafayette, IN; Geneva, NY; Logan, UT; Starkville,

MS and Pawnee, CO -- and the remaining sites will be outfitted over the next year when Bill and George make their annual site visits.

- October 2002 -- New research site added in Greenbelt, Maryland at Goddard Space Flight Center.
- October 2002 -- New climatological site added at Raleigh, North Carolina.
- September 2002 -- Publications page has a new Modeling category. New publications have been added.
- August 2002 -- Our web page has a new look.
- June 2002 -- Database version has been upgraded.
- May 2002 -- All data available from our web page has been through quality checks. Quality control codes are available when you download the data.
- April 2002 -- Our webserver has been upgraded. Response time has improved.
- April 2002 -- [The Second International Conference of Ultraviolet Ground- and Space-based Measurements, Models, and Effects](#), 23-27 October 2002, Hangzhou, China. The due day of abstracts has been extended to April 25, 2002. Submit your abstracts to the following website: <http://spie.org/Conferences/Calls/02/ae/confs/AE106.html>
- November 2001 -- The New Zealand climatological site is now in service.
- June 2001 -- Installed the first [UVRSS](#) instrument from [Yankee Environmental Systems, Inc.](#) at [Table Mountain](#), Colorado. Data from this instrument can be viewed in [real-time](#).
- July 2001 -- Updated all maps to show recent changes in the climatological network sites, and updated the large [ecoregions map with legend](#) to show all of the past and current locations where our instruments have been deployed.
- August 2001 -- Plans are underway to install a full climatological site in [New Zealand](#), colocated at the [NIWA Lauder](#) facility, scheduled for the week of 19 November. NIWA is a leader in the study of UV-B radiation, and this collaboration will facilitate data intercomparisons between their network and ours.