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## **Leadership and Management**

### **Program Development and Management**

- Director of the CU Boulder Cooperative Institute for Research in Environmental Science (CIRES) Earth Lab Analytics Hub
- Director of Analytics and Cyberinfrastructure of the Environmental Data Science Innovation and Inclusion Lab (ESIIL)
- NISAR Deputy Program Applications Senior Co-Lead developing and coordinating a technology transfer program of the largest NASA Earth observing dataset to date
- Analytics Director of Environmental Data Science Innovation and Inclusion Lab (ESIIL.org) NSF \$20M data synthesis center

### **Notable Partnerships**

- Natural Resources decision support information product development from NASA big data:
  - [Deloitte - CU Boulder Climate Innovation Collaboratory](#)
  - Fire Risk and Exposure modeling with AXA XL
  - Dynamic Fire Risk modeling with Southern California Edison
  - Methane point source emissions with California Air Resources Board
  - Urban forest mapping ([landcover class, irrigated/non-irrigated](#), tree species) in Los Angeles County
  - Fire, drought, and insect mortality in the Santa Monica Mountains National Recreation Area
  - Post-fire vegetation succession for the US Forest Service Angeles National Forest
  - Fire Danger from Earth Observations with the National Interagency Fire Center and the US Forest Service
  - Fire Scenario Builder integration to the USFS [Bluesky Smoke Modeling Framework](#)
- NASA Soil Moisture Active Passive (SMAP) mission Level 4 Carbon product calibration and validation with domestic and international flux tower Principle Investigators

### **Leadership**

- XPRIZE Global Visioneering Climate Brain Trust
- JPL New Researchers' Support Group - Elected President 2021
- JPL New Researchers' Support Group - Elected Vice President 2020
- JPL New Researchers' Support Group – Elected Papers and Proposals Chair: 2018 - 2019
- JPL Carbon Club, a strategic initiative and seminars to bridge interdisciplinary carbon cycle science at JPL – Assistant Lead: 2014-2017

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### **Aerospace Mission Systems**

- Mission Formulation: JPL Team X Science Facilitator
- Mission Calibration and Validation: TIMED (Thermosphere Ionosphere Mesosphere Energetics and Dynamics) SEE (Solar EUV Experiment) and Soil Moisture Active Passive (SMAP)
- Mission operations for TIMED-SEE
- Thermo-vac ground-testing of the Solar Dynamic Observatory (SDO) Extreme Ultraviolet Variability Experiment (EVE)

### **Project Management**

- Project Manager and System Engineer of Data Systems: M2AF/CEDAS (~\$1M/yr, 12 people) and ImgSPEC (~\$500K/yr, 6 people)
- Lead Science System Engineer for the Surface Biology and Geology (SBG) Designated Observable mission architecture (\$650M) study
- Co-Lead on the System Architecture Working Group for the NASA Earth System Observatory (ESO) Open Source Science Data System Study
- Deputy Principal Investigator of the NASA Advance Information System Technology (AIST) project for Imaging Spectroscopy Processing Environment in the Cloud (ImgSPEC.org)
- Principal Investigator of the NASA Biodiversity Program: Biodiversity Survey of the Cape ([BioSCape](#)) project - Biodiversity across scales
- Principal Investigator of the NASA Wildfire Program: FirEDpy-NRT

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## **Education**

### **Ph.D., University of Washington, Seattle**

Quantitative Forest and Fire Ecology (Jan. 2010- Sept. 2013)  
Dissertation: Very large wildfires in the western contiguous United States

### **M.S., University of Edinburgh**

Environmental Sustainability (Sept. 2008- Sept. 2009)  
Thesis: Assessing use of a process-based model and remote sensing for mapping forest sustainability

### **B.A. University of Colorado Boulder**

Mathematics, with a minor in Computer Science (Aug. 2005-May 2008)  
Graduated with Distinction

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## **Professional/Research Experience**

### **Director of ESIL Cyberinfrastructure and Analytics**

University of Colorado, Boulder

(Aug 2022 – Present)

### **Director of Earth Lab Analytics Hub**

University of Colorado, Boulder

(Dec 2020 – Present)

### **Visiting Associate Project Scientist**

University of California, Los Angeles

(May 2019 – Feb 2021)

### **Science System Engineer**

Jet Propulsion Laboratory, California Institute of Technology

(May 2016 – Feb 2021)

### **Post-Doctoral Researcher**

California Institute of Technology, Jet Propulsion Laboratory

(Oct. 2013 – May 2016)

### **Research Assistant**

U. of Washington, Seattle School of Env. and Forest Sciences

(Nov. 2009 – Sept. 2013)

### **Data Analysis and Mission Operations Intern**

Laboratory of Atmosphere and Space Physics

(May 2007 – May 2008)

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## **Professional Development**

- University of Colorado Boulder Racial Equity Challenge: 2020
- Technical Women's Leadership Journey: 2020
- International Project/Programme Managers Committee: Young Professionals Workshop: 2020
- Managing the Best Teams: Introverts, Extroverts and Ambiverts: 2020
- JPL Media Training: 2018
- VitalSmarts Crucial Conversations: 2017
- Proposal Manager Workshop: 2017
- de Bono Thinking Systems Facilitator Training: 2016

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## **Honors and Awards**

- Jet Propulsion Laboratory Voyager Award 2020: NISAR Applications Engagement
- Jet Propulsion Laboratory Voyager Award 2020
- Jet Propulsion Laboratory Discovery Award 2020: GeoSPEC (ImgSPEC)
- Jet Propulsion Laboratory Charles Elachi Early Career Achievement Award 2019

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- Jet Propulsion Laboratory Discovery Award: Hitchhiker's Guide to JPL
- Jet Propulsion Laboratory Discovery Award: SWOT PO.DAAC Data Architecture for Users
- Jet Propulsion Laboratory Team Award: SMAP Phase-E Improvement Task Team
- NASA Group Achievement Award for the SMAP Science and Cal/Val Team
- NASA Group Achievement Award for the TIMED SEE instrument suite
- Xi Sigma Pi Alpha Chapter National Forestry Honors Society

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## **Skills**

### **Remote Sensing Image Analysis**

MODTRAN, QGIS, ArcGIS, GDAL, Google Earth Engine, and ENVI

### **Programming Languages**

C++, Python, R, Matlab, and Unix shell scripting

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## **Mentoring and Teaching Experience**

### **Mentoring/Advising**

- Young Professional Mentees (2 total): 2019-Present
- Post-Docs (2 total): 2016-Present
- PhD Committees (4 total): 2018-Present
- [Under-]graduates Interns (34 total): 2015-present
- [NASA DEVELOP](#) Science Advisor to teams of 3-6 young professionals: Fall 2016, Spring 2017, Fall 2017, Fall 2018, Summer 2019
- Earth Lab Analytics Professional Program Certificate (2): 2021-present

### **Teaching Modules**

- Instructor of Graduate Student Seminar in Model Applications, College of Forest Resources, University of Washington (Spring 2012); Under supervision from UW Affiliate Dr. Maureen Kennedy
- Natural Inquirer- Wildfire article for education (Articles [1](#) and [2](#))
- [JPL Teachable Moments: Wildfire \(Grades 3-12\)](#)
- [Data Puzzle: Megafire - Rare Occurrence or the New Normal? \(Grades 6-12\)](#)

## Publications

### Peer-Reviewed

1. Questad E, Antill M, Liu N, **Stavros EN**, Townsend P, Bonfield S, Schimel D, Questad E (in press) A camera-based method for collecting rapid vegetation data to support remote sensing studies of shrubland biodiversity. *Remote Sensing*. DOI: <https://www.mdpi.com/2072-4292/14/8/1933>
2. **Stavros EN**, Chrono J, Cawse-Nicholson K, Freeman A, Glenn, NF, Guild L, Kokaly R, Lee CM, Luvall J, Pavlick R, Poulter B, Schollaert Uz S, Serbin S, Thompson DR, Townsend PA, Turpie K, Yuen K, Thome, K, Wang W, Zareh S-K, Nastal J, Bearden, D, Miller CE, Schimel D. (in press) Designing an Observing System to Study the Surface Biology and Geology of the Earth in the 2020s. *AGU JGR Biogeosciences*. DOI: [10.1029/2021JG006471](https://doi.org/10.1029/2021JG006471).
3. Pascolini-Campbell M, Lee CM, **Stavros EN**, Fisher J (2022) ECOSTRESS reveals pre-fire vegetation controls on burn severity for Southern California wildfires of 2020. *Global Ecology and Biogeography*. <https://doi.org/10.1111/geb.13526>.
4. Lee CM, Glenn NF, **Stavros EN**, Luvall J, Hain C, Yuen K, Schollaert Uz S (2022) Integrating Earth Decadal Survey application priorities during mission pre-formulation for Surface Biology and Geology (SBG). *AGU JGR Biogeosciences*. <https://agupubs.onlinelibrary.wiley.com/doi/10.1029/2021JG006720>
5. Iglesias V, Stavros EN, Balch JK, et al (2022) Fires that matter: Reconceptualizing fire risk to include feedbacks between humans and the natural environment. *Environmental Research Letters*. <https://iopscience.iop.org/article/10.1088/1748-9326/ac5c0c>.
6. **Stavros EN** (2022) Wicked Problems need WKID Innovation: Innovation as a Process to Develop a Disruptive Technology Product. *Research Technology Management*. <https://doi.org/10.1080/08956308.2022.1994249>
7. Parazoo NC, Coleman RW, **Stavros EN**, Yadav V, Hulley G, Hutyrá L (2021) Diverse biosphere influence on carbon and heat in mixed urban Mediterranean landscape revealed by high resolution thermal and optical remote sensing. *Science of the Total Environment*. <https://doi.org/10.1016/j.scitotenv.2021.151335>
8. Cawse-Nicholson K, Townsend PA, Schimel D, ... **Stavros EN**, ... et al. (2021). NASA's surface biology and geology designated observable: A perspective on surface imaging algorithms. *Remote Sensing of Environment*, 257, 112349. <https://doi.org/10.1016/j.rse.2021.112349>
9. **Stavros, E. N.**, Townsend, P. A., Chang, G., Hua, H., Huang, T., Malarout, N., et al. (2020). Imaging Spectroscopy Processing Environment on the Cloud (ImgSPEC). Presented at the American Geophysical Union Fall Meeting, Virtual. <https://doi.org/doi.org/10.1002/essoar.10506888.1>
10. Coleman RW, **Stavros EN**, Hulley G, Parazoo N (2020) Comparison of Thermal Infrared-Derived Maps of Irrigated and Non-Irrigated Vegetation in Urban and Non-

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- Urban Areas of Southern California. *Remote Sensing*, 12, 4102.  
<https://doi.org/10.3390/rs12244102>
11. **Stavros EN**, Oaida C, Hausman J, Gierach, M (2020) A Quantified Approach to Traceable Requirements Based on User Needs for a Data System Archive. *IEEE Access*.
  12. Coleman RW, **Stavros EN**, Yadav V, Parazoo N (2020) A Simplified Framework for High-Resolution Urban Vegetation Classification with Optical Imagery in the Los Angeles Megacity. *Remote Sensing*.
  13. Alonso, MG, North P, Viana-Soto A, **Stavros EN**, Rosette J, Martin P, Franquesa M, González-Cascón R, Riaño D, Becerra J, Zhao K (2020) Evaluating the potential of LIDAR data for fire damage assessment: A radiative transfer model approach. *Remote Sensing of Environment*.
  14. Farahmand A, **Stavros EN**, Reager JT, Behrangi A, Randerson J, Quayle B (2020). Satellite Hydrology Observations as Operational Indicators of Forecasted Fire Danger across the Contiguous United States . [Natural Hazards and Earth System Sciences](#).
  15. Farahmand, A, **Stavros EN**, Reager, JT, Behrangi A, Randerson J (2020). Introducing spatially distributed Fire Danger from Earth Observations (FDEO) Using Satellite-based Data in the Contiguous United States. *Remote Sensing*.
  16. Schimel D, Schneider F, ... **Stavros EN** (2019) Flux towers in the sky: global ecology from space. *New Phytologist*. doi: 10.1111/nph.15934.
  17. Veraverbeke S, Dennison P, Gitas I, Hulley G, Kalashnikova O, Katagis T, Kuai Le, Meng R, Roberts D, **Stavros EN** (2018) Advanced Applications in Remote Sensing of Agricultural Crops and Natural Vegetation in Hyperspectral Remote Sensing of Vegetation Volume IV (Second Edition, Four Volume-Set). Thenkabail, P.S., Lyon, G.J., and Huete, A. (Editors) CRC Press- Taylor and Francis group, Boca Raton, London, New York. Pp. 386.
  18. Sander Veraverbeke S, Dennison P, Gitas I, Hulley G, Kalashnikova O, Katagis T, Kuai L, Meng R, Roberts D, **Stavros EN** (2018) Hyperspectral remote sensing of fire: State-of-the-art and future perspectives. *Remote Sensing Environment* **216**: 105-121.
  19. Seidel F, **Stavros EN**, Green R, Cable M, Freeman A (2018) Imaging Spectroscopy emulates Landsat: A Case Study with Airborne Visible Infrared Imaging Spectrometer (AVIRIS) and Operational Land Imager (OLI) data. *Remote Sensing Environment* **215**:157-169.
  20. **Stavros EN**, Peterson B, Coen J, Singh H, Schimel D (2018) Use of Imaging Spectroscopy and LIDAR to characterize fuels for fire behavior prediction. *Remote Sensing Applications: Society and Environment* **11**: 41-50.
  21. Coen J, **Stavros EN**, Fites-Kaufman JA, (2018) Deconstructing the King Megafire. *Ecological Applications*. [Doi](#)
  22. Davies D, Brown ME, Murphy K, Michael K, Zavodsky B, **Stavros EN**, Carroll M (2017) NASA Data for Time-Sensitive Applications: Workshop Summary. *IEEE Geoscience and Remote Sensing Magazine* **5**(3): 52-58.
  23. **Stavros EN**, Schimel D, Dubayah R, Pavlick R, Fassnacht F, Fisher JB, Schweiger A, Serbin S, Swann A, Ustin S, Wennberg P (2017) Novel Earth Observations from the

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- International Space Station. Beyond Greenness: International Space Station observations offer an opportunity to understand plant function. *Nature Ecology and Evolution* **1**(7).
24. **Stavros EN**, Tane Z, Kane VR, Veraverbeke S, McGaughey B, Lutz JA, Ramirez C, McGaughey RJ (2016) Unprecedented remote sensing data from before and after California King and Rim Megafires. *Ecology* **97**(11): 3244.
  25. MacKenzie SM, Caswell TE, Phillips-Lander CM, **Stavros EN**, et al. (2016) THEO Concept Mission: Testing Habitability of Enceladus's Ocean. *Advances in Space Sciences Research* **58**(6): 1117-1137.
  26. Veraverbeke S, **Stavros EN**, Hook SJ (2014) Assessing fire severity using imaging spectroscopy data from the Airborne Visible/Infrared Imaging Spectrometer (AVIRIS) and comparison with multispectral capabilities. *Remote Sensing of Environment* **154**: 153-163.
  27. **Stavros EN**, Abatzoglou JT, Larkin NK, Mckenzie D, Steel EA (2014) Climate and very large wildland fires in the contiguous Western USA. *International Journal of Wildland Fire* **23**(7): 899-914.
  28. **Stavros EN**, Jeong S-J, Bloom A (2014) Synthesizing remote sensing data on the carbon and water cycles. *EOS, Transactions American Geophysical Union* **95**(29): 265.
  29. McKenzie D, Shankar U, Keane RE, Heilman WE, **Stavros EN**, Fox DG, Riebau AC, Bowden, JH, Eberhardt E, Norheim R (2014) Smoke consequences of new wildfire regims driven by climate change. *AGU: Earth's Future* **2**(2): 1-25.
  30. **Stavros EN**, Abatzoglou JT, McKenzie D, Larkin NK (2014) Regional projections of the likelihood of very large wildland fires under a changing climate in the contiguous Western United States. *Climatic Change* **126**(3-4): 455-468.
  31. **Stavros EN**, McKenzie D, Larkin NK (2014) The climate-wildfire-air quality system: interactions and feedbacks across spatial and temporal scales. *WIREs Climate Change*: early online release.
  32. **Stavros EN** (2012) Colorado *in*. Encyclopedia of Global Warming and Climate Change, Second Edition. SAGE Publications, Inc.
  33. Peterson WK, **Stavros EN**, Richards PG, Chamberlin PC, Woods TN, Bailey SM, Solomon SC (2009) Photoelectrons as a tool to evaluate spectral variations in solar EUV irradiance over solar cycle timescales. *Journal of Geophysical Research* **114**: A10304.

### **Peer-Reviewed In Development**

1. Schollaert Uz S, Culver T, Luvall J, Lee CM, Glenn NF, **Stavros EN**, Yuen K, Gallaher M (in review) Assessing the Potential Benefit to Society of a NASA Surface Biology and Geology Mission through a User Needs Valuation Study: Highlights and Lessons Learned. AGU JGR Biogeosciences.
2. Shuman J, Balch JK, Barnes R, Higuera P, Roos C, **Stavros EN**, et al. (in review) Reimagine Fire Science for the Anthropocene. PNAS Nexus.
3. Poulter B, Currey B, Calle L, Brookshire J, Campbell P, Chlus A, ... **Stavros EN** et al. (In Review). Simulating global dynamic surface reflectances for imaging



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spectroscopy spaceborne missions - LPJ-PROSAIL | Earth and Space Science Open Archive. Retrieved June 9, 2022, from

<https://www.essoar.org/doi/abs/10.1002/essoar.10511508.1>

4. Mahood et al. (in prep) Global Fire Trends.
5. Higuera et a. (in prep) Social-Ecological Fire Regimes.
6. Stavros et al. (in prep) Environmental Influences of Fire and Rain on eDNA Alpha Diversity in a Coastal Mediterranean Ecosystem.
7. Stavros et al. (planned) Evaluating a NASA Open Science Data System
8. Stavros et al. (planned) Environmental Data Science User Needs
9. Stavros et al. (planned) Resilience Tech: Value-Added Analytics for Solutions-Oriented Artificial Intelligence
10. Stavros et al. (planned) Artificial Intelligence using Deep Learning for Bridge Suitability Site Identification in Africa

### **Student Dissertations/Theses**

1. Coleman, RW (2022) Thermal-Optical Patch-Pair Dataset for Investigating Pansharpening Thermal Satellite Imagery with Generative Adversarial Networks (GANs). <https://doi.org/10.5281/zenodo.6483752>
2. Engel, R. A. (2022). Assessing Urban Ecosystem Alternatives for Changing Land Use Dynamics in the Los Angeles Region. *UCLA*. ProQuest ID: Engel\_ucla\_0031D\_20768. Merritt ID: ark:/13030/m5gb97z1. Retrieved from <https://escholarship.org/uc/item/39p33214>

### **White Papers**

1. Newcomer ME, **Stavros EN**, Meyer RS, Pena J, Hestir E, Pavlick R, Bouskill N (2021) [A Fire Community Observatory: Interdisciplinary, AI-informed Post-Fire Rapid Response for Improved Water Cycle Science at Watershed Scale](#). US Department of Energy Office of Science AI4ESP Initiative (<https://ai4esp.org/white-papers/>).
2. **Stavros EN**, Asner G, Dennison P, Dietze M, Gierach M, Green R, Lee C, Ramirez C, Roberts D, Schimel D, Seidel F, Serbin S, Shiklomanov A, Tane Z, Thompson D, Townsend P, Ustin S, Veraverbeke S (2017) An Imaging Spectrometer Enables Novel Applications and Continuity with the Landsat Record to Sustain Legacy Applications. USGS Request for Information for Future Landsat Mission (RFI Reference #: G17PS00634)

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3. **Stavros EN**, Bloom AA, Brown T, Coen J, Dennison P, Giglio L, Green R, Hinkley E, Holden Z, Hook S, Johnson W, Miller ME, Peterson B, Quayle B, Ramirez C, Randerson J, Schimel D, Schroeder W, Soja A, Tosca M (2016) [The role of fire in the Earth System](#). Decadal Survey for Earth Science and Applications from Space (ESAS) Request for Information (RFI) #2. Published by National Academies of Sciences, Engineering, and Medicine Space Studies Board.
4. Dennison P, Veraverbeke S, French NHF, Huesca M, Jin Y, Loboda T, Randerson J, Dar R, Rogers BM, **Stavros EN**, Tayyebi A, Tosca M, Wang J (2016) [Burning Questions: Critical Needs for Remote Sensing of Fire Impacts on Ecosystems](#). Decadal Survey for Earth Science and Applications from Space (ESAS) Request for Information (RFI) #1. Published by National Academies of Sciences, Engineering, and Medicine Space Studies Board.
5. Veraverbeke S, **Stavros EN**, Hook S. (2015) [HysplRI Mission Applications: Fire Behavior](#).

## Reports

1. **Stavros EN**, Sayfi E, Michaelis A, Bienstock B, Su W, Hua H, Ho E, Yuen K, Yue Q, Tilmes C, Ott L, Engebretson C, Parker A, Harkins S, Chepurin M (2022 May) [Workshop #2 Report; ESO Mission Data Processing Study: Summary of State-of-the-Practice and State-of-the-Art Mission Data Processing System Architectures](#).
2. **Stavros EN**, Sayfi E, Bienstock B, Su W, Hua H, Michaelis A, Ho E, Yuen K, Yue Q, Tilmes C, Ott L, Engebretson C, Parker A, Harkins S, Chepurin M (2021 Dec) [ESO Mission Data Processing Study - Summary of NASA Program Offices and ESO Missions Requirements, Constraints, Recommendations, and Opportunities](#).
3. **Stavros EN**, Iglesias V, & Decastro A. (2021 April 26). The Wicked Wildfire Problem and Solution Space for Detecting and Tracking the Fires that Matter [preprint]. Retrieved June 7, 2021, from <http://www.essoar.org/doi/10.1002/essoar.10506888.1>
4. Culver, T, Rydeen A, Dix M, Camello M, Gallaher M, Lapidus D, Brown E, Lee C, Luvall J, **Stavros N**, Uz S, Yuen K, Glenn N (2020) [SBG User needs and Valuation Study](#). RTI International Innovation Advisors.
5. **Stavros EN**, Agha A, Sirota A, Quadrelli M, Ebadi K, Yun Kyongsik (2018) [Smoke Sky — Exploring New Frontiers of Unmanned Aerial Systems for Wildland Fire Science and Applications](#). Jet Propulsion Laboratory Bluesky Think Tank, California Institute of Technology.
6. **Stavros EN**, Lang M, Simard M, Chapman B, Osmanoglu B, Bawden G (2018) 2018 NISAR Applications Workshop: Agriculture and Soil Moisture. Jet Propulsion Laboratory, California Institute of Technology.

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7. **Stavros EN**, Kellndorfer J, Saatchi S, Osmanoglu B, Bawden G (2018) 2018 NISAR Applications Workshop: Forests and Disturbance. Jet Propulsion Laboratory, California Institute of Technology.
8. **Stavros EN**, Cosh M, Torbick N, Siquieria P, Osmanoglu B, Bawden G (2018) 2018 NISAR Applications Workshop: Agriculture and Soil Moisture. Jet Propulsion Laboratory, California Institute of Technology.
9. Davis BA, Jones CE, **Stavros EN** (2017) [2017 NISAR Applications Workshop: Critical Infrastructure](#). Jet Propulsion Laboratory, California Institute of Technology.
10. Saatchi S, **Stavros EN**, Keller M, Davies S, Scipal K, Duncanson L (2017) [2016 NASA-ESA-Smithsonian Workshop on Calibration and Validation of Upcoming Satellite Missions on Forest Structure and Biomass](#). Jet Propulsion Laboratory, California Institute of Technology.
11. **Stavros EN**, Owen S, et al. (2016) [2015 NISAR Applications Workshop: Applications Community Suggestions for Developing an Applications Plan](#). Jet Propulsion Laboratory CL# 16-3170.
12. Kimball JS, Jones LA, Glassy J, **Stavros EN**, Madani N, Reichle RH, Jackson T, and Colliander A (2016) [Soil Moisture Active Passive Mission L4 C Data Product Assessment \(Version 2 Validated Release\)](#). GMAO Office Note No. 13 (Version 1.0).
13. Kimball JS, Jones LA, Glassy J, **Stavros EN**, Madani N, Reichle RH, Jackson T, and Colliander A (2015) [Soil Moisture Active Passive \(SMAP\) Project Calibration and Validation for the L4 C Beta-Release Data Product](#). *NASA/TM-2015-104606*, Vol. **42**, 37 pp.
14. Schimel D, Ramirez C, Janice Coen J, Boland J, **Stavros EN** (2015) [Rapid Response to the 2014 King Fire: Final Report. NASA Applied Sciences Wildfire Program](#).
15. McKenzie, D, Shankar U, Keane RE, Heilman WE, **Stavros EN**, Fox DG, Riebau AC, Bowden JH, Eberhardt E, Norheim R (2013) [Smoke consequences of new wildfire regimes driven by climate change](#). Final report to the Joint Fire Science Program Project 12-S-01-2.

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## Media

- Governing (Oct 2022): [Are Wildfires Offsetting Progress in Carbon Reduction?](#)
- Denver Post (May 2022): [Colorado's weekend snowstorm doesn't help the wildfire threat as much as you might think. Here's why.](#)
- NASA ESTO (May 2022): [NASA leverages hyperspectral data to better understand climate change.](#)
- ClimateWire (Feb 2022): [A devastating blaze picked a fight with scientists.](#)
- YouTube Interview (Feb 2022) [Biodiversity loss, Satellite imaging & AI](#)

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- CU News (Jan 2022) [What the Marshall Fire can teach us about future climate catastrophes](#)
- CU News (Jan 2022) [If you really listen, survivors and emergency responders will tell you what they need](#)
- City Cast Denver (Jan 2022) [The Marshall Fire was Undoubtedly a "Climate Fire": Here's Why that Matters](#)
- WBUR OnPoint - Boston's NPR Station (Jan 2022) [How cities in the West can prepare for the Western wildfire threat.](#)
- Axios Today (Jan 2022) [A Colorado Fire Scientist on her hometown burning.](#)
- Reuters (Jan 2022) [Marshall Fire - Camera Interview.](#)
- Newsy (Jan 2022) [Marshall Fire - Camera Interview.](#)
- NASA Blog (Oct 2021) [A Multi-Dimensional Fire Challenge](#)
- Colorado Public Radio (Sept 2021): [Blame It On The Rain: Monsoon Helped Colorado Avoid Summer Megafires — Though Fire Season Isn't Over Yet](#)
- Podcast: CU on the Air (2021). [Wildfires resilience, not suppression, supports the environment.](#)
- LA Times (July 2021): [Satellite images of wildfires are saving lives. The Pentagon might let the program expire](#)
- The Conversation (June 2021) [Brining Tech Innovation to Wildfires: 4 Recommendations for smarter fire fighting as megafires menace the US](#)
- CalTech Blog (May 2021) [KISS Workshop Addresses Critical Problem of Megafires](#)
- NASA Blog (February 2021) [The Climate Connections of a Record Fire Year in U.S. West.](#)
- NASA Podcast (December 2020) [Fueled by Fire \(Season 3, Episode 8\)](#)
- Univision 34 (November 2020) [Megafire in California](#)
- Washington Post (September 2020) [The era of the megafire: How the West became ripe for destructive blazes](#)
- Los Angeles Times (September 2020) [Op-Ed: With global heating, expect inferno seasons in the American West](#)
- NYTimes (April 2020) [Australia's Fire Season Ends, and Researchers Look to the Next One](#)
- NPR Marketplace (Dec 2019) ['Active wildfires are fast-moving disasters, and the fallout can be terrible, too'](#)
- The Sacramento Bee (Nov 2019) ['Just like Paradise.' Why California isn't safer a year after the Camp Fire](#)

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- Inside Science (Dec 2018) [Simultaneous Blazes, Like California's Camp and Woolsey Fires, Have Become the New Normal](#)
- NPR Blue Dot Podcast (Aug 2018)
- ABC7 – interview (Aug 3018)
- NPR KUER: [Simulating the Weather Created by Fire in New Study](#) and accompanied on air interview (Aug 2018)
- VoA: Warming Arctic, Drier Regions, and Wildfires: Is there a link? (Dec 9, 2017)
- [NASA Earth Observatory Blog: Why the SoCal Fires are So Fierce](#) (Dec 7, 2017)
- LA Times: Drought and bugs have killed tens of thousands of trees in the Santa Monica Mountains (Dec 5, 2017)
- [NASA Earth Facebook Live: NASA/Forest Service Q&A on Fire Science](#) (Aug 30, 2016)
- JPL News: NASA/Forest Service Maps Aid Fire Recovery (April 9, 2015)

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## Speaking Engagements

- (2022) [Resilience Tech: Value-Added Analytics for the Wicked Wildfire Problem. The International Environmetrics Society \(TIES\)](#)
- (2022) [Eyes on Earth: ECOSTRESS and Burn Severity. USGS EROS Podcast.](#)
- (2022) [ImgSPEC: Expanding MAAP use cases in support of Open Source Science. NASA Earth Science Data System \(ESDS\) Tech Spotlight.](#)
- (2022) [The Wicked Wildfire Problem and A Year of Innovation.](#) International Association of Wildland Fire.
- (2022) Career Development Q&A: Center for Information Technology Research in the Interest of Society (CITRIS), University of California, Merced [Virtual]
- (2022) Fireside Chat at University of California Expanding Diversity and Gender Equity (EDGE) in Tech [Diversity in Tech Symposium](#) on "Advancing Climate Resilience" [Virtual].
- (2022) UCSB [MEDS: Machine Learning for the Environment Expert Discussion.](#)
- (2021) E-Lightening Talk: Imaging Spectroscopy Processing Environment on the Cloud (ImgSPEC): A Prototype of an Open Science, Scalable Processing Environment. <https://www.essoar.org/doi/10.1002/essoar.10509198.1>
- (2021) Dixie State University: Fire Science 101 - Understanding Fire Across Scales.
- (2021) University of Montana FCFC: [The Wicked Wildfire Problem and Intersectionality with Environmental Justice](#)
- (2021) Morgan Stanley, Climate Change University: Wicked Wildfires and Innovation.

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- (2021) [Tracking Wildfires from Space](#). American Museum of Natural History.
- (2021) Panelist: Climate Change and Colorado Wildfires. [National Association of Corporate Directors \(NACD\) Colorado Chapter](#).
- (2021) Panelist: Wildfires in California and Beyond: Monitoring for Risk with AI and Machine Learning. AI Los Angeles [Virtual Earth Summit](#).
- (2021) Career Development Q&A: Center for Information Technology Research in the Interest of Society (CITRIS), University of California, Merced [Virtual].
- (2021) Plenary: [The Wicked Wildfire Problem and the Solution Space](#). Keck Institute for Space Sciences: [Real Time Detecting and Tracking the Fires that Matter](#)
- (2020) E-Lightening Talk: Imaging Spectroscopy Processing Environment on the Cloud (ImgSPEC), American Geophysical Union Virtual Fall Meeting. <https://doi.org/10.1002/essoar.10504790.1>
- (2020) E-Lightening Talk: Integrating Point-Source Methane Emissions from Imaging Spectroscopy Data into the Multi-scale Methane Analytic Framework (M2AF) Information System, American Geophysical Union Virtual Fall Meeting. <https://doi.org/10.1002/essoar.10504789.1>
- (2020) WKID Innovation: Scaling NASA Processes for Innovation to Non-Aerospace Technologies, USC Viterbi Startup Garage Master Class Monday, Los Angeles, California
- (2020) Panelist. Center for Information Technology Research in the Interest of Society (CITRIS), University of California, Merced.
- (2018) PO.DAAC User Services Overview. Surface Water and Ocean Topography Mission Applications Workshop, Boston, Massachusetts.
- (2018) Wildfire Forecast Modeling. USFS Forest Survey of India Study Tour, Missoula, Montana.
- (2018) NASA User Needs Technical Interchange Meeting. Sioux Falls, South Dakota.
- (2017) Measuring Fire Fuel, Occurrence, Severity, and Recovery. NASA HysplRI Science and Applications Workshops. Pasadena, California.
- (2017) A Scientific Journey. University of California, Los Angeles Environmental Careers Course.
- (2017) Hitchhiker's Guide to JPL for the JPL New Researchers' Support Group. Jet Propulsion Laboratory, California Institute of Technology
- (2017) Panelist at CA Preservation Conference, Pasadena, California.
- (2017) A Scientific Journey. University of California, Riverside FIELDS Data Science & Visualization Workshop

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- (2016) Fire Ecology Data products from ASO: Products from two California Megafires. NASA Airborne Snow Observatory Science and Applications Workshop. Pasadena, California.
- (2016) JPL and NASA Remote Sensing Technologies for Land Resource Management. Natural Areas Conference. Davis, California.
- (2015) NASA Technologies for Land Resource Management (Keynote Speaker) at First International Stewardship Meeting for Climate Change, Earth University, Costa Rica.
- (2015) [Interpreting uncertainty when making decisions](#), TEDx Claremont Colleges.
- (2015) A Scientific Journey. La Crescenta Valley High School Academy of Science and Medicine.
- (2015) The NASA Soil Moisture Active Passive (SMAP) Mission Level 4 Carbon Product calibration and validation using eddy covariance observations across North America, Australia and Finland. American Geophysical Union Fall Meeting. San Francisco, California.
- (2014) MODIS-SMAP-OCO2 synergy and the Carbon Monitoring System. International Association of Landscape Ecology: SMAP Applications pre-workshop. Anchorage, Alaska.
- (2014) A Scientific Journey. Poway High School Physics classes.
- (2011 & 2012) Ecological Scaling: Power Laws, given at University of Washington
- (2010) Intro to Natural Resources, given at Green River Community College

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## Conferences

### Chaired Sessions

- (2021) Accelerating Earth System Predictability: Advances in High-Performance Computing, Numerical Modeling, Artificial Intelligence, and Machine Learning. American Geophysical Union Fall Meeting. New Orleans, Louisiana.
- (2019) Fire in the Environment: Pyrogenic Organic Matter Cycling and Environmental Impacts Across Watersheds II Posters. American Geophysical Union, San Francisco, California.
- (2017) Active Remote Sensing of Forest Structure and Aboveground Biomass: Planned NASA Missions for Forestry Applications. Society of American Foresters. Albuquerque, New Mexico.

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### **Hosted Workshops**

- [\(2021\) Real Time Detection and Tracking of the Fires that Matter, Virtual, Keck Institute of Space Studies, California Institute of Technologies.](#)
- [\(2018\) NASA-FWS NISAR Wetlands Applications Workshop, Beltsville, Maryland](#)
- [\(2018\) NASA-USDA NISAR Agriculture and Soil Moisture Applications Workshop, Greenbelt, Maryland](#)
- [\(2018\) NASA-USFS NISAR Forest and Disturbance Applications Workshop, Washington DC](#)
- [\(2016\) Workshop on Calibration and Validation of Upcoming NASA and ESA Satellite Missions on Forest Structure and Biomass, Washington DC](#)