# Waleed Abdalati

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Dr. Abdalati is currently the director of the Cooperative Institute for Research in Environmental Sciences (CIRES), a 900-person, $120M/year research institute formed through a partnership between the National Oceanic and Atmospheric Administration (NOAA) and the University of Colorado Boulder. CIRES scientists conduct research supported by a wide range of federal agencies (e.g. NOAA, NASA, NSF, DoE, USGS, etc.), charitable foundations, industry, and other sources. Dr. Abdalati has extensive experience in high levels of government, academia, and industry, and he has been recognized for his scientific achievements and leadership through various awards and appointments. These include a White House award, a range of NASA awards, recognition from professional societies, and leadership on committees and boards of the National Academy of Sciences. He also has extensive experience in science communications, which reflects his ability to make complex science topics accessible to people of all backgrounds, from elementary school students to the general public, to members of Congress – having been called by both republican and democrat leaders to testify – and to other various domestic and international political leaders. He has served or is serving as principal investigator on awards of approximately $1B.

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## Education

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| Ph.D. | 1996 | Dept. of Geography/Program in Atmospheric and Ocean Sciences<br>University of Colorado, Boulder, CO. |
| M.S. | 1991 | Department of Aerospace Engineering Sciences<br>University of Colorado, Boulder, CO. |
| B.S. | 1986 | Department of Mechanical and Aerospace Engineering<br>Syracuse University, Syracuse, NY. |

## Professional History

7/13 - present: *University of Colorado, Boulder, Colorado*

- Director, Cooperative Institute for Research in Environmental Sciences (CIRES) and Professor, Department of Geography: Leading an interdisciplinary environmental research institute comprised of approximately 750 researchers and administrative and support staff, as well as nearly 200 graduate and undergraduate students. CIRES is a cooperative Institute between NOAA and the University of Colorado Boulder, and CIRES scientists are world leaders engaged in all aspects of environmental science that spans physical, chemical, biological, and social sciences. I directly supervise 22 tenured/tenure-track faculty, four research scientists, and eight administrative personnel. In addition, I carry out my own research on changes of the glaciers, ice caps, and ice sheets of the world, the mechanisms that drive these changes, and the resulting

contributions to sea level through a combination of remote sensing observations, in situ data collection, and modeling efforts. I also continue to teach advanced classes in remote sensing.

1/11 - 12/12: *National Aeronautics and Space Administration (Detailed from Univ. of CO), Washington, DC*

- Chief Scientist: Served as an advisor to the NASA Administrator on NASA science matters and as the key NASA scientific interface between NASA and White House, Congress, other federal agencies, international space and science organizations, and industry. In this capacity, I represented NASA science interests to the highest level of government as well as to the scientific community. This involved meeting with congressional staff, providing congressional testimony, evaluating NASA science programs and policies and implementing processes to maximize NASA's scientific capabilities within available budgets and ensure their alignment with priorities of the White House and the scientific community.

7/08 - 6/13: *University of Colorado, Boulder Colorado*

- Director, Earth Science and Observation Center and Associate Professor/Professor, Department of Geography: Responsible for developing a research organization that works with satellite and aircraft data to study all aspects of the Earth system and for teaching classes and developing a curriculum in remote sensing and Earth System Science. Also conducted my own research on glaciers, ice sheets, sea level, and remote sensing.

1/04 - 6/08: *NASA Goddard Space Flight Center, Greenbelt, MD*

- Head, Cryospheric Sciences Branch (Formerly Oceans and Ice Branch): Supervisor of a research group of 10-14 civil servants and approximately 40 contractors and post-doctoral scientists. I provided leadership to the group: a) ensuring that they effectively served the mission of NASA and Goddard Space Flight Center, b) identifying opportunities for funding and working to position branch members to compete for that funding, c) creating a productive environment in which they could thrive, d) promoting satellite and research missions that exploited the interests and expertise of the branch, division and center, e) ensuring growth opportunities for all employees and recognition for individual and group achievements. In addition, I also carried out my own research on changes of the glaciers, ice caps, and ice sheets through analysis of remote sensing data, field measurements and modeling.

11/00 - 1/06: *NASA Headquarters*, Office of Earth Science / Science Mission Directorate, Washington, DC.

- Manager, Cryospheric Sciences Program: Responsible for managing NASA's program in cryospheric research, in particular the polar regions. This involved (1) defining and implementing the research agenda for the program, (2) representing cryospheric science community's interests in dealings with NASA management, other agencies, the Hill, and the White House, (3) representing

NASA's interests to the scientific community and (4) supporting the research of more than 100 investigators.

- Program Scientist for NASA's Ice Cloud and Land Elevation Satellite (ICESat) mission: responsible for ensuring consistency among the mission objectives, instrument capabilities, and NASA research objectives within engineering, science, and budget constraints. This involved serving as the scientific interface for the ICESat science team, NASA Headquarters, and the scientific community for the world's first satellite mission designed specifically for polar research.
- Program Scientist for NASA's involvement with the RADARSAT mission, serving as the scientific interface between NASA, the Canadian Space Agency, and the scientific community across a full range of geophysical disciplines: geology, ecology, oceanography, hydrology, land cover/land use, cryospheric sciences, applications, etc.

4/98 - 11/00: *NASA Goddard Space Flight Center*, Laboratory for Hydrospheric Processes, Greenbelt, MD

- Deputy Project Scientist for Ice Cloud and Land Elevation Satellite (ICESat) contributing to the scientific development of ICESat algorithms and mission activities.
- Scientific analysis of airborne laser altimetry data, satellite imagery, and in situ data on Arctic glaciers for climatological/glaciological interpretation.
- Analysis of ice-penetrating radar data to study and interpret the history and dynamics of the Greenland ice sheet.

11/96 - 4/98: *Universities Space Research Association* (Visiting Fellow)
NASA/Goddard Space Flight Center, Greenbelt, MD

- Scientific analysis of airborne laser altimetry data over Arctic glaciers for climatological/glaciological interpretation, and for application to development of the Geoscience Laser Altimetry System (GLAS)
- Deployment of weather stations and Global Positioning System (GPS) receivers on the Greenland ice sheet for climatological and glaciological applications

5/92 - 11/96: *Cooperative Institute for Research in Environmental Sciences (CIRES)*,
University of Colorado, Boulder Colorado
Graduate Student/Research Associate

- Analysis of satellite data to infer ice sheet energy and mass exchanges with the atmosphere
- Development of an algorithm for assessing melt characteristics of the Greenland ice sheet using passive microwave satellite data
- Development of a radiative transfer model to examine the impacts of snow processes on satellite observations of microwave emission from polar firn
- Teaching classes in remote sensing, climatology, and environmental systems

8/90 - 5/92: *Colorado Center for Astrodynamics Research,* Univ. of Colorado, Boulder, CO.
Graduate Student/Research Associate

- Assimilation of satellite derived data into global and mesoscale climate models

2/88 - 6/90: *General Electric Company*: Ocean Systems Division - Syracuse, NY.
Mechanical Engineer - Product Development
- Design, analysis, and testing of submersible ocean equipment

6/86 - 8/87: *General Electric Company*: AstroSpace Division - East Windsor, NJ.
Mechanical Engineer - Spacecraft Analysis
- Design, analysis and environmental testing of space satellites and their components

**Consulting and Advisory Activities**

- Member of the NASA Advisory Council – external body providing advice to the NASA Administrator and NASA leadership on the execution of their programs, particularly how they align with priorities of the President of the United States; my role is to examine and make recommendations on NASA's climate change portfolio (2021-present).
- Member of the Jet Propulsion Laboratory External Advisory Council (2022-2025).
- Member of the Board of Directors for the International Space Station National Laboratory(2021-present).
- Co-Chair of an independent review board that reviewed and provided recommendations to NASA and other entities NASA's Earth System Observatory plans to meet our nation's scientific Earth observation needs from space (2023).
- Member, Science Advisory Board, WorldView LLC, providing scientific advice on applications of high-altitude balloon observing platforms, and identifying opportunities for their use (2022-present).
- Member of committee to determine causes and solutions to cost-overruns on NASA's Flagship science missions, identifying causes of and recommending solutions for avoiding cost-overruns on NASA's large science missions, which sometimes have run in the billions of dollars. Results reported to NASA's Science Mission Directorate Leadership (2022).
- Consultant on proposal for support contract at NASA's Goddard Space Flight Center (on the order of $100M over five years), provided consulting services to inform the scientific and administrative content for on bidder's support contract proposal (2022).

**Classes Taught**

- Arctic Climate System (junior level class)
- Remote Sensing of the Environment (seniors and graduate students)
- Advanced Remote Sensing/Digital Image Analysis: New Class (seniors and graduate students)
- Readings in Climatology (graduate students)
- Environmental Systems I: Climate and Vegetation (introductory freshman class)
- Various guest lectures in a range of engineering, geology, physics, and meteorology classes
- Provided several days of lectures to the Astronaut Candidate Classes of 2016 and 2018 on Earth Science as part of their astronaut training.

**Mentoring/Supervising of Students, Postdocs, and Research Associates**

*Primary Advisor/Mentor*

- Chris Picard, Ph.D. Adviser, Spring 2025 – Present, Masters Adviser Fall 2023 – Spring 2025
- Michela Savignano, Ph.D. Adviser, Spring 2025 – Present, Masters Adviser Fall 2023 – Spring 2025
- Thomas Hermann, Masters Adviser, Fall 2021 – Spring 2023
- Tasha Snow, Postdoctoral Supervisor, 2021, Ph.D. Adviser, Fall 2015 – Fall 2020
- Alison Banwell, Postdoctoral Supervisor, 2018-2019
- Mahsa Moussavi, Postdoctoral supervisor 2015-2020, Ph.D. Adviser, Summer 2010 – 2014
- Chris Amante, Ph.D. Adviser, Fall 2012 – May, 2018; Master's Student Fall 2010-Spring 2012
- Mike MacFerrin Postdoctoral Supervisor 2018 – 2020, Ph.D. Adviser, Spring, 2010 – December, 2017
- Jessica Bobeck, Masters Student, Fall 2015 – Summer 2017
- Shane Grigsby, Ph.D. Student, Fall, 2014 – Spring, 2020, Undergraduate Honors Program advisor, 2010 - 2011
- Jennifer Bloom, Undergraduate Honors Program Advisor, 2014 - 2015
- William Colgan, Postdoctoral Supervisor, 2014
- Khalid Hussein: Research Associate Supervisor, Spring, 2009 – Spring, 2014
- Jason Reimuller: Ph.D. (Aerospace Engineering Sciences), co-advisor, Spring 2010 – Spring 2012, Ph.D. received Spring, 2012 (co-advised with Jeff Thayer in Aerospace)
- Ursula Rick: NASA Graduate Mentor for her NASA Goddard Space Flight Center Student Fellowship (2004-2007), Ph.D. Committee Member (Fall, 2008), and Postdoctoral supervisor (Spring, 2009 – Fall 2010).
- Anthony Arendt: Postdoctoral Supervisor for his Oak Ridge National Laboratory Fellowship at NASA Goddard Space Flight Center (2006-2008)
- Gabrielle Inglis: NASA mentor for her NASA Undergraduate Student Fellowship (2004)

*Committee Member*

- Ethan Carr: Ph.D. Geography, in progress
- Kylen Solvik: Ph.D. Geography, Degree received 2025
- Naomi Ochwat: Ph.D. Geological Sciences, 2024
- Kehan Yang: Ph.D. Geography, Degree received 2021
- Erika Schreiber: Ph.D. Geography, Degree received 2020
- Aleah Sommers: Ph.D., Civil Environmental and Architectural Engineering, Degree received 2018
- Nick Lewis: M.A. Geography, Degree received 2018
- Alexander Stum: Ph.D., Geography, Degree Received 2018
- Alice Hill: Ph.D. Geography, Degree received 2017
- Kristy Weber, M.A. Geography, Degree received 2017
- Cameron Naficy: Ph.D., Geography, Degree received 2016
- Kathy Kelsey: Ph.D., Ecology and Evolutionary Biology, Degree received 2015
- Galen MacLauren, Ph.D. Geography, Degree received 2015

- Sitthisak Moukomla, Ph.D. Geography, Degree received 2015
- Pakorn Petchprayoon, Ph.D., Geography, Degree received 2014
- John Mischler: Ph.D., Ecology and Evolutionary Biology, Degree received 2014
- Zhibin Yu, Ph.D. Aerospace Engineering Sciences, Degree received 2014
- John Smith: Ph.D., Aerospace Engineering Sciences, Degree received 2014
- Dan McGrath: Ph.D., Geography, Degree received 2013
- Brian MacPherson: Ph.D., Civil, Environmental, and Archictectural Engineering, Degree received 2013
- Steve Mitchell: Ph.D., Aerospace Engineering, Degree received 2013
- Yuli Lang: Ph.D., Computer Science, Degree received 2012
- Liam Colgan: Ph.D., Geography, Degree received 2011
- Thomas Phillips: Ph.D., Geography, Degree received 2010
- David Korn: MA, Geography, Degree received 2010
- Lin Liu: Ph.D., Physics, Degree received 2011
- Erin Weller, Ph.D. Anthropology, Degree received 2009

**Select Past and Current Key Leadership Activities**

- Member of the NASA Agency Review Team as part of President Biden's Transition Team (Foreign Policy and National Security), reviewing NASA priorities and activities, identifying challenges, and making policy and management recommendations in order to equip the incoming administration to move NASA forward in alignment with Administration priorities.
- Director, Cooperative Institute for Research in Environmental Sciences, comprised of approximately 850 faculty, research scientists and students, focused on all aspects of environmental research (physical, biological, chemical, social, etc.).
- Chair of the Cooperative Institute Directors Committee. NOAA supports 16 cooperative institutes, and I chaired the committee of directors of all institutes from 2014 - 2022, serving as the primary interface between the institutes and NOAA leadership, coordinating multi-institute activities, organizing annual meetings, representing the institute interests to members of Congress and their staff, leading visits to Capitol Hill, etc. I continue to serve on the Executive Committee.
- Co-Chair National Academies Earth Science and Applications from Space 2017 Decadal Survey, developing "consensus recommendations from the environmental monitoring and Earth science and applications community on an integrated and sustainable approach to the conduct of the U.S. government's civilian space-based Earth-system science programs." (from the statement of task). The committee and supporting panels are comprised of nearly 100 prominent members of the Earth science community.
- Leader of The University of Colorado Boulder (CU) Grand Challenge, leading a university-wide effort to identify and develop a set of initiatives to inform investments that will advance the stature of CU in the national and international communities.
- Director, Earth Science and Observation Center, comprised of nearly 40 faculty, research scientists, and graduate students focused on expanding capabilities in Earth remote sensing on campus and in Boulder.
- NASA Chief Scientist and Member of NASA Executive Council, which was comprised of seven members of the NASA Administrator's leadership team and was responsible

for decisions on NASA's overall direction (Under Administrator Charles Bolden and the Obama Administration).
- ICESat-2 Laser Altimetry Mission Science Definition Team Leader.
- Lead Scientist for development of the ICESat-2 mission implementation.
- Study Scientist on four mission concepts for future Cryospheric science satellite missions.
- Leader of a group of 20 laser remote sensing scientists and engineers to assess laser measurement requirements for multidisciplinary satellite mission applications.
- Mission leader for airborne laser surveys of ice caps in the Canadian High Arctic
- Member of Goddard's laser science working group to make recommendations to Goddard's leadership for maximizing GSFC's strategic position for securing future satellite laser missions.
- Member of Goddard's Earth-Sun Science and Management Strategy development team
- Regularly provided briefings on NASA's Earth Science activities to VIPs including Senators, Congressmen, their staff, representatives from the Office of Management and Budget, The NASA Advisory Committee, etc.
- Critical involvement in NASA-related planning activities for the White House and the Office of Science and Technology Policy
- Member of Strategic Roadmapping Committee for the "Earth Science and Applications from Space Roadmap" to develop a path for NASA's future in Earth Science and Applications. Also chair of its "Discovery and Exploration" subcommittee (this operated under the Federal Advisory Committee Act)
- Co-lead of Goddard Earth and Space Sciences Directorate reorganization team (reporting to the Center Director)
- One of five scientists, and the only Earth scientist, on the NASA Administrator's team to review the science in what became NASA's Vision for Space Exploration in support of deliberations prior to the President's announcement of the Vision (under the G.W. Bush Administration)
- Participation in the NASA Administrator's *Critical Review Panel for Future Space Exploration* May 2003
- Helped develop a restructuring plan for the former Earth Science Enterprise management structure at the 2004 Wye-River management retreat.
- First leader of the NASA Headquarters Climate Variability and Change science focus area and led the early stages of the research roadmap development in this area.
- Established international project with a Chilean research institute and the Chilean Navy to deploy NASA airborne instrumentation to perform the first such surveys of critical areas of the Antarctic ice sheet, which later formed the foundation and proof of viability for NASA's Operation IceBridge Antarctic operations.

**Miscellaneous Training**
- Goddard Space Flight Center's Leadership Alchemy Program, February, 2006 – November, 2006: a rigorous award-winning 9-month training program in leadership development
- Brookings Institution Course, *Science and Public Policy Debate: A Leadership Forum*, June 16-20, 2003
- NASA Training Course, *Earth Science Mission Development*, February, 2002

- Various media training.

**Honors, and Awards**

- ***Fellow of the American Association for the Advancement of Science (AAAS)***
- Tyndall Lecture at the Fall meeting of the American Geophysical Union, 2016
- Outstanding Contributions Award in Remote Sensing, Association of American Geographers, 2015.
- Provided multi-day lectures the 2014, 2016, and 2020 classes of NASA Astronauts on Earth Science and Climate Change as part of their Astronaut training curriculum.
- NASA GSFC Center Director's Team Recognition Award, 2007
- American Institute of Aeronautics and Astronautics Space Systems Award, 2006
- National Science Foundation and the journal *Science:* Science and Engineering Visualization Challenge: Honorable Mention – Non-Interactive Media, 2006
- ***National Aeronautics and Space Administration Exceptional Service Medal, 2004***
- NASA Group Achievement Award, ICESat Science Team, 2004
- NASA Goddard Space Flight Center Special Act Award 2004, 2005, 2006
- NASA Office of Earth Science Award, 2003
- NASA Group Achievement Award, Honor Award Team 2003
- NASA Office of Earth Science Terra Peer Award, 2002
- NASA Office of Earth Science Award, 2002
- NASA Fast Award, 2002
- NASA Office of Earth Science Award, 2001
- ***Presidential Early Career Award for Scientists and Engineers, 1999***
- NASA/GSFC Performance Award (2), 1999
- Tau Beta Pi National Engineering Honor Society (since 1985)
- Pi Tau Sigma Mechanical Engineering Honor Society (since 1985)

**Professional Society Memberships**

- American Geophysical Union (since 1993)
- American Association for the Advancement of Science (since 2015)

**Outreach**

*National/International*

- Host and science editor of *The Crowd and the Cloud,* an NSF-sponsored 4-part series on citizen science, broadcast on PBS
- Featured scientist on NOVA program *Earth from Space* on PBS (http://video.pbs.org/video/2334144059/)
- Appearance on NOVA program *Decoding the Weather Machine* on PBS (http://www.pbs.org/wgbh/nova/earth/decoding-weather-machine.html)
- Featured in National Geographic's *Earth Report: State of our Planet* (2009)
- Over 150 public and professional lectures on various science topics
- Featured scientist on the Arctic episode of "Science Uncut" a NASA science television program

- Twenty-minute feature segment on Dan Rather Reports, on Arctic Change (can be viewed at http://cires.colorado.edu/esoc)
- Various Newspaper and Magazine interviews *(Washington Post, New York Times*, *Discover Magazine*, *Time Magazine*, *Associated Press*, etc.) on changes in the polar regions.
- ABC, NBC, CNN, BBC network television news (e.g. Good Morning America, ABC Nightly News, NBC Nightly News, etc.), and various local news channels nationwide: Live and recorded interviews on changes in the Greenland and Antarctic ice sheets
- Provided a lecture on polar ice in the changing climate for multiple national broadcasts on NASA Television.
- Hosted two televised NASA Science Updates for the media: one on changing sea ice cover and one on sea level rise
- Led several press conferences at the Fall Meeting of the American Geophysical Union
- Numerous national and local live and recorded radio interviews nationwide
- Guest on *Public Interest* with Kojo Nnamdi on National Public Radio: 1-hour talk show on Glaciers, Icebergs, and Antarctica, July, 2002
- *National Geographic Today Show*: Ten-minute segment on the Changing Greenland Ice Sheet, October, 2002

*Other Outreach*

- Various meetings and briefings with members of Congress and congressional staff
- Featured Speaker at the National Air and Space Museum's Public Science Lecture series at the NASM IMAX Theater in May, 2006. Event was targeted at general public and congressional staffers
- Provided Earth Science Training to the 2015 Astronaut class at Johnson Space Center
- Keynote speaker at the evening event honoring the 50$^{th}$ Anniversary of the first Earth observing satellite (TIROS).
- Organized and was one of two presenters at Goddard Night at the National Air and Space Museum in September, 2006; Event was hosted by NASA Administrator Mike Griffin, and General Jack Daly (Retired), Director of the National Air and Space Museum. Attendees included congressional and White House representatives
- Science adviser of the Tour of the Cryosphere Video and Science Contributor to *Frozen* video for Science on a Sphere
- Invited lecture to teacher workshop in Earth science education at the 2003 Fall meeting of the American Geophysical Union
- Goddard Teacher Ambassador Program: Adviser to a team of secondary school teachers for development of Glaciers and Ice Sheets curriculum for grades 5-12, 1999
- Various lectures at community events, in schools, to citizen groups, etc. several times a year

**Scientific Community Service (select examples)**

- Testified in 6 Congressional hearings (House and Senate) on topics ranging from The Changing Arctic and Antarctic, Climate Change, to Space-Based Earth Observations, to NASA Science Priorities. My testimonies were at the request of both Republican and Democratic leaders.

- Member of the Executive Committee for the Cryospheric Section of the American Geophysical Union (2017-2024).
- Co-Chair of the Earth Science and Applications from Space 2017 National Academy of Sciences Committee. The committee and supporting panels are comprised of nearly 100 Earth scientists.
- Served as a member of the Committee on Geoengineering at the National Research Council.
- Served as a member of the National Academy of Sciences Polar Research Board.
- Served as lead of World Climate Research Programme's Climate and Cryosphere Sea Level Rise theme.
- Served on NSF committee to develop recommendations for research priorities on land-ice contributions to sea level rise.
- Panel Member for the Congressionally mandated committee on America's Climate Choices at the National Research Council.
- Provided Consultation to White House Office of Science and Technology Policy on matters related to ice sheets and climate change including briefing former OSTP Associate Director for Science
- Briefed members of Congress and Congressional staffers on Changes in the Greenland ice sheet and implications for sea level rise
- Reviewer of 2007 IPCC Working Group II Report
- Associate Editor of the *Annals of Glaciology*, 2006
- Reviewer of "Sea Level" Chapter for the 2001 IPCC Working Group I Report
- Contributor to the Strategic Plan for the George W. Bush Administration's Climate Change Science Program (Climate Change Research Initiative)
- Various review panels for proposals submitted to NASA Research announcements and cooperative agreement Notices
- Organized and hosted the 1996 and 1998 Program for Arctic Regional Climate Assessment (PARCA) Greenland Science and Planning Meetings for ~50 NASA and NSF investigators.
- Member of the Polar DAAC (Distributed Active Archive Center) Advisory Group (PoDAG)
- Manuscript reviews for *Science, Journal of Geophysical Research*, *Journal of Applied Meteorology*, *Remote Sensing of Environment, IEEE Transactions in Geoscience and Remote Sensing, Journal of Glaciology, Geophysical Research Letters, Proceedings of the IEEE, etc.*

**Field Experience**

8 field seasons making in situ measurements on the Greenland ice sheet, two of which included acquisition and analysis of airborne laser altimetry data

1 field season in the Canadian Arctic conducting airborne elevation surveys of the major Canadian ice caps

Programmatic lead for first airborne laser altimetry surveys over the Amundsen Embayment in Antarctica and the Patagonian Ice Fields out of Punta Arenas, Chile (participated in inaugural survey)

**Research Support History: (with a 4-year and 2-year restriction against proposing during periods as program manager and Chief Scientist). More than of $1 Billion as Principal Investigator.**

NOAA (PI): *Cooperative Institute for Earth System Research and Data Science Cooperative Agreement*, September 2022 – August 2027, up to $565,800,000

NOAA (PI): *Cooperative Institute for Research in Environmental Sciences Cooperative Agreement*, September, 2017 – August 2022, $330,000,000.

NOAA (PI): *Cooperative Institute for Research in Environmental Sciences Cooperative Agreement*, September, 2012 – December 2017, $206,000,000.

NASA (PI): *Quantifying Firn Compaction and its Implications for Altimetry-based Mass Balance Estimates of the Greenland Ice Sheet,* January, 2015 – December, 2017, $732,849.

NASA (PI): *Assessing Greenland crevasse extent and characteristics using historical ICESat and ATM data: a baseline for assessing changes with ICESat-2,* August, 2013 – July 2016, $565,654.

NSF (Co-I) *THE CROWD & THE CLOUD: Citizen Science, Big Data and the Democratization of Research* November, 2014 – October, 2017, $2,985,610.

NASA (PI): *Comprehensive Assessment of Ice Sheet Contributions to Sea Level Based on Integrated Remote Sensing Observations*, August, 2010 – July 2014, $1,658,060.

DOE (Co-I): *Identifying and delineating thermally active areas in Colorado as a potential source for geothermal energy* $5M, PI, Lee Robinson, Flint Geothermal.

NASA (PI): *A proposal to lead the ICESat-II Science Definition Team and evaluate mission observational approaches:* March, 2009 - March, 2012, $370,162.

NASA (Co-I): *Quantifying recent mass changes of mountain glaciers in the Canadian High Arctic, the Patagonian Ice Fields, and eastern Greenland: An integrated approach using GRACE, airborne and field observations:* PI, Anthony Arendt, U. of AK, $1.2M. September, 2008 - September, 2011.

NASA (PI): *A Proposal to Lead the Ice Cloud and land Elevation Satellite-II (ICESat-II) Science Definition Team; Transfer of funding from activities while at Goddard to Univ. of Colorado,* July, 2008 - July, 2009, $59,971.

NASA (PI)*: Comprehensive Assessment of Ice Sheet Contributions to Sea Level Based on Integrated Remote Sensing Observations, June,* 2007 - June, 2010, $1.2M

NASA (PI): *Summer Melt Contributions of the Greenland ice sheet to the High-Latitude Water Budget: A Multi-Sensor Investigation*, January, 2006 – December, 2010, $690,000

NASA (PI): *Support of Cryospheric Sciences Program,* January, 2004 – January, 2006, $300,000

NASA (PI): *Presidential Early Career Award for Scientists and Engineers (PECASE)*, June 1999 – May, 2004, $200,000

NASA (PI)*: Investigation of Mass Balance Characteristics of Canadian Ice Caps and Their Relationship to Climate*, September, 1999 – September 2002. $315,000.

NASA (PI): *Comprehensive Analysis of Internal layering Structure: A window into the Greenland Ice Sheet Flow and History*. October, 1997 - September, 2000. $165,000.

NASA (Co-I): *Analysis of Airborne Laser/GPS Data for the Study of Ice Sheet Mass Balance Parameters*, PI: W.B. Krabill, October, 1997 - September, 2000. $500,000.

**Publications**

(Thomson-Reuters Web of Science h-index of 38 and average of 98 citations per article; Google Scholar h-index of 44 with 272 citations per article)

*PEER-REVIEWED PUBLICATIONS PUBLISHED OR IN PRESS (72)* (**indicates student for whom I was primary advisor at the time*)

Snow, T., A. Harris, S. Grigsby, E. Abrahams, E. Savidge, T. Scambos, F. Pérez, C. Shuman, W. Abdalati, M. Siegfried, Application of a new Landsat sea surface temperature algorithm to the Amundsen Sea, West Antarctica, *TechRxiv*, DOI: https://doi.org/10.36227/techrxiv.176072514.44637636/v1, 2025.

Hussein, K., N. Alhosani, A.M. Al-Areeq, A.A. Al Ahgbari, M. Elkamali, T. Alsumaiti, H.O. Sharif, A.M.G. Almurshidi, and W. **Abdalati**, Unprecedented rainfall in the United Arab Emirates: hydrologic and flood impact analysis of the April 2024 event. *Nat Hazards*, https://doi.org/10.1007/s11069-025-07156-9 2025.

Alhosani, N., K. Hussein, A.M. Al-Areeq, A.A Al Aghbari, M. Elkamali, T. Alsumaiti, A.M.G. Almurshidi, H.O. Sharif, **W. Abdalati**, From sandstorms to deluges: assessing flood risks in Al Ain City, United Arab Emirates. *Geomatics, Natural Hazards and Risk*, *15*(1), https://doi.org/10.1080/19475705.2024.2429735, 2024.

**Abdalati, W**. and 31 others, Towards a U.S. Framework for Continuity of Satellite Observations of Earth's Climate and for Supporting Societal Resilience, *Earth's Future*, https://doi.org/10.1029/2023EF003757, 2024.

*Snow, T., W. Zhang, E. Schreiber, **W. Abdalati**, and T. Scambos, Alongshore winds force warm Atlantic Water toward Helheim Glacier in Southeast Greenland, *Geophysical Research Letters*, https://doi.org/10.1029/2023JC019953, 2023.

Bayram, H., M. Rice, **W. Abdalati**, M. Akpinar Elci, M. Mirsaeidi, I Annesi-Maesano, K. Pinkerton, and J. Balmes, Impact of Global Climate Change on Pulmonary Health: Susceptible and Vulnerable Populations. *Annals of the American Thoracic Society*, https://www.atsjournals.org/doi/epdf/10.1513/AnnalsATS.202212-996CME, 2023.

Scambos, T. and **W. Abdalati**, How Fast is sea level rising? *Arctic, Antarctic, and Alpine Research*, https://doi.org/10.1080/15230430.2022.2047247, 2022.

Box, J.E, J. Stroeve, **W. Abdalati**, Classics Revisited —Steffen K, Abdalati W and Stroeve J (1993) Climate sensitivity studies of the Greenland ice sheet using satellite AVHRR, SMMR,

SSM/I and in situ data. Meteorology and Atmospheric Physics 51(3-4), 239–258 (doi:10.1007/bf01030497), *Progress in Physical Geography*, 2022.

*MacFerrin, M., C.M. Stevens, B. Vandecru, E. Waddington, **W. Abdalati**, The Greenland Firn Compaction Verification and Reconnaissance (FirnCover) dataset, 2013–2019. *Earth Syst. Sci. Data,* 14, 955–971, (https://doi.org/10.5194/essd-14-955-2022), 2022.

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*Op-Eds*

Abdalati, W., Climate Scientists Are Doing Their Part – Policy-Makers, What's Your Move? *The Hill*, August 23, 2021

Abdalati, W., What is NASA's Role in Addressing Climate Change, *The Hill*, May 28, 2021.

Abdalati, W., Look Homeward NASA, *The Baltimore Sun*, November 19th, 2009.

**Invited Scientific Lectures and Keynote Addresses**

Over 150 invited lectures and keynote addresses at national and international scientific meetings, White House Office of Science and Technology Policy, Climate Change Science Program Office, Museums and Universities, Rotary Clubs, etc., as well as more than 50 presentations as a participant in various scientific conferences and workshops. Examples include:

- Agency, White House, Congressional and other briefings on the National Academy of Sciences *Earth Science and Applications from Space 2017* report findings and recommendations for the coming decade of NASA investments in Earth Science (I co-chaired the committee).
- Agency, White House, Congressional and other briefings of the two NRC Climate Intervention Reports (*Carbon Dioxide Removal and Reliable Sequestration*, and *Reflecting Sunlight to Cool the Earth*). (I was a committee member).
- Closing keynote lecture at the White House Citizen Science Forum (at the White House Complex)
- Invited lecture on Environment, Climate Change, and Cardiopulmonary Health, Annual Meeting of the American Thoracic Society, May, 2015
- TEDx Mile High presentation: "Communicating Controversial Topics" September 2014
- Invited speaker, Karles Conference, Office of Naval Research, November, 2014
- Invited speaker, American Geophysical Union, December, 2013
- Featured Speaker and Panelist, along with California Governor Jerry Brown at Sustainable Silicon Valley Event, 2012
- Featured evening lecture at the Franklin Institute, Philadelphia, PA, 2012
- Keynote at the International Space Station Symposium discussing science from the Space Station, 2012
- Rothermal Foundation Lecture on Ice in the changing climate, 2011
- Featured Speaker at AIAA symposium celebrating the 50$^{th}$ anniversary of the launch of the TIROS satellite, June, 2010.
- Speaker the Conference of Parties COP-15 climate summit in Copenhagen, Denmark at the invitation of NASA and the U.S. Dept. of State, December, 2009.
- Keynote Lecture at NASA's *Earth System Science at 20* Symposium at the National Academy of Sciences, Washington, DC, June 23, 2009.
- Invited Speaker at the Johns Hopkins Applied Physics Laboratory Colloquium Series, May 8, 2009
- Keynote Lecture at the SPIE International Society for Optical Engineering meeting in Cardiff, UK, September, 15, 2008.
- Presentation to the United States Climate Change Science Program Office on the potential instability of the Greenland ice sheet, April 18, 2008.
- Invited speaker and panelist at the National Research Council's Space Studies Board seminar, "Forging the Future of Space Sciences," in Paris, France, March, 27, 2008.
- Invited speaker and panelist at the Potomac Institute's Forum on Global Climate Change and National Security, March 6, 2008.
- Briefing to the United States Arctic Research Commission on satellite contributions to Arctic research, April 17, 2008.
- Carlson Lecture at the University of Delaware's International Polar Year Lecture Series, April 10, 2008

- Briefing on Arctic change to the White House Office of Science and Technology Policy's Associate Director for Science, March 19, 2008.
- Keck Lecture at the National Academy of Science, February 26, 2008.
- Panelist at the Potomac Institute's forum on "Climate Change and National Security: The Science and the Impact", March 6, 2008
- Presentation at the American Museum of Natural History's Polar Weekend (February, 2008) on rapid changes of polar ice cover. My presentation was ranked as the top presentation of the event in a survey of attendees at the weekend-long event.
- William Farrand Lecture at the University of Michigan's Museum of Natural History, January 18, 2008
- Featured Speaker at the United Nations Educational Scientific and Cultural Organization 34th General Assembly, UNESCO, Headquarters, Paris, France, 2007
- Gave 2007 Millennium Lecture at North Carolina State University at the invitation of the First Lady of North Carolina
- Featured speaker at National Science Teachers Association Meeting, Salt Lake City, December, 2006
- Guest speaker at the National Research Council's Forum on Abrupt Climate Change, December, 2006
- Keynote address at the Adler Planetarium's Public Symposium on Climate Change, Chicago, September, 2006
- Featured speaker at the National Air and Space Museum's Public Science Lecture series at the NASM IMAX Theater, May, 2006
- Keynote address at the International Committee on Arctic Research Programs (ICARP-II) in Copenhagen, Nov. 2005
- Frontiers of Geophysics Lecture at the AGU meeting, Spring, 2002