



The Legacy and Efficacy of the CIMSS Student Workshop

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About CIMSS



CIMSS is a *Cooperative Institute* between:

- University of Wisconsin-Madison
- NOAA
- NASA

CIMSS operates within the UW-Madison Space Science and Engineering Center (SSEC)

CIMSS scientists conduct research using remote sensing systems for meteorological & surface-based applications.

CIMSS Education and Outreach efforts prioritizes weather and climate literacy – http://cimss.ssec.wisc.edu/education



1991 – The Debut workshop





Objectives

- share the excitement of research and technology with the pre-college community
- attract the best and brightest students into scientific careers
- Demonstrate that science is interesting, challenging and fun!

















- **Sunday**: Check in, introductions, pizza and movie night
- Monday: Meteorology/McIDAS Day (case study)
 Campus tour & ice cream at the Memorial Union in the evening
- **Tuesday**: Meteorology, Climate and Climate Change – Visit to ALNC (SOS exhibit) TV weather station and NWS office
- Wednesday: Astronomy, Geology and Meteorology

 Visit UW Washburn Observatory & planetarium and Geology museum
- **Thursday**: Geology Field trip to Devils Lake





Registration on Sunday





Students stay in lake side dorms and experience campus life







Earth System Science Overview Hurricanes & Contouring





CIMSS Director **Steve Ackerman** conducts ESS overview session



CIMSS researchers lead session on tropical weather and hurricane forecasting



Graduate Students teach map contouring



Case Studies using McIDAS



...lunch on the roof!





<u>McIDAS</u> Man-Computer Interactive Data Access System 1973







In Depth Case Studies



Participants study satellite imagery and weather maps related to significant severe weather events.

- Oakfield Wisconsin Tornado July 1996
- Wisconsin Derecho Event May 1998
- Oklahoma City Tornado May 1999
- Heavy Rain Event in Southern Wisconsin June 2000
- Wisconsin Derecho Event June 2001
- Stoughton Wisconsin Tornado August 2005



After a busy and full first day students enjoy a short tour of central campus & ice cream at the Memorial Union





Astronomy, Antarctica, Climatology, & SOS





Professor Ackerman & Professor Martin (AOS)













Geology field trip

Geology Museum, Weather Stations, Weather Forecasting





Geology Field trip to Devils Lake State Park



Dr. Norlene Emerson's lectures on Wisconsin's Geology aided by NOAA meteorologist Gary Wade







Van Hise Rock

Geology Led by Prof. Norlene Emerson



Parfreys Glenn



Devils Lake







Student Evaluations

Collecting feedback helps us modify and improve the program



WSGC Workshop Evaluation Summer 1994										
Please let us know how you enjoyed (or didn't) each section of the agenda and if you would recommend we include it in next year's Workshop.										
Session	Enjoyed Greatly	Somewhat Enjoyed	No Opinion	Didn't Enjoy	Strongly Didn't Enjoy					
Tuesday	(A	(gree)		(Disagree)						
1. Monday evening welcome session	11	7								
2. Weather for Breakfast	9	8		2	1					
3. Land Remote Sensing	9	7	2							
4. GPS Demonstration	10	8	1							
5. Remote Sensing Principles	8	10	1							
6. GIS computer exercise	11	8	1							
7. Aerial Photography exercise	12	7	1							
8. McIDAS Introduction Module	14	4		2						
9. Balloon Launch	18	1	1							
10. Advanced Instrument Discussion	14	3		2						
11. Planetary Discussion	13	4	1	2						
12. Washburn Observatory	19	1								



Į	Day	Activity	GE	E	NO	DE	GDE	Score	Average	2011 Average
	Tuosday	Tropical Weather and Hurrisane Forecasting						10	2.00	1.00
	Wednesday	Antarctica						10	2.00	1.30
	Monday	2D Globa Procentation			1			17	1 90	1.70
	Sunday	Madicon & Campus at Night (Boof)	C		L I			17	1.05	1.00
	Sunday	Initiatison & Campus at Night (Noon)	7		с >			16	1.05	1.70
	Tuosday	Overall Improscient of the Day	,		-			16	1.70	1.00
	Tuesday	Procipitation Type Forecasting		, -				16	1.70	1.50
	Sunday	Weather on YouTube			<u>^</u>			10	1.70	2.00
	Tuosday							15	1.07	2.00
	Tuesday	Washburn Observatory	7					15	1.07	1.00
	Thursday	Overall Impression of the Workshop	7	, -				1/	1.07	1.00
	Madraaday	Overall Impression of the Day	/	,	2	2		14	1.50	1.70
	Wednesday					2		14	1.50	1.70
	Wednesday	Bowling*		/ 4				14	1.50	1.50
S	Monday	Downing Weather Printing	/			<u>-</u>		12	1.30	1 EO
	Monday	Querell Impression of the Day						13	1.44	1.50
ŊУ	Thursday	Overall Impression of the Day	6			L)		13	1.44	1.40
2	Tuesday	Aldo Leopold Nature Center	5		2 1	-		13	1 44	N/A
	Tuesday	Tour of National Weather Service	6		>	1		13	1 44	1 30
	Wednesday	Tour of WID	5		- 2 1		-	13	1 44	N/A
	Wednesday	Washburn Observatory at Night*	6			>		13	1 44	N/A
	Monday	Intro to McIDAS - Part II	5			- >		12	1 33	1 30
	Monday	Tour of Campus	4		1 1	-		12	1 33	0.70
	Sunday	Movie: "Hurricane on the Bayou"	4		1 1			12	1 33	1 30
	Thursday	Devil's Lake State Park	6		-	2		12	1 33	1.80
	Wednesday	Weather & Climate Applets	5			, ,		12	1.33	1.30
	Monday	State Street and Capitol Square	4		3 2	>		11	1.22	1.00
	Wednesday	Climate Change 101	5			3		11	1.22	1.20
	Monday	Intro. to Satellite Meteorology	2	e	5 1			10	1.11	N/A
	Monday	McIDAS Student Presentations	2	6	5 1			10	1.11	1.00
	Monday	Intro. to McIDAS - Part I	2		5 2	,			1.00	1.20
	Thursday	Geologic Features at Rock Springs	3		3 3	3		g	1.00	1.30
	Monday	Introduction to Earth System Science	1	e	5 2	2		8	0.89	1.40
	Tuesdav	Weather Central Tour		6	5 3	3		6	0.67	1.20
	, Wednesday	History of Weather Satellites		5	5 3	3 1		4	0.44	N/A



2012 sessions ranked by scores



Student Evaluations

Selected comments over the years



1993 I thought the workshop was fun and very informative. I know I will remember what I learned and it will strengthen decisions for my future.

- 1997 I came to learn a lot on meteorology and enrich my knowledge, and I didn't go home disappointed, but with great memories.
- 2000 I liked the fact that you didn't assume we knew everything already; everything was well explained. I don't know much about earth science, so I feel like I learned a lot and I didn't feel intimidated.
- 2004 Well, I am biased to meteorology, and I don't enjoy geology. Maybe someone interested would enjoy it more. Meteorology was awesome.
- 2012 It was pretty hard, but still fun work. It was very satisfying at the end of the day to have learned so much.

> 90% of attendees indicate that they would recommend this workshop to others



Funding



The National Oceanic and Atmospheric Administration supports this workshop each summer through a Cooperative Agreement with CIMSS.



The Wisconsin Space Grant Consortium generously provided a matching grant of approximately \$4,000 for 15 years, but stopped in 2005, raising the question of how to continue and sustain a workshop which is beneficial to students and the larger educational community.

After attempting to fund the workshop by several grant applications, we decided to try **charging tuition** with sliding scale scholarships for families that need aid and ...it worked!

\$575.00 tuition makes up for previous support form WSGC (we give scholarships (all but \$200) to anyone who asks)





Where are they now?



Where are you working and what does your job entail? (n=11)

- CIMSS, Research Assistant, GOES-R Proving Ground (Jordan)
- Junior at UW-Madison (AOS major) & Air Force ROTC Cadet First Lieutenant (Kathryn)
- Graduate RA at MIT Dept of Civil & Environmental Engineering, PhD Student in Environmental Chemistry (Luke)
- US Forest Service Zone Timber Manager (Maggie)
- Masters-prepared social worker at Akron Children's Hospital (JoAnne)
- Associate Researcher at CIMSS/UW-Madison, hurricane focus (Chris)
- Graduate student at the University of Michigan in Applied Climate Science (Victor)
- Undergrad at University of Illinois at Urbana-Champaign (Mark)
- Ryan Woods Autism Foundation (volunteer), Middletown, CT







Satellites Studies, UW-Madison

ATMOSPHERE • SATELLITES • EARTH

Home Registration Schedule Things to Know Photos History

Alumni

Contact Us

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The CIMSS Student Workshop on **Atmospheric**, **Satellite**, and **Earth Sciences** features an exciting five-day agenda in meteorology, astronomy, remote sensing and geology. Participating students stay on campus in lakeside dorms and experience science education, research and technology through hands-on activities, working directly with scientists, graduate students and professors.

> "I really enjoyed getting to make my own weather maps and patterns. I really liked the professors/teachers who worked with us."



2012 Group, Devil's Lake



Mention GSA for \$100 discount

Page Last Updated: 5 September, 2012





Contact Student Workshop Webmaster

cimss.ssec.wisc.edu/studentworkshop/





The CIMSS summer workshop for high school students is a valuable legacy in the educational community.

The majority of graduates have gone on to pursue science majors in college and science-related careers.

With continued support from NOAA and collaborations between University departments, the workshop will continue to attract students to science careers for years to come.

http://cimss.ssec.wisc.edu/smrwkshp/