

**ILISSA OCKO**  
**SENIOR CLIMATE SCIENTIST**  
**ENVIRONMENTAL DEFENSE FUND**

Email: iocko@edf.org | Phone: 212-616-1228 | Website: ilissaocko.com

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**EDUCATION**

Ph.D. Atmospheric & Oceanic Sciences, Princeton University  
M.A. Atmospheric & Oceanic Sciences, Princeton University  
B.S.E. Earth System Science & Engineering, magna cum laude, University of Michigan

**EMPLOYMENT**

2019— Senior Climate Scientist, Environmental Defense Fund (EDF), Washington, DC  
Lead climate science team, pursue research on the impact of short-lived climate pollutants and their mitigation on near- and long-term warming, work with policy experts, economists, lawyers, and communication specialists

2015-2019 Climate Scientist, EDF, Washington, DC & New York, NY  
Pursued climate science research, supported climate science communication

**RESEARCH INTERESTS**

Short-lived climate pollutants, climate metrics, methane, hydrogen, aerosols, rate of warming

**RESEARCH EXPERIENCE**

2014-2015 Kravis Postdoctoral Science Fellow (with Dr. Steven Hamburg), EDF, New York, NY  
Conducted research on short-lived climate pollutant mitigation strategies

2013-2014 High Meadows Postdoctoral Fellow (with Dr. Steven Hamburg), EDF, New York, NY  
Framed EDF's long-term climate vision and convened expert workshops

2012-2013 Research Assistant (with Dr. V Ramaswamy), Princeton University  
Studied aerosol radiative forcings and climate responses using climate models

2009-2012 NSF Graduate Research Fellow (with Dr. V Ramaswamy), Princeton University  
Studied aerosol radiative forcings and climate responses using climate models

2008-2009 AMS Industry/Gov't Graduate Fellow (with Dr. V Ramaswamy), Princeton University  
Studied transport of aerosols to the Arctic

2007-2008 Research Assistant (with Dr. Christiane Jablonowski), University of Michigan  
Analyzed how small-scale atmospheric eddies interact with large-scale circulation

2007 NOAA Hollings Scholar (with Taneil Uttal), NOAA ESRL, Boulder, CO  
Researched historical air-flow patterns for Arctic locations using HYSPLIT model

2006-2007 Research Assistant (with Dr. Mary Anne Carroll), University of Michigan  
Explored the linkage between ozone levels and air flow in northern Michigan

2006 Field Researcher (with Drs. Perry Samson & Robert Clauer), Greenland  
Set up instruments to measure atmospheric conditions in Greenland locations

2006 REU Participant (with Dr. Mary Anne Carroll), UMBS, Pellston, MI  
Examined the climatology of northern Michigan to determine pollution exposure

2005-2006 Research Assistant (with Dr. Daniel C. Fisher), Undergrad Research Opp. Program, UM  
Casted models of mastodon skeletons and pieced together excavated tusks

## PROFESSIONAL EXPERIENCE

2011— Science Graphic Designer, freelance  
Develop science infographics for researchers and media outlets  
*Select clients:* Stanford University, Princeton University, New York University, National Institute for Environmental Studies – Japan, Climate Central, Weather Underground

2007-2008 Chief Meteorologist, WOLV-TV, University of Michigan  
Managed weather anchors of student-run television network news program

2006-2008 Weather Anchor, WOLV-TV, University of Michigan  
Forecasted and broadcasted weather on student-run television network news program

## CERTIFICATES

Science, Technology, and Environmental Policy Certificate, Woodrow Wilson School, Princeton, 2012  
Co-authored climate change mitigation strategies report for U.S. DOE and EPA, attended 22nd UN Montreal Protocol Meeting, wrote policy memos/reports, researched how climate metrics impact policy

Arctic Climate Change Certificate, Summer School, University Centre in Svalbard, Svalbard, 2009

Physics of the Climate System Certificate, Summer School, Utrecht Univ., Utrecht, Netherlands, 2008

## HONORS AND AWARDS

Barbra Streisand Chair in Environmental Studies, EDF	2018-2021
Finalist, International Famelab Competition, Cheltenham UK	2016
Winner & Audience Favorite, NASA FameLab USA Finals, Washington DC	2016
Winner & Audience Favorite, NASA FameLab USA Semi-Finals, San Francisco CA	2015
Wildcard, NASA FameLab Regional Heat, San Francisco CA	2014
Aspen Ideas Festival Scholar, Aspen Ideas Festival, Aspen CO	2014
Emerging Alumni Scholars Award, Princeton University—given to three graduate students	2013
Award for Outstanding Poster Presentation, World Climate Research Programme	2011
Outstanding Student Poster Presentation, American Meteorological Society (AMS)	2011
National Science Foundation Graduate Research Fellowship	2009-2012
AMS Industry/Government Graduate Fellowship, NOAA Climate Program Office	2008-2009
Order of Omega National Honor Society	2008
First Place Winner, UM Best Student Paper on Environmental Issues & Climate Change	2007
Weather Underground Inc. Scholarship, AOSS Department, Univ. of Michigan	2007
Delta Epsilon Iota Academic Honor Society	2007
Eliza Ann Roark Scholarship, Chi Omega Fraternity, Univ. of Michigan	2006
Marian Sarah Parker Scholarship, College of Engineering, Univ. of Michigan	2006-2008
Ernest F. Hollings Scholarship, National Oceanic and Atmospheric Administration	2006-2008

## PUBLICATIONS

Sun, T, IB Ocko, E Sturcken, and SP Hamburg: “Path to net zero is critical to climate outcome”, in review at *Scientific Reports*

Sun, T, IB Ocko, and SP Hamburg: Early Methane Mitigation Critical to Preserving Arctic Summer Sea Ice, in review at *Environmental Research Letters*

- Ocko, IB, T Sun, D Shindell, M Oppenheimer, A Hristov, SW Pacala, D Mauzerall, Y Xu, and SP Hamburg: Acting rapidly to deploy readily available methane mitigation measures by sector can immediately slow global warming, *Environmental Research Letters*, 16, 054042 (2021)
- Ivanovich, CC, IB Ocko, P Piris-Cabezas, and A Petsonk: Climate benefits of proposed carbon dioxide mitigation strategies for international shipping and aviation, *Atmospheric Chemistry and Physics*, 19(23), 14949-14965 (2019)
- Ocko, IB, and SP Hamburg: Climate impacts of hydropower: enormous differences among facilities and over time, *Environmental Science & Technology*, 53(23), 14070-14082 (2019)
- Ocko, IB, V Naik, D Paynter: Rapid and reliable assessment of methane impacts on climate, *Atmospheric Chemistry and Physics*, 18, 15555-15568, doi:10.5194/acp-18-15555-2018 (2018)
- Ocko, IB, SP Hamburg, DJ Jacob, DW Keith, NO Keohane, M Oppenheimer, JD Roy-Mayhew, DP Schrag, SW Pacala, Unmask temporal trade-offs in climate policy debates, *Science*, 356, 6337, p.492-493 (2017)
- Ocko, IB, P Ginoux, Comparing multiple model-derived aerosol optical properties to spatially collocated ground-based and satellite measurements, *Atmospheric Chemistry and Physics*, 17, 4451-4475, doi:10.5194/acp-17-4451-2017 (2017)
- Ocko, IB, V Ramaswamy, Y Ming, Contrasting climate responses to the scattering and absorbing features of anthropogenic aerosol forcings, *Journal of Climate*, 27, doi:10.1175/JCLI-D-13-00401.1 (2014)
- Ocko, IB, V Ramaswamy, PA Ginoux, Y Ming, LW Horowitz, Sensitivity of scattering and absorbing aerosol direct radiative forcing to physical climate factors, *Journal of Geophysical Research*, 117, doi:10.1029/2012JD018019 (2012)
- Ocko, IB, Hot Seat in Our Warming World, *Science*, 337, 6092, p. 296, doi:10.1126/science.1224878 (2012)
- Bankuti, M, B Ellis, M Frades, D Kanter, J Losh, I Ocko, J Roy-Mayhew, P Shevlin, C Sierawski, A Wasserman, J Zuckerman, D Mauzerall, Complements to carbon: Opportunities for near-term action on non-CO2 climate forcers, Policy Report, Princeton University (2011)

## PROFESSIONAL SERVICE

- 2021— Advisory Board, AB SciComm Guild, NASA Astrobiology
- 2017-2018 Contributing author, U.S. Global Change Research Program, State of the Carbon Cycle Report, Chapters 3, 17, 18
- 2016 Advisory Board, American Geophysical Union Sharing Science
- 2015 Co-convener, Climate Science is a Cross-Disciplinary Challenge, AGU Fall Meeting Session
- 2015— Reviewer, Climate Feedback  
Review the scientific integrity of climate change media articles
- 2015 Contributor, More Than Scientists  
Contributed several videos with 15-30 second climate change snippets
- 2009-2010 Conference Organizer, High Meadows, Princeton University  
Co-organized a daylong environmental sustainability conference for students and public

## PRESENTATIONS & PANELS

- Ocko, IB, Climate Change in New Mexico & Southwest, panelist, New Mexico Climate Summit, Santa Fe, NM, remote (2021)
- Ocko, IB, TED Countdown, speaker, Edinburgh, UK (2021)
- Ocko, IB, "The role of methane in slowing down global warming," presenter, 13<sup>th</sup> Annual Climate Change Forum and Workshop 2021 Low Emissions Pathways, Centre for Environment, Technology and Development, Malaysia (CETDEM), virtual (2021)
- Ocko, IB, Is green hydrogen really carbon-neutral?, panelist, EURACTIV, virtual conference (2021)
- Ocko, IB, "Cutting Methane Emissions Quickly Could Slow Climate Warming Rate by 30%," presenter, How cutting methane emissions quickly can slow global warming, European Parliament Intergroup, virtual (2021)
- Ocko, IB, Can Hydrogen Unlock the Challenge of Decarbonisation?, panelist, Nesta, United Kingdom, virtual (2021)
- Ocko, IB, BRIEFING: METHANE IN THE IPCC REPORT, presenter and panelist, briefing for the media, Climate Nexus, virtual (2021)
- Ocko, IB, "Short-lived climate pollutants: The importance of methane," presenter, Move LA Zoomposium Short-Lived Climate Pollutants, virtual (2021)
- Hamburg, SP & IB Ocko, "Climate benefits of early methane action," presenter, From Data To Action: The International Methane Emissions Observatory as a catalyst for global methane emissions reduction, United Nations Environment Programme, European Commission, International Energy Agency, virtual (2021)
- Ocko, IB, "Climate benefits of achievable and affordable methane mitigation," presenter, Department of Atmospheric Sciences, Texas A&M University, virtual (2021)
- Ocko, IB, Moving Forward with Hydropower, panelist, Tufts Energy Conference, Tufts University, virtual (2021)
- Ocko, IB, T Sun, D Shindell, M Oppenheimer, A Hristov, SW Pacala, D Mauzerall, Y Xu, and SP Hamburg, "Methane Mitigation: An Achievable and Affordable Lever to Slow the Rate of Climate Change & Limit Peak Warming," presenter, American Geophysical Union Fall Meeting, virtual (2020)
- Ocko, IB & SP Hamburg, "Hydropower is not universally low-carbon," presenter, American Geophysical Union Fall Meeting, virtual (2020)
- Ocko, IB, "Developing an interactive data visualization tool to inspire climate-related philanthropy," presenter, American Geophysical Union Fall Meeting, virtual (2020)
- Ocko, IB, Earth Day Turns 50, panelist, NaplesNEXT Ideas Festival, Naples, FL (2020)
- Ocko, IB, "Climate impacts of hydropower: The journey of science research at an advocacy organization," presenter, Department of Earth and Planetary Sciences, Johns Hopkins University, Baltimore, MD (2020)
- Ocko, IB & SP Hamburg, "Avoided warming from oil and gas methane mitigation," presenter, Annual Meeting of the American Meteorological Society, Boston, MA (2020)
- Ocko, IB, "100% Clean Energy Economy Act of 2019," presenter, Briefing for U.S. Congress House of Representatives staff, Washington, DC (2019)

Ocko, IB, Shindell, D, Oppenheimer M, Hristov, A, Pacala, SW, & Hamburg, SP, "Methane mitigation achievable lever to limit warming in near- and long-term," presenter, American Geophysical Union Fall Meeting, Washington, DC (2019)

Ocko, IB, "Balancing short- and long-lived climate pollutant mitigation: Clearer metrics are critical," presenter, 6th World Congress of Environmental and Resource Economists, Gothenburg, Sweden (2018)

Ocko, IB, "Methane from Oil & Gas: Serious but solvable," presenter and panelist, Advanced Energy Conference, Sustainable Gas Systems: Public Policies, New York, NY (2018)

Ocko, IB, "Climate Change Impacts in Africa," presenter, 21st Century Regional Climate in a Warming World, COP-22 Side Event, Marrakesh Morocco, remote (2016)

Ocko, IB, SP Hamburg, S Pacala, "Balancing short- and long-lived climate pollutant mitigation: Clearer metrics are critical," presenter, American Geophysical Union Fall Meeting, San Francisco, CA (2015)

Ocko, IB, "How to be more attractive... when communicating science," invited presenter, American Geophysical Union Fall Meeting, San Francisco, CA (2015)

Ocko, IB, Sharing Science in Plain English, panelist, American Geophysical Union Fall Meeting, San Francisco CA, (2015)

Ocko, IB, SP Hamburg, S Pacala, "Balancing short- and long-lived climate pollutant mitigation: Clearer metrics are critical," presenter, Our Common Future Under Climate Change, Paris, France (2015)

Ocko, IV, "Contrasting Climate Responses of Absorbing and Scattering Aerosol Radiative Forcings," presenter, School of Marine and Atmospheric Sciences, Stony Brook University (2015)

Ocko, IB, "Overview of Intergovernmental Panel on Climate Change 2013/2014 reports," presenter, Wells Fargo, virtual (2014)

Ocko, IB, V Ramaswamy, "Climate responses to gases and aerosols from 1860 to 2000," presenter, American Geophysical Union Fall Meeting, San Francisco, CA (2012)

Ocko, IB, V Ramaswamy, "Offsetting roles that black carbon and sulfate play in climate change," presenter, Princeton Graduate Student Symposium, Princeton, NJ (2011)

Ocko, IB, V Ramaswamy, "Offsetting roles that black carbon and sulfate play in climate change," presenter, World Climate Research Program Open Science Conference, Denver, CO (2011)

Ocko, IB, V Ramaswamy, "Offsetting and complementary characteristics of sulfate and soot direct radiative forcings," presenter, 90th Annual American Meteorological Society Meeting, Seattle, WA (2011)

## **PUBLIC & STUDENT OUTREACH**

CIVISO: Envirothon, environmentally based multi-level academic competition, Climate change: from science to action, workshop speaker, virtual, September 4 2021

Museum of Science, Boston, Go Carbon Neutral Challenge, judge, virtual, April 2021

Massachusetts Institute of Technology, Tools for Sustainable Design, Fireside Chat, guest speaker, virtual, March 24 2021

University of Chicago, Phoenix Sustainability Initiative, Speaker Series, panelist, virtual, January 20 2021

Loyola Marymount College, Introduction to Environmental Science, Meet a Climate Scientist, guest speaker, virtual, October 15 2020

Montgomery College, Frank Islam Athenaeum Symposia speaker, Climate change: What is happening and what can we do about it?, Germantown MD, April 24 2018

St. Paul's School for Girls, Zee Fambrough Science Speaker Series, Climate change and classroom and assembly speaker, Brooklandville MD, March 7 2018

North Carolina State University, How scientists can create better visuals for more effective science communication, Coffee & Viz, training workshop, Raleigh NC, March 1 2018

Science Improv, Climate Change, invited guest speaker, Washington DC, September 15 2017

Washington DC Taste of Science festival, Wait Wait...Global Climate Change?, volunteer content developer, April 28 2017

Climate Corps Professional Development Webinar Series, Climate Change: What The Science Really Says About Skeptic Arguments, invited presenter, April 4 2017

Alpha Kappa Alpha Sorority, Global Climate Change: Causes, Impacts, Solutions, invited speaker, Suitland MD, March 4 2017

Good Climate News (@goodclimatenews twitter account collating positive news about climate change solutions), founder, 2017-2018

Old Bridge Public Library, Inquire Science Series, invited speaker, Old Bridge NJ, July 31 2016

Georgetown University, Mathematics and Climate Change, guest lecturer, July 27 2016

Baba Brinkman's Rap Guide to Climate Chaos, invited talkback guest, Soho Playhouse, New York NY, July 23 2016

The Climate Picture (@theclimatpicture Instagram account with original and educational climate infographics), founder, 2016-2017

UCAR Center for Science Education, Climate Change Exhibit, climate science consultant and science graphic designer, 2016

Ignite Talks, Cooking Shouldn't Kill, San Francisco CA, December 16 2015

Saddle River Day School, School Assembly, invited speaker, Saddle River NJ, December 2 2015

Clearwater's Great Hudson River Revival, Climate Change is here; Climate Change is now, invited speaker, Croton-on-Hudson, NY, June 20-21 2015

Trinity Episcopal, GreenFaith Day, speaking with husband about climate change, April 26 2015

KidSpirit Table Talk, Climate Change: Tending Our Planet, invited panelist, "What we know about the science of climate change," New York, NY, April 19 2015

Miller's Run School, 8<sup>th</sup> Grade classroom, Teacher Patricia Norsworthy, "Climate Change: Causes, Impacts, Solutions," January 22 2015

American Meteorological Society Student Conference, Annual Meeting, "Experiences Beyond the Classroom," "Getting the word out: Science Policy and Communication," invited panelist, January 3 2015

Rutgers University, SEBS International Programs, Career Panel, invited panelist, November 14 2014

Princeton University, Atmospheric and Oceanic Sciences, Student Seminar, invited speaker, "Bridging Science and Advocacy as a Career," October 23 2014

Watkinson High School, 9<sup>th</sup> Grade classroom, Teacher Jennifer O'Brien "A young climate scientist's professional journey," February 21 2014

Climate Voices, speaker, 2014-2018

Rutgers University, SEBS International Programs, Career Panel, invited panelist, November 8 2013

## **SELECT MEDIA ENGAGEMENTS**

Print: the New York Times, Washington Post, NPR, CNBC, the Los Angeles Times, Bloomberg, the Financial Times, POLITICO, the Hill, Rolling Stone, Inside Climate News, E&E, Utility Drive, Accuweather, and more

TV: CBS, PBS Newshour, NowThis News, BNN Bloomberg, Cheddar, Accuweather, NY Fox 5, DC's Panorama, CUNY TV, Thomson Reuters TV, CTV, Circa

Radio/podcasts: Scientific American, The Kojo Nnamdi Show, KPFA Berkeley, Radio-Canada, Mar del Plata National University Radio, VoiceAmerica, KXRY-FM, Radio Free Asia

## **BLOG POSTS**

A climate scientist's top 5 takeaways from the latest IPCC climate report, August 9 2021 | EDF Voices

New IPCC report zeroes in on urgency of reducing methane, August 9 2021 | Energy Exchange

A U.S. economy-wide methane target: essential, achievable, affordable, March 22 2021 | Energy Exchange

What you need to know about hurricanes and climate change, August 27 2020 | Climate411

The coronavirus crisis was already bad. Extreme heat waves are making it worse. July 17 2020 | EDF Voices

5 reasons why your warmer winter is so alarming, February 12 2020 | EDF Voices

Long considered a "clean" energy source, hydropower can actually be bad for climate, November 15 2019 | Energy Exchange

Record-warm oceans: How worried should we be? February 22 2019 | EDF Voices

How can half a degree of warming matter so much? October 18 2018 | EDF Voices

UN Special Report confirms urgent need to reduce methane emissions, October 11 2018 | Energy Exchange

Hansen was right: Marking an anniversary by misleading the public, July 18 2018 | Climate411

Industry-backed white paper low-balls oil & gas methane impact, February 28 2018 | Energy Exchange

New science suggests methane packs more warming power than previously thought, February 7 2018 | Energy Exchange

Natural disasters are no longer purely natural, January 16 2018 | Climate411

It's now, it's us, it's not over – the top 7 takeaways from the new climate change report, November 15 2017 | Climate411

The Clean Power Plan's enormous climate benefits – in one graphic, October 10 2017 | Climate411

Puerto Rico a tragic reminder of why climate action cannot wait, October 3 2017 | Climate411

As a non-political scientist I don't march – until now, April 25 2017 | EDF Voices

Take these first steps to lower your impact on climate change, April 21 2017 | Climate411

How Do We Know That Humans Are Causing Climate Change? These Nine Lines of Evidence, March 23 2017 | Climate411

Brutal Southeast fire season may not be freak event. That's why taxpayers should care, December 8 2016 | EDF Voices

Climate change is messing with clouds – and it's a really big deal, August 24 2016 | EDF Voices

How Hot It Gets Vs. How Fast: Understanding The Two Kinds Of Climate Pollution, May 17 2016 | EDF Energy Exchange

How Hot It Gets Vs. How Fast: Understanding The Two Kinds Of Climate Pollution, May 16 2016 | Energy Exchange

The Impacts of Climate Change on Human Health – a Sobering New Report, April 5 2016 | Climate411

3 reasons the Zika outbreak may be linked to climate change, February 16 2016 | EDF Voices

Human emissions just cancelled the next ice age. Here's why we should care, February 11 2016 | EDF Voices

Why we can't blame El Niño for the hottest year on record, January 5 2016 | EDF Voices

Scientist fact-checkers join new push to call out climate errors in news media, December 10 2015 | EDF Voices

9 million acres and counting: Will wildfires keep spreading with climate change?, September 30, 2015 | EDF Voices

Why a "Godzilla" El Niño won't end California's drought, August 27 2015 | EDF Voices

Methane and CO2: Why climate action means addressing both, August 12 2015 | EDF Voices

Sobering climate science: Extreme weather on the rise, July 23 2015 | EDF Voices

6 climate tipping points: How worried should we be?, May 28 2015 | EDF Voices

On El Niño, snowballs and real climate science, March 6 2015 | EDF Voices

Giant pandas face greatest threat yet: A hotter world, February 4 2015 | EDF Voices

This is how climate scientists should talk, December 17 2014 | EDF Voices

Climate hope amid melting ice, rising temps, December 10 2014 | EDF Voices

Why California thirsts for rain and the East Coast gets soaked, October 14 2014 | EDF Voices

How scientists linked the California drought to climate change, October 2 2014 | EDF Voices

Why "slowed" global warming is not what it seems, September 16 2014 | EDF Voices

Why those huge craters in Siberia are a climate wake-up call, August 11 2014 | EDF Voices

Why offshore wind energy should be on our radar, August 6 2014 | Global CCS Institute (Decarboni.se)

Moral Optimism of Climate Change, July 23 2014 | Global CCS Institute (Decarboni.se)

Bundle up, the polar vortex returns - but is it climate change?, July 15 2014 | EDF Voices

Taking the Earth's Historical Temperature, July 4 2014 | The Toast

Study: Climate change may push hurricanes farther north, south, June 2 2014 | EDF Voices

Crafting Your Own Visuals for Science Communication: Part I, May 7 2014 | The Plainspoken Scientist

New report: How climate change is impacting where you live, May 6 2014 | EDF Voices



Top takeaways from the latest IPCC report, April 14 2014 | EDF Voices

6 key insights from the latest IPCC climate report, March 31 2014 | EDF Voices

Crafting Your Own Visuals for Science Communication: Part II, May 22 2014 | The Plainspoken Scientist

Four reasons why the climate is still changing, despite the cold, March 18 2014 | EDF Voices

How an EDF scientist explains climate change in 30 seconds, March 13 2014 | EDF Voices

Why your car is covered with an inch of ice, instead of a foot snow!, March 8 2014 | Dan's Wild Wild  
Science Journal

Slowed global warming? New data suggests otherwise, December 23 2013 | EDF Voices

Geoengineering: A cure worse than the disease?, December 11 2013 | EDF Voices

Disinformation Spreads Confusion about the Reality of Climate Change, October 21 2013 | EDF Voices

New study projects when and where radically warmer temps will hit first, October 11 2013 | EDF Voices

Seven Things You Should Know about the U.N.'s New IPCC Climate Change Report, September 27 2013 |  
EDF Voices