

## ANDREA DONNELLAN, PH.D.

PURDUE UNIVERSITY, ANDREAD@PURDUE.EDU

### Education

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| 1991 | Ph.D., Geophysics, California Institute of Technology                                                 |
| 2003 | M.S., Computer Science, University of Southern California                                             |
| 1988 | M.S., Geophysics, California Institute of Technology                                                  |
| 1986 | B.S., Geology, Ohio State University, <i>with honors and distinction in geology and minor in math</i> |

### History of Employment

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| 2025 – Present | Purdue University                                                  |
| 2025 – Present | Professor and Head Earth, Atmospheric, and Planetary Sciences      |
| 1993 – 2024    | NASA Jet Propulsion Laboratory, California Institute of Technology |
| 2021 – 2024    | Manager Instrument Systems Section                                 |
| 2024 – 2024    | Senior Research Scientist                                          |
| 2008 – 2024    | Principal Research Scientist                                       |
| 2009 – 2011    | NASA HQ Program Area Co-Lead for Natural Disasters                 |
| 2005 – 2008    | InSAR Lead Scientist/Pre-Project Scientist                         |
| 2002 – 2005    | Deputy Manager Science Division                                    |
| 2000 – 2002    | Deputy Manager Exploration Systems Autonomy Section                |
| 1999 – 2000    | Supervisor Data Understanding Systems Group                        |
| 1993 – 1999    | Member Satellite Geodesy and Geodynamics Systems Group             |
| 2018           | California State Polytechnic University, Pomona                    |
| 2018           | Adjunct Professor, Lecturer Geosciences                            |
| 1991 – 1993    | National Research Council                                          |
| 1991 – 1993    | Postdoctoral Fellow, NASA Goddard Space Flight Center              |
| 1986 – 1991    | California Institute of Technology                                 |
| 1986 – 1991    | Research Assistant, Seismological Laboratory                       |
| 1988           | Teaching Assistant, Seismological Laboratory                       |
| 1983 – 1986    | Ohio State University                                              |
| 1983 – 1986    | Research Assistant, Institute for Polar Studies                    |
| 1983           | Thin Section Laboratory Technician                                 |
| 1985           | Sohio Research and Development                                     |
| 1985           | Geochemistry Group                                                 |

### Visiting Appointments

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|----------------|-------------------------------------------------------------------------------------|
| 2025 – Present | Distinguished Visiting Scientist, NASA Jet Propulsion Laboratory                    |
| 1999 – 2015    | University of Southern California, Adjunct Asst. Professor (Research) Earth Science |
| 1995 – 1996    | California Institute of Technology, Visiting Associate, Seismological Laboratory    |

### Research Experience

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I study earthquake, fault slip, and crustal deformation combining a variety of geodetic imaging techniques with modeling. I currently lead NASA's Surface Topography and Vegetation Study to incubate a mission for the 2035 timeframe and am principal investigator of the QUAKEs airborne stereoimaging instrument suite. I served on the NISAR science team and led development of the first versions of the science definition document and NISAR Handbook. I led NASA's GeoGateway and QuakeSim projects for over twenty years. I use GNSS, InSAR, stereo imagery. I have modeled pre-, co-, and post-earthquake slip and triggered slip dating to the earliest crustal deformation data collected using GPS and was key to establishing the Southern California Integrated GPS Network (SCIGN), which became the Plate Boundary Observatory and is now the Network of the Americas.

## Research Products

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| 2021 & 2022    | QUAKES-I airborne imaging data and 3D products for Grand Canyon, Lake Mead, and Numerous Locations over California                                                                                                                                                         |
| 2021 & 2022    | SAR-Fusion short wavelength infrared (SWIR) and visible stereoimaging products (2021 Caldor Fire, 2022 Mauna Loa eruption)                                                                                                                                                 |
| 2012 – present | GeoGateway ( <a href="http://geo-gateway.org">http://geo-gateway.org</a> ) for analysis of geodetic imaging data. Underlying software used in NISAR mission calibration/validation using UAVSAR and GNSS data. Currently being migrated from Indiana University to Purdue. |
| 2021 – present | NASA Surface Topography and Vegetation Study Lead:                                                                                                                                                                                                                         |
| 2021           | Observing Earth's Changing Surface Topography and Vegetation Structure: A Framework for the Decade                                                                                                                                                                         |
| 2018           | NASA-ISRO SAR (NISAR) Mission Science Users' Handbook Chief Editor                                                                                                                                                                                                         |

## Service Roles

### Professional Organizations

#### *American Geophysical Union*

|             |                                                                 |
|-------------|-----------------------------------------------------------------|
| 2026        | Diversity and Inclusion Award Selection Committee               |
| 2020        | AGU Honors Ambassador Committee Chair                           |
| 2020        | AGU Honors committee chair for Natural Hazards Section          |
| 2017 – 2018 | Diversity and Inclusion Task Force                              |
| 2013 – 2018 | Nonlinear Geophysics Focus Group President-Elect/President/Past |
| 2016 – 2017 | Ethics Task Force                                               |

#### *American Association for the Advancement of Science*

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| 2026 | Membership Engagement Chair Geology and Geography (Section E) |
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#### *IEEE*

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| 2024 – present | The Remote Sensing Environment, Analysis and Climate Technologies Technical Committee (REACT TC) |
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#### *EarthScope*

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| 2026 | Board Nominating Committee |
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#### *UNAVCO*

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| 2018 – 2020 | Board, Vice-Chair (2019–2020) |
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#### *APEC Cooperation on Earthquake Simulation (ACES)*

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|-------------|--------------------------------------------|
| 2000 – 2017 | US Rep. to the International Science Board |
|-------------|--------------------------------------------|

#### *Natl. Academy of Sciences*

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| 2010 | Committee on Spatial Data Enabling USGS Strategic Science in the 21st Century |
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### Editor

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| 2014 – 2021 | AGU Earth and Space Science Journal                                          |
| 2013 – 2014 | PAGEOPH Topical Vol. editor: "Multihazard Simulation and Cyberinfrastructure |
| 2012 – 2014 | ISRN Geophysics, Editorial Board                                             |
| 2003        | Editor ACES PAGEOPH special volume on earthquake simulations                 |

### Programmatic

#### *NASA*

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|-----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2015-2016 | Earth Surface and Interior Program CORE Steering committee member                                                                                                                                    |
| 2009-2011 | NASA HQ Program Area Co-Lead for Natural Disasters<br>Responsible for program elements and strategic direction of program<br>Represented NASA on the White House Subcommittee for Disaster Reduction |

Ex-officio member representing NASA, National Academy of Sciences Disaster Roundtable

*NASA and NSF*

2005 – present Proposal review panels

**Convener**

*NASA Surface Topography and Vegetation (STV) Study*

2020, 2023, 2024 Community Meetings

2020 American Geophysical Union STV Town Hall

2022 – 2025 American Geophysical Union STV Sessions

2024 – 2026 International Geosciences and Remote Sensing Society (IGARSS) STV Sessions

*Seismological Society of America*

2018 Analyzing Geodetic Imaging Data using GeoGateway Short Course, Seattle, WA

*Keck Institute for Space Studies (KISS)*

2014 Gazing at the Solar System: Capturing the Evolution of Dunes, Faults, Volcanoes and Ice from Space, Pasadena, CA

*NASA*

2010 Earth Observing Missions Applications Workshop, Colorado Springs, CO

2008 DESDynI Applications Workshop, Sacramento, CA

*NSF/NASA*

2008 Community InSAR Workshop (Oxnard, 2003)

1999 Autonomous Systems in Extreme Environments Workshop (1999)

1995, 1997 Southern California Integrated GPS Network (SCIGN) network design workshops

*APEC Cooperation on Earthquake Simulation (ACES)*

2002 – 2015 ACES international workshops #3 – 9, Maui, China, Japan, Australia

**Research Funding (Past 10 years, All NASA, Principal Investigator unless noted)**

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|----------------|-------------------------------------------------------------------------------------------------------------------------------------------|
| 2025 – 2028    | Examining the extent and triggering of fault creep in the Salton Trough using UAVSAR, GNSS, and creepmeter data (Co-I, PI E. Tymofyeyeva) |
| 2019 – 2028    | NASA Surface Topography and Vegetation Study Lead                                                                                         |
| 2025 – 2027    | Creating a NASA Surface Topography and Vegetation (STV) Novel Observing System (NOS) (selected, partially funded)                         |
| 2022 – 2025    | High-Resolution Stereophotogrammetry and Analysis for Achieving STV DSI Goals                                                             |
| 2022 – 2025    | NISAR Solid Earth Science Team Member: Calibration and Validation using UAVSAR and GNSS                                                   |
| 2019 – 2022    | NISAR Calibration and Validation for Solid Earth and Applications                                                                         |
| 2020 – 2021    | Quantifying Uncertainty and Kinematics of Earthquake Systems (QUAKES-A) Analytic Center                                                   |
| 2020 – present | Quantifying Uncertainty and Kinematics of Earth Systems Imager (QUAKES-I)                                                                 |
| 2019 – 2020    | SAR and InSAR Training Materials for the Earth Surface and Interior Community (Co-I, PI P. Rosen)                                         |
| 2019 – 2024    | SAR-Fusion Imager                                                                                                                         |
| 2017 – 2020    | Connecting Plate Boundary Processes to Surface Faulting using Geodetic Imaging                                                            |
| 2016 – 2019    | Enhanced Access to NASA Heterogeneous Geodetic Imaging Products through GeoGateway Analysis, Modeling, and Response Tools                 |
| 2017 – 2019    | Excitation and Detection of Tsunamis by the Global Navigation Satellite System, (Co-I, PI J. Rundle)                                      |

2012 –2015      QuakeSim: Multi-Source Synergistic Data Intensive Computing for Earth Science  
 2012 – 2015      Application of UAVSAR Imaging to California Earthquake Potential Due to  
 Tectonic Deformation

### **Selected Honors (28 total)**

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Distinguished Visiting Scientist, NASA Jet Propulsion Laboratory (2025 – present)  
 Fellow, American Geophysical Union (2021)  
 Fellow, American Association for the Advancement of Science (2020)  
 JPL Voyager Award for Lead of NASA's Surface Topography and Vegetation Incubation Study (2020)  
 JPL Voyager Award for Chief Editor NISAR Handbook (2018)  
 QuakeSim 2.0: NASA Software of the Year Award (2012)  
 MUSES California Science Center Foundation, Woman of the Year (2006)  
 Women in Aerospace Award for Outstanding Achievement (2003)  
 Presidential Early Career Award for Scientists and Engineers (1996)  
 NASA Group Achievement Award for *Response to the 2015 Nepal Gorkha Earthquake* (2016)  
 NASA Group Achievement Award for *Response to the 2010 Gulf Oil Spill* (2011)  
 NASA Space Act Awards for software (2004 (3), 2005, 2009, 2012)  
 JPL Lew Allen Award for Excellence (2000)  
 Donnellan Glacier named by Advisory Comm. on Antarctic Names (2006)  
 Women at Work Medal of Excellence (2004)

### **Memberships**

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American Geophysical Union (1986–present), Fellow  
 American Association for the Advancement of Science (2016–present), Fellow  
 Seismological Society of America (2000–2003, 2012, 2015–present)  
 IEEE Senior Member, and IEEE Geoscience and Remote Sensing Society (2016–present)  
 The Explorers Club (2012–present), Fellow National

### **Certifications**

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2015 – present    FAA certified small UAS pilot ()  
 2015 – 2024      NASA certified small UAS pilot and ground control operator ()  
 1996 – present    FAA Commercial instrument single engine land and sea plane pilot (~500 hours):  
                              Flights in the US, Mexico, Canada, and Africa (last flight review 2020)  
 2003 – present    PADI Open Water scuba diver: Dives include Thailand, California, Hawaii, Palau,  
                              Australia, and Caribbean

### **Mentoring**

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Purdue University  
 2025 – 2026      Postdoctoral Associate: Carolina Hurtado Pulido

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Jet Propulsion Laboratory  
 15 mentees, IEEE, Caltech Alumni, JPL, Informal  
 18 interns  
 3 summer faculty fellows  
 11 graduate students, NASA graduate student fellows (5), project funded (6)  
 2 Postdocs, NASA Fellowship (1), SCEC fellowship (1)

### **Media Appearances**

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~75 media appearances in print, radio, TV, video, press conferences, or documentaries ranging from  
 local to international

### **Peer-Reviewed Publications**

- [1] Rundle, J.B., I. Baughman, **A. Donnellan**, L. Grant Ludwig, G.C. Fox, 2025, From Local Earthquake Nowcasting to Natural Time Forecasting: A Simple Do-It-Yourself (DIY) Method, *Earth and Space Science*, <https://doi.org/10.1029/2025EA004820>.
- [2] **Donnellan, A.**, Padgett, C., Green, J., Zinke, R., Applegate, R., Chao, R., Tighe, K., Aghazarian, H., Kogan, D., Assad, C. and Bell, S., 2025. The QUAKES-I stereoimaging instrument for measuring surface topography and land surface processes. *Earth and Space Science*, 12(9), p.e2024EA004001.
- [3] Stack, K.M., Francis, R., Calef, F.J., Gwizd, S.J., Schroeder, J.F., Voigt, J.R., Kristinsson, T., Schroedl, P., Shah, J., Varnam, M. Neish, R.P. Perkins, S. Vanga, M.S. Bramble, **A. Donnellan**, J.T. Osterhout, M. Tuite, B.B. Carr, and, C.W. Hamilton, 2025. Simulating Science Operations for a Joint Rover-helicopter Mission Architecture in a Mars Analog Setting. *The Planetary Science Journal*, 6(7), p.173.
- [4] A. Jafari, G. Fox, J. Rundle, **A. Donnellan**, L. Grant Ludwig (2024), Time Series Foundation Models and Deep Learning Architectures for Earthquake Temporal and Spatial Nowcasting, *Geohazards*, <https://doi.org/10.3390/geohazards5040059>.
- [5] Rundle, J.B., **Donnellan, A.**, Fox, G., Ludwig, L.G. and Crutchfield, J., 2023. Does the Catalog of California Earthquakes, with Aftershocks Included, Contain Information about Future Large Earthquakes? *Earth and Space Science*, 10(2), p.e2022EA002521.
- [6] Rundle, J.B., **Donnellan, A.**, Fox, G. and Crutchfield, J.P., 2022. Nowcasting earthquakes by visualizing the earthquake cycle with machine learning: A comparison of two methods. *Surveys in Geophysics*, 43(2), pp.483-501.
- [7] Rundle, J.B., Y. Yazbeck, **A. Donnellan**, G. Fox, L. Grant Ludwig, M. Heflin, J. Crutchfield, 2022, Optimizing Earthquake Nowcasting with Machine Learning: The Role of Strain Hardening in the Earthquake Cycle, *Earth and Space Science*
- [8] **Donnellan, A.**, J. Suarez, D. Asimaki, C. Goulet, D. McPhillips, Z. Meng, S. Devine, G. Lyzenga, 2022, Toppling of Trona Pinnacles in the 2019 Ridgecrest Earthquake Sequence and subsequent M5.6 Aftershock of June 2020, *Seismological Research Letters*.
- [9] Fox, G.C., Rundle, J.B., **Donnellan, A.** and Feng, B., 2022. Earthquake nowcasting with deep learning. *Geohazards*, 3(2), pp.199-226.
- [10] Grzan, D., Ward, S., Wilson, J.M., Rundle, J.B. and **Donnellan, A.**, 2022. Tsunami Squares Implementation Changes to Improve Wave Resolution and Accuracy. *Authorea Preprints*.
- [11] Granat, R., **A. Donnellan**, M. Heflin, G. Lyzenga. M. Glasscoe, J. Parker, M. Pierce, J. Wang, J. Rundle, L. Grant Ludwig, 2021, Clustering Analysis Methods for GNSS Observations: A Data-Driven Approach to Identifying California's Major Faults, *Earth and Space Science*, DOI: 10.1029/2021EA001680.
- [12] Rundle, J.B., Donnellan, A., Fox, G. and Crutchfield, J.P., 2021. Nowcasting Earthquakes by Visualizing the Earthquake Cycle with Machine Learning: A Comparison of Two Methods. *Surveys in Geophysics*, pp.1-19.
- [13] Grzan, D.P., Rundle, J.B., Wilson, J.M., Song, T., Ward, S.N. and Donnellan, A., 2021. Tsunami Squares: Earthquake driven inundation mapping and validation by comparison to the Regional Ocean Modeling System. *Progress in Disaster Science*, p.100191.

- [14] Goulet, C.A., Wang, Y., Nweke, C.C., Tang, B.X., Wang, P., Hudson, K.S., Ahdi, S.K., Meng, X., Hudson, M.B., Donnellan, A. and Lyzenga, G.A., 2021. Comparison of near-fault displacement interpretations from field and aerial data for the M 6.5 and 7.1 ridgecrest earthquake sequence ruptures. *Bulletin of the Seismological Society of America*, 111(5), pp.2317-2333. <https://doi.org/10.1785/0120200222>.
- [15] Parker, J., **A. Donnellan**, R. Bilham, L. Grant Ludwig, J. Wang, M. Pierce, N. Mowery, S. Janecke, 2021, Buried Aseismic Slip and Off-Fault Deformation on the Southernmost San Andreas Fault Triggered by the 2010 El Mayor Cucapah Earthquake Revealed by UAVSAR, *Earth and Space Science*, DOI:10.1029/2021EA001682.
- [16] Saylor, C., Rundle, J.B. and Donnellan, A., 2021. Multifractal Analysis of a Seismic Moment Distribution Obtained From InSAR Inversion. *Earth and Space Science*, 8(9), p.e2020EA001433.
- [17] Simons, M., Bekaert, D., Borsa, A., Donnellan, A., Fielding, E., Jones, C., Lohman, R., Lu, Z., Meyer, F., Owen, S. and Rosen, P.A., 2021, July. Nisar Requirements and Validation Approach for Solid Earth Science. In 2021 IEEE International Geoscience and Remote Sensing Symposium IGARSS (pp. 543-546). IEEE.
- [18] Rundle, J.B., S. Stein, **A. Donnellan**, D.L. Turcotte, W. Klein, C. Saylor, 2021, The Complex Dynamics of Earthquake Fault Systems: New Approaches to Forecasting and Nowcasting of Earthquakes, *Reports on Progress in Physics*, <https://doi.org/10.1088/1361-6633/abf893>.
- [19] Parker, J., **A. Donnellan**, R. Bilham, L. Grand Ludwig, J. Wang, M. Pierce, N. Mowry, S. Janecke, 2021, Buried Aseismic Slip and Off-Fault Deformation on the Southernmost San Andreas Fault triggered by the 2010 El Mayor Cucapah Earthquake revealed by UAVSAR, *Earth and Space Science*, DOI: 10.1029/2021EA001682.
- [20] Parker, J. **A. Donnellan**, M. Glasscoe, 2021, Survey of Transverse Range Fire Scars in Ten Years of UAVSAR Polarimetry, *Earth and Space Science*, doi: 10.1029/2021EA001644.
- [21] Milliner, C., **A. Donnellan**, S.Aati, J-P. Avouac, R. Zinke, J. Dolan, K. Wang, R. Bürgmann, 2021, Bookshelf Kinematics and the Effect of Dilatation on Fault Zone Inelastic Deformation: Examples from Optical Image Correlation Measurements of the 2019 Ridgecrest Earthquake Sequence, *J. Geophys. Res.*, DOI: 10.1029/2020JB020551.
- [22] **Donnellan, A.**, 2021, Remote Sensing of Deformation and Disturbance to Monitor and Assess Infrastructure in Urban Environments. In: Singhroy, V. (eds) *Advances in Remote Sensing for Infrastructure Monitoring*. Springer Remote Sensing/Photogrammetry. Springer, Cham. [https://doi.org/10.1007/978-3-030-59109-0\\_6](https://doi.org/10.1007/978-3-030-59109-0_6).
- [23] **Donnellan, A.**, J. Parker, M. Heflin, M. Glasscoe, G. Lyzenga, M. Pierce, J. Wang, J. Rundle, L. Grant Ludwig, R. Granat, M. Mirkhanian, N. Pulver, 2021, Improving Access to Geodetic Imaging Crustal Deformation Data Using GeoGateway, *Earth Science Informatics*, DOI: 10.1007/s12145-020-00561-7.
- [24] Dawson, T., C.B. DuRoss, R. Gold, K. Scharer, D. Ponti, T. Ladinsky, V.E. Langenheim, D. McPhillips, A. Morelan, C. Milliner, K. Kendrick, J. Hernandez, K. Hudnut, S. Akciz, S. Angster, J-P. Avouac, S. Bacon, J. Bachhuber, N. Barth, S. Bennett, L. Blair, K. Blake, S. Bork, B. Brooks, T. Bullard, W.P. Burgess, C. Chupik, M. DeFrisco, J. Delano, J. Dolan, **A. Donnellan**, T. Ericksen, E. Frost, G. Funning, N. Graehl, C. Gutierrez, E. Haddon, P. Holland, A. Hatem, J. Helms, C. Hitchcock, J.T. Jobe, R. Koehler, O. Kozaci, C. Madugo,

- R.Leeper, M. Mareschal, D. McPhillips, M. O'Neil, J. Nevitt, B. Olson, S. Padilla, J. Patton, B. Philibosian, A.J. Pickering, I. Pierce, C. Pridmore, N. Roth, D. Sandwell, G. Seitz, D. Singleton, B. Smith-Konter, E. Spangler, B. Swanson, K. Thomas, J. Treiman, F. Valencia, A. Williams, X. Xu, J. Zachariasen, J. Zimmerman, and R. Zinke, submitted, Field-based Observations of Surface Ruptures Associated with the 2019 Ridgecrest Earthquake Sequence, *Bull. Seism. Soc. Am.*
- [25] **Donnellan, A.**, G. Lyzenga, A. Ansar, C. Goulet, J. Wang, M. Pierce, 2020, Targeted High-Resolution Structure from Motion Observations over the M6.4 and M7.1 Ruptures of the Ridgecrest Earthquake Sequence, *Seismological Research Letters*, XX, 1–9, doi: 10.1785/0220190274.
  - [26] Rundle, J.B., **A. Donnellan**, 2020, Nowcasting Earthquakes in Southern California with Machine Learning: Bursts, Swarms and Aftershocks May Be Related to Levels of Regional Tectonic Stress, *Earth and Space Science*, doi: 10.1029/2020EA001097.
  - [27] Milliner, C. and **Donnellan, A.**, 2020. Using Daily Observations from Planet Labs Satellite Imagery to Separate the Surface Deformation between the 4 July M w 6.4 Foreshock and 5 July Mw 7.1 Mainshock during the 2019 Ridgecrest Earthquake Sequence. *Seismological Research Letters*, doi: 10.1785/0220190271.
  - [28] Brandenburg, S.J., Stewart, J.P., Wang, P., Nweke, C.C., Hudson, K., Goulet, C.A., Meng, X., Davis, C.A., Ahdi, S.K., Hudson, M.B., **Donnellan, A.**, Lyzenga, G., Pierce, M., Wang, J., Winters, M.A., Delisle, M-P., Lucey, J., Kim, Y., Gallien, T.W., Lyda, A., Yeung, J.S., Issa, O., Buckreis, T., Yi, Z., 2020, Ground Deformation Data from GEER Investigations of Ridgecrest Earthquake Sequence, *Seismological Research Letters*, <https://doi.org/10.1785/0220190291>.
  - [29] Share, P-E., P. Tábořík, P. Štěpánčíková, J. Stemberk, T.K. Rockwell, A. Wade, J.R. Arrowsmith, **A. Donnellan**, F.L. Vernon, and Y. Ben-Zion, 2020, Characterizing the uppermost 100 m structure of the San Jacinto fault zone southeast of Anza, California, through joint analysis of geologic, topographic, seismic and resistivity data, *Geophysical Journal International*.
  - [30] Ponti, D.J., J.L. Blair, C.M. Rosa, K. Thomas, A.J. Pickering, S. Akciz, S. Angster, J-P. Avouac, J. Bachhuber, S. Bacon, S. Bennett, K. Blake, S. Bork, B. Brooks, T. Bullard, P Burgess, C. Chupik, T. Dawson, M. DeFrisco, J. Delano, S. DeLong, J. Dolan, **A. Donnellan**, C. DuRoss, T. Ericksen, E. Frost, G. Funning, R. Gold, N. Graehl, C. Gutierrez, E. Haddon, A. Hatem, J. Helms, J. Hernandez, C. Hitchcock, P. Holland, K. Hudnut, K. Kendrick, R. Koehler, O. Kozaci, T. Ladinsky, R. Leeper, C. Madugo, M. Mareschal, J. McDonald, D. McPhillips, C. Milliner, D. Mongovin, A. Morelan, J. Nevitt, M. O'Neal, B. Olson, M. Oskin, S. Padilla, J. Patton, B. Philibosian, I. Pierce, C. Pridmore, N. Roth, D. Sandwell, K. Scharer, G. Seitz, D. Singleton, B. Smith-Konter, E. Spangler, B. Swanson, J.T. Jobe, J. Treiman, F. Turner, A. Williams, X. Xu, J. Zachariasen, J. Zimmerman, R. Zinke, 2020, Documentation of surface fault rupture and ground deformation features produced by the Ridgecrest M6.4 and M7.1 earthquake sequence of July 4 and 5, 2019, *Seismological Research Letters*.
  - [31] Heflin, M., **A. Donnellan**, J. Parker, G. Lyzenga, A. Moore, L. Grant Ludwig, J. Rundle, J. Wang, M. Pierce, 2020, Automated Estimation and Tools to Extract Positions, Velocities, Breaks, and Seasonal Terms from Daily GNSS Measurements: Illuminating Nonlinear Salton Trough Deformation, *Earth and Space Science*, doi: 10.1029/2019EA000644.

- [32] Rundle, J.B., Luginbuhl, M., Khapikova, P., Turcotte, D.L., **Donnellan, A.** and McKim, G., 2020. Nowcasting great global earthquake and tsunami sources. *Pure and Applied Geophysics*, 177(1), pp.359-368.
- [33] **Donnellan, A.**, Y. Lou, C. Padgett, A. Tanner, B. Hawkins, J. Parker, A. Ansar, M. Heflin, J. Green, R. Muellerschoen, 2019. Improving UAVSAR Results with GPS, Radiometry, and QUAKEs Topographic Imager, IEEE Aerospace Conference, Big Sky, Montana, 2019.
- [34] Rundle, J.B., Giguere, A., Turcotte, D.L., Crutchfield, J.P. and **Donnellan, A.**, 2019. Global Seismic Nowcasting with Shannon Information Entropy. *Earth and Space Science*, <https://doi.org/10.1029/2018EA000464>.
- [35] **Donnellan, A.**, Green, J., Ansar, A., Muellerschoen, R., Parker, J., Tanner, A., Lou, Y., Heflin, M., Arrowsmith, R., Rundle, J., Ben-Zion, Y., DeLong, S., Grant Ludwig, L., 2018, July. Geodetic Imaging of Fault Systems from Airborne Platforms: UAVSAR and Structure from Motion. In IGARSS 2018-2018 IEEE International Geoscience and Remote Sensing Symposium (pp. 7878-7881). IEEE.
- [36] **Donnellan, A.**, J.W. Parker, M.B. Heflin, G.A. Lyzenga, L. Grant Ludwig, J.B. Rundle, J. Wang, M. Pierce, 2018, Fracture Advancing Step Tectonics Observed in the Yuha Desert and Ocotillo Following the 2010 M7.2 El Mayor – Cucapah Earthquake, *Earth and Space Science*.
- [37] **Donnellan, A.**, J. Parker, C. Milliner, T.G. Farr, M. Glasscoe, Y. Lou, B. Hawkins, 2018, UAVSAR and Optical Analysis of the Thomas Fire Scar and Montecito Debris Flows: Case Study of Methods for Disaster Response using Remote Sensing Products, *Earth and Space Science*.
- [38] **Donnellan, A.**, J. Green, A. Ansar, R. Muellershoen, J. Parker, A. Tanner, M. Heflin, R. Arrowsmith, J. Rundle, Y. Ben-Zion, S. DeLong, L. Grant Ludwig, 2018. Geodetic Imaging of Fault Systems from Airborne Platforms: UAVSAR and Structure from Motion. In *Geoscience and Remote Sensing Symposium (IGARSS)*, 2018 IEEE International (in press), IEEE.
- [39] **Donnellan, A.**, J. Green, J. Aletky, M. Glasscoe, R. Arrowsmith, Y. Ben-Zion, S. DeLong, 2017, Imaging of Earthquake Faults using Small UAVs as a Pathfinder for Air and Space Observations, IEEE Aerospace Conference, Big Sky, Montana, 2017.
- [40] **Donnellan, A.**, R. Arrowsmith, S. DeLong, 2017. Spatio-Temporal Mapping of Plate Boundary Faults in California using Geodetic Imaging, Special Issue "Advances in Lithological and Structural Mapping Using Earth Observation Data," K. Tansey and S. Grebby eds., *Geosciences*, 7, 15, doi:10.3390/geosciences7010015.
- [41] Rundle, J. B., D. L. Turcotte, **A. Donnellan**, L. Grant Ludwig, M. Luginbuhl, and G. Gong, 2016, Nowcasting earthquakes, *Earth and Space Science*, 3, doi:10.1002/2016EA000185.
- [42] Parker, J., M. Glasscoe, **A. Donnellan**, T. Stough, M. Pierce, J. Wang, 2016, Radar Determination of Fault Slip and Location in Partially Decorrelated Images, *Pure and Applied Geophysics*, 174: 2295, doi:10.1007/s00024-016-1403-z.
- [43] DeLong, S.B., **A. Donnellan**, D.J. Ponti, R.S. Rubin, G. Seitz, D.P. Schwartz, C.S. Prentice, T.E. Dawson, J.J. Lienkaemper, K.W. Hudnut, C. Rosa, A. Pickering, J.W. Parker, 2016, Tearing the terroir: Details and implications of surface rupture and deformation from the 24 August 2014 M6.0 South Napa earthquake, California, *Earth and Space Science*, 3, 416–430, doi:10.1002/2016EA000176.

- [44] **Donnellan, A.**, R. Arrowsmith, V. Langenheim, 2016, Select Airborne Techniques for Mapping and Problem Solving, in *Applied Geology in California* (book), eds. R. Anderson and H. Ferriz, Star Publishing, California, pp 541-566.
- [45] Rundle, J.B., J.R. Holliday, W.R. Graves, P.B. Rundle, B. Jeremic, S. Kunnath, R. Feltstykke, K. Mayeda, D.L. Turcotte, **A. Donnellan**, 2016, A Practitioner's Guide to Operational Real Time Earthquake Forecasting, in *Applied Geology in California* (book), eds. R. Anderson and H. Ferriz, Star Publishing, California, pp 983-1003.
- [46] Kargel, J.S., G.J. Leonard, D.H. Shugar, U.K. Haritashya, A. Bevington, E.J. Fielding, K. Fujita, M. Geertsema, Evan S. Miles, Jakob Steiner, S. Bajracharya, G.W. Bawden, D.F. Breashears, B. Collins, M.R. Dhital, **A. Donnellan**, M.T. Glasscoe, D. Green, K. Hudnut, C. Huyck, W.W. Immerzeel, N.R. Khanal, D. Kirschbaum, P.D.A. Kraaijenbrink, D. Lamsal, LIU Shiyin, D. McKinney, T.H. Painter, M. Pleasants, A. Sakai, SHANGGUAN Donghui, J.M. Shea, A.B. Shrestha, D. Stumm, M. van der Kooij, M.R. Yoder, Eric Anderson, Alton Byers, E. Czyzowska-Wisniewski, Teresa L. Evans, Marie-Laure Geai, Deo Raj Gurung, R. Heijenk, A. Hilborn, JIANG Liming, Randall Jibson, A. Kääb, LV Mingyang, N.K. Nahirnick, NAN Zhuotong, S. Ojha, J. Olsenholler, K.C. Pratima, QI Yuan, B. Raup, D. Regmi, David R. Rounce, A. Shukla, K. Voss, WANG Xin, Brandon Weihs, David Wolfe, WU Lizong, YAO Xiaojun, and Neal Young, 2015, Geomorphic and geologic controls of geohazards induced by Nepal's 2015 Gorkha earthquake, *Science*, DOI: 10.1126/science.aac8353.
- [47] Yoder, M.R., K.W. Schultz, E.M. Heien, J.B. Rundle, D.L. Turcotte, J.W. Parker, **A. Donnellan**, 2015, The Virtual Quake earthquake simulator: A simulation based forecast of the El Mayor-Cucapah region and evidence of earthquake predictability, *Geophys. J. Int.*, 203, 1587-1604, doi: 10.1093/gji/ggv320.
- [48] Yoder, M.R., K.W. Schultz, E.M. Heien, J.B. Rundle, D.L. Turcotte, J.W. Parker, A. Donnellan, 2015, Forecasting earthquakes with the Virtual Quake simulator: Regional and fault-partitioned catalogs, in series *International Association of Geodesy Symposia*, doi: 10.1007/1345\_2015\_198.
- [49] Schultz, K.W., M.K. Sachs, M.R. Yoder, J.B. Rundle, D.L. Turcotte, E.M. Heien, A. Donnellan, 2015, Virtual Quake: Statistics, Co-seismic Deformations and Gravity Changes for Driven Earthquake Fault Systems, Chapter in series *International Association of Geodesy Symposia*, Springer Berlin Heidelberg, pp 1-9, 10.1007/1345\_2015\_134.
- [50] **Donnellan, A.**, L. Grant Ludwig, J.W. Parker, J.B. Rundle, J. Wang, M. Pierce, G. Blewitt, S. Hensley, 2015, Potential for a large earthquake near Los Angeles inferred from the 2014 La Habra earthquake, *Earth and Space Sci*, 2, 378–385, DOI: 10.1002/2015EA000113.
- [51] Schultz, K.W., M.K. Sachs, E.M. Heien, J.B. Rundle, D.L. Turcotte, and **A. Donnellan**, 2015, Simulating Gravity Changes in Topologically Realistic Driven Earthquake Fault Systems: First Results, *Pure and Applied Geophysics* special topical volume Multihazard Simulation and Cyberinfrastructure, 172, doi: 10.1007/s00024-014-0926-4.
- [52] Wei, S., J-P. Avouac, K.W. Hudnut, **A. Donnellan**, J.W. Parker, R.W. Graves, E. Fielding, Z. Liu, F. Cappa, and M. Eneva, 2015, The 2012 Brawley Swarm Triggered by Injection-Induced Aseismic Slip, *Earth and Planetary Science Letters*, 422, 115-125.
- [53] Wang, J., M. Pierce, **A. Donnellan**, J. Parker, 2015, Web Services for Dynamic Coloring UAVSAR Images, *Pure and Applied Geophysics*, Report Topical Volume, Multihazard Simulation and Cyberinfrastructure, 172, DOI: 10.1007/s00024-014-0941-5.

- [54] **Donnellan, A.**, J. Parker, S. Hensley, M. Pierce, J. Wang, J. Rundle, 2014, UAVSAR Observations of Triggered Slip on the Imperial, Superstition Hills, and East Elmore Ranch Faults Associated with the 2010 M 7.2 El Mayor - Cucapah Earthquake, *Geochemistry, Geophysics, Geosystems*, 15, doi: 10.1002/2013GC005120.
- [55] **Donnellan, A.**, J.W. Parker, J. Wang, Y. Ma, M. Pierce, 2014, Cloud Computing for Geodetic Imaging Data Processing, Analysis, and Modeling, IEEE Aerospace Conference, Big Sky, MT, March 2–7, 2014.
- [56] **Donnellan, A.**, B. Bills, J. Green, R. Goullioud, S. Jones, R. Knight, M. Underhill, J. Goguen, E.M. De Jong, A. Ansar, T. Scambos, P. Morin, B. Hallet, L. Thompson, A.S. Gardner, J. Ekholm, 2014, Studying Mountain Glacier Processes Using a Staring Instrument, IEEE Aerospace Conference, Big Sky, MT, March 2–7.
- [57] **Donnellan, A.**, 2014) Earth System Models, in *Encyclopedia of Remote Sensing*, Springer, EG Njoku (ed.), DOI 10.1007/978-0-387-36699-9, 146-150.
- [58] Glasscoe, M., J. Wang, M. Pierce, M.R. Yoder, J.W. Parker, M.C. Burl, T.M. Stough, R.A. Granat, **A. Donnellan**, J.B. Rundle, Y. Ma, G.W. Bawden, 2014, E-DECIDER: Using Earth Science Data and Modeling Tools to Develop Decision Support for Earthquake Disaster Response, *Pure and Applied Geophysics, Report Topical Volume, Multihazard Simulation and Cyberinfrastructure*, DOI: 10.1007/s00024-014-0824-9.
- [59] Parker, J., **A. Donnellan**, M. Glasscoe, G. Fox, M. Pierce, J. Wang, Y. Ma, 2014, Advantages to Geoscience and Disaster Response from the QuakeSim Implementation of Interferometric Radar Maps in a GIS Database System, *Pure and Applied Geophysics, Report Topical Volume, Multihazard Simulation and Cyberinfrastructure*, 127, 2295-2308, DOI:10.1007/s00024-014-0886-8.
- [60] **Donnellan, A.**, M. Glasscoe, J. Parker, R. Granat, M. Pierce, J. Wang, G. Fox, D. McLeod, J. Rundle, E. Heien, L. Grant Ludwig, 2013, Integrating Remotely Sensed and Ground Observations for Modeling, Analysis, and Decision Support, IEEE Aerospace Conference, March 2, 2013, Big Sky, MT, DOI: 10.1109/AERO.2013.6497163.
- [61] **Donnellan, A.**, J.J. Green, M. De Jong, R. Knight, B. Bills, R. Arrowsmith, High resolution imaging of dynamic surface processes from the ISS, IEEE Aerospace Conference, March 2, 2013, Big Sky, MT,
- [62] Committee on Spatial Data Enabling USGS Strategic Science in the 21st Century; Mapping Science Committee; Board on Earth Sciences and Resources; Division on Earth and Life Studies; National Research Council, R. Denaro (Chair), G. Brimhall, R. Chen, **A. Donnellan**, M. Emch, I. Jackson, J. Kelmelis, X. Lopez, D. Ojima, B. Scanlon, 2012, *Advancing Strategic Science: A Spatial Data Infrastructure Roadmap for the U.S. Geological Survey*, ISBN 978-0-309-26457-0, 132 pages.
- [63] Wang, J., M. Pierce, Y. Ma, G. Fox, **A. Donnellan**, J. Parker, and M. Glasscoe, 2012, Using Service-Based GIS to Support Earthquake Research and Disaster Response, *Computing in Science and Engineering*, 14, 21-30, September.
- [64] **Donnellan, A.**, J. Parker, M. Glasscoe, E. De Jong, M. Pierce, G. Fox, D. McLeod, J. Rundle, L. Grant Ludwig, 2012, A Distributed Approach to Computational Earthquake Science: Opportunities and Challenges, *Computing in Science and Engineering*.
- [65] **Donnellan, A.**, J. Parker, R. Granat, E. De Jong, S. Suzuki, M. Pierce, G. Fox, J. Rundle, D. McLeod, R. Al-Ghanmi, L. Grant Ludwig, 2012, QuakeSim: Integrated modeling and analysis

- of geologic and remotely sensed data, IEEE Aerospace Conference, Big Sky, Montana, March 3, 2012.
- [66] Rundle, J.B., J.R. Holliday, M. Yoder, M.K. Sachs, **A. Donnellan**, D.L. Turcotte, K.F. Tiampo, W. Klein, L.H. Kellogg, 2011, Earthquake precursors: activation or quiescence, *Geophys. J. Int.*, 187, 225-236, DOI: 10.1111/j.1365-246X.2011.05134.x.
  - [67] Van Aalsburg, J., L.B. Grant, P.B. Rundle, G. Yakovlev, J.B. Rundle, D.L. Turcotte, **A. Donnellan**, K.F. Tiampo, J. Fernandez-Torres, I. Dobson, 2010, Space- and time- dependent probabilities for earthquake fault systems from numerical simulations: Feasibility study and first results, *PAGEOPH*, 167, 967-977, DOI: 10.1007/s00024-010-0091-3.
  - [68] Glasscoe, M.T., R.A. Granat, J.B. Rundle, P.B. Rundle, **A. Donnellan**, L.H. Kellogg, 2009, Analysis of emergent fault element behavior in Virtual California, *Concurrency and Computation: Practice and Experience*, 9999, 1532-0626.
  - [69] Plag, H-P, Z. Altamimi, S. Beddatpur, G. Beutler, G. Beyerle, A. Casanave, D. Crossley, **A. Donnellan**, R. Forsburg, R. Gross, J. Hinderer, A. Komjathy, C. Ma, A.J. Mannucci, C. Noll, A. Nothnagel, E.C. Pavlis, M. Pearlman, P. Poli, U. Schreiber, K. Senior, P.L. Woodworth, S. Zerbini, C. Zuffada, 2009, The Goals, Achievements, and Tools of Modern Geodesy, chapter in *Global Geodetic Observing System, Meeting the Requirements of a Global Society on a Changing Planet in 2020*, H-P. Plag, and M. Pearlman, eds., Springer-Verlag, Berlin Heidelberg, 15-88.
  - [70] Rothacher, M., G. Beutler, D. Behrend, **A. Donnellan**, J. Hinderer, C. Ma, C. Noll, J. Oberst, M. Pearlman, H.-P. Plag, B. Richter, T. Schöne, G. Tavernier, P. L. Woodworth, 2009, The future Global Geodetic Observing System, in 2020, H-P. Plag, and M. Pearlman, eds., Springer-Verlag, Berlin Heidelberg, 237-272.
  - [71] **Donnellan, A.**, J. Parker, R. Granat, G. Fox, M. Pierce, J. Rundle, D. McLeod, R. Al-Ghanmi, L. Grant, W. Brooks, 2008, QuakeSim: Efficient Modeling of Sensor Web Data in a Web Services Environment, IEEE Aerospace Conference, Big Sky, Montana, March 1, 2008.
  - [72] Pierce, M.E., G.C. Fox, G. Aydin, Z. Qi, **A. Donnellan**, J. Parker, R. Granat, 2008, Quakesim: Web services, portals, and infrastructure for geophysics, IEEE Aerospace Conference, Big Sky, Montana, March 1, 2008.
  - [73] **Donnellan, A.**, H. Zebker, and K. J. Ranson, 2008, Radar and Lidar Measurement of Terrestrial Processes, *Eos Trans. AGU*, 89(38), 349–350, doi:10.1029/2008EO380002.
  - [74] **Donnellan, A.**, P. Rosen, J. Graf, A. Loverro, A. Freeman, R. Treuhaft, R. Oberto, M. Simard, E. Rignot, R. Kwok, X. Pi, J.B. Blair, W. Abdalati, J. Ranson, H. Zebker, B. Hager, H. Shugart, M. Fahnestock, R. Dubayah, 2008, Deformation, ecosystem structure, and dynamics of ice (DESDynI), IEEE Aerospace Conference, Big Sky, Montana, March 1, 2008.
  - [75] Parker J., Lyzenga G., Norton C., Zuffada C., Glasscoe M., 2008, Lou J., **Donnellan A.**, Geophysical finite-element simulation tool (GeoFEST): Algorithms and validation for quasistatic regional faulted crust problems, *PAGEOPH*, 165, 497-521.
  - [76] Van Aalsburg, J., L.B. Grant, G. Yakovlev, P.B. Rundle, J.B. Rundle, D.L. Turcotte, **A. Donnellan**, 2007, A feasibility study of data assimilation in numerical simulations of earthquake fault systems, *Phys. of the Earth and Planetary Interiors*, 163, 149–162.
  - [77] Blom, R., Donnellan, A., Fielding, E., Freeman, A., Hensley, S., Johnson, W.T., Loverro, A., Lundgren, P., Rosen, P. and Saatchi, S., 2007, July. Genesis of a new NASA InSAR mission

- concept, and natural hazards applications. In Geoscience and Remote Sensing Symposium, 2007. IGARSS 2007. IEEE International (pp. 4912-4915). IEEE.
- [78] Tralli, D.M., R.G. Blom, E.J. Fielding, **A. Donnellan**, 2007, Conceptual case for assimilating interferometric synthetic aperture radar data into the HAZUS-MH earthquake module, *IEEE Trans. of Geosci. and Remote Sensing*, 45, 1595–1604.
  - [79] **Donnellan, A.**, J. Parker, C. Norton, G. Lyzenga, M. Glasscoe, G. Fox, M. Pierce, J. Rundle, D. McLeod, L. Grant, W. Brooks, T. Tullis, 2007, QuakeSim: Enabling Model Interactions in Solid Earth Science Sensor Webs, 2007 IEEE Aerospace Conference, Big Sky, Montana, March 3, 2007.
  - [80] Holliday, J.R., C.C. Chen, K.F. Tiampo, J.B. Rundle, D.L. Turcotte, **A. Donnellan**, 2007, A RELM earthquake forecast based on pattern informatics, *Seism. Res. Lett.* 78, 87–93.
  - [81] Holliday, J.R., J.B. Rundle, K.F. Tiampo, W. Klein, **A. Donnellan**, 2006, Modification of the pattern informatics method for forecasting large earthquake events using complex eigenfactors, *Tectonophysics*, 413, 87–91.
  - [82] Rundle, J.B., P.B. Rundle, **A. Donnellan**, P. Li, W. Klein, G. Morein, D.L. Turcotte, L. Grant, 2006, Stress transfer in earthquakes, hazard estimation and ensemble forecasting: Inferences from numerical simulations, *Tectonophysics*, 413, 109–125.
  - [83] Yin, X., P. Mora, **Donnellan, A.**, Matsu-ura, M. eds., 2006, Computational Earthquake Physics, Parts I and II, *PAGEOPH*, 163, 1730–1740 and 2259–2261.
  - [84] **Donnellan, A.**, J. Rundle, G. Fox, D. McLeod, L. Grant, T. Tullis, M. Pierce, J. Parker, G. Lyzenga, R. Granat, M. Glasscoe, 2006, QuakeSim and the Solid Earth Research Virtual Observatory, *PAGEOPH*, 163, 2263–2279.
  - [85] Aktas, M., Aydin, G., **Donnellan, A.**, Fox, G., Granat, R., Grant, L., Lyzenga, G., McLeod, D., Pallickara, S., Parker, J., Pierce, M., Rundle, J., Sayar, A., Tullis, T., 2006, ISERVO: Implementing the International Solid Earth Research Virtual Observatory by integrating computational grid and geographical information Web Services, *PAGEOPH*, 163, 2281–2296.
  - [86] Holliday, J.R., Rundle, J.B., Tiampo, K.F., Klein, W., **Donnellan, A.**, 2006, Systematic procedural and sensitivity analysis of the Pattern Informatics method for forecasting large,  $M > 5$  earthquake events in Southern California, *PAGEOPH*, 163, 2433–2454.
  - [87] Rundle, J.B.; Turcotte, D.L.; Rundle, P.B.; Shcherbakov, R.; Yakovlev, G.; **Donnellan, A.**; Klein, W., 2006, Pattern dynamics, pattern hierarchies, and forecasting in complex multi-scale earth systems, *Hydrology and Earth System Sciences*, 10, 789–796.
  - [88] Holliday, J.R., Rundle, J.B., Turcotte, D.L., Klein, W., Tiampo, K.F., **Donnellan, A.**, 2006, Space-time clustering and correlations of major earthquakes, *Phys. Rev. Lett.*, 97, 238501.
  - [89] Rundle, P.B., Rundle, J.B., Tiampo, K.F., **Donnellan, A.**, Turcotte, D.L., 2006, Virtual California: Fault model, frictional parameters, applications, *PAGEOPH*, 163, 1819–1846.
  - [90] Rundle, J.B., P.B. Rundle, **A. Donnellan**, D.L. Turcotte, R. Shcherbakov, P. Li, B.D. Malamud, L.B. Grant, G.C. Fox, D. McLeod, G. Yakovlev, J. Parker, W. Klein, K.F. Tiampo, 2005, A simulation-based approach to forecasting the next great San Francisco earthquake, *Proceedings of the National Academy of Sciences*, **102**, 15363–15367.
  - [91] Tralli, D.M., R.G. Blom, V. Zlotnicki, **A. Donnellan**, D.L. Evans, 2005, Satellite Remote Sensing of earthquake, volcano, flood, landslide, and coastal inundation hazards, *ISPRS Journal of Photogrammetry and Remote Sensing*, **59**, 185–198.

- [92] Grant L.B., **A. Donnellan**, D. McLeod, M. Pierce, G.C. Fox, A.Y. Chen, M.M. Gould<sup>1</sup>, S.S. Sung, P.B. Rundle, 2005, A Web Services-Based Universal Approach to Heterogeneous Fault Databases, *Computing in Science and Engineering Special Issue on Multi-Physics Modeling*, **7**, 51–57.
- [93] **Donnellan, A.**, P. Mora, Matsu-ura, M., X. Yin eds., 2004, Computational Earthquake Science, Parts I and II, *PAGEOPH*, 161, 1823–1825 and 2119–2112.
- [94] Rundle, J.B., P.B. Rundle, **A. Donnellan**, and G. Fox, 2004, Gutenberg-Richter Statistics in Topologically Realistic System-Level Earthquake Stress-Evolution Simulations, *Earth, Planets, and Space*, **56**, 761–771.
- [95] **Donnellan, A.**, and B. Luyendyk, 2004, GPS Evidence for a Coherent Plate and for Postglacial Rebound in Marie Byrd Land, West Antarctica, *Global and Planetary Change*, **42**, 305–311.
- [96] **Donnellan, A.**, J. Rundle, J. Ries, G. Fox, M. Pierce, J. Parker, R. Crippen, E. DeJong, B. Chao, W. Kuang, D. McLeod, M. Mastu'ura, J. Bloxham, 2004, Illuminating the Earth's Interior Through Advanced Computing, *Computing in Science and Engineering (CiSE)*, **6**, 36–44.
- [97] Rundle, J.B., Kellogg, L.H., Tiampo, K.F., Klein, W., Rundle, P.B., and **Donnellan, A.**, 2004, Illuminating the relationship between observable data and unobservable dynamics using numerical simulations of a changing earth, *Pure and Appl. Geophys. (PAGEOPH)*, **161**.
- [98] Glasscoe, M. **Donnellan, A.**, L. Kellogg, and Lyzenga, G., 2004, Evidence of Strain Partitioning Between the Sierra Madre Fault and the Los Angeles Basin, Southern California from Numerical Models, *Pure and Appl. Geophys. (PAGEOPH)*, **161**, 2343–2357.
- [99] Solomon, S.C., V. Baker, J. Bloxham, J. Booth, **A. Donnellan**, C. Elachi, D. Evans, E. Rignot, D. Burbank, B. Chao, A. Chave, A. Gillespie, T. Herring, R. Jeanloz, J. LaBrecque, B. Minster, W. C. Pitman, M. Simons, D. L. Turcotte, M. L. C. Zoback, 2003) “A Plan for Living on a Restless Planet,” EOS Transactions of the American Geophysical Union, **84**, 485.
- [100] Rundle J.B., W. Klein, K. Tiampo, **A. Donnellan**, G. Fox, 2003, Strategies for the detection and analysis of space-time patterns of earthquakes on complex fault systems, *Computational Science - ICCS 2003, Pt III, Proceedings Lecture Notes in Computer Science* 2659, 827–836.
- [101] Parker J, Donnellan A, Lyzenga G, Rundle J, Tullis T, 2003, Performance modeling codes for the QuakeSim problem solving environment, *Computational Science - ICCS 2003, Pt III, Proceedings Lecture Notes In Computer Science* 2659, 855–862.
- [102] **Donnellan, A.**, J. Parker, and G. Peltzer, 2002, Combined GPS and InSAR models of postseismic deformation from the Northridge earthquake, *PAGEOPH*, 2261–2270.
- [103] Granat, R., and **A. Donnellan**, 2002, Deterministic annealing hidden Markov models for geophysical data exploration, *PAGEOPH*, **159**, 2271–2283.
- [104] Rundle, J.B., P.B. Rundle, W. Klein, J. de sa Martins, K.F. Tiampo, **A. Donnellan**, L.H. Kellogg, 2002, GEM plate boundary simulations for the plate boundary observatory: A program for understanding the physics of earthquakes on complex fault networks via observations, theory, and numerical simulation, *PAGEOPH*, 2357–2384.
- [105] Matsu-ura, M., P. Mora, **A. Donnellan**, X. Yin eds., 2002, Earthquake Processes: Physical Modeling, Numerical Simulation and Data Analysis, Parts I and II, *PAGEOPH*, 1905–1907 and 2169–2171.
- [106] Hurst, K.J., D. Argus, **A. Donnellan**, M.B. Heflin, D. Jefferson, G.A. Lyzenga, J.W. Parker, F.H. Webb, J.F. Zumberge, 2000, The Co- and Immediate Post-seismic geodetic signature of the 1999 Hector Mine Earthquake, *Geophys. Res. Lett.*, **27**, 2733–2736.

- [107] Fox, G.C., Ken Hurst, Andrea Donnellan, and Jay Parker, 2000, "Introducing a New Paradigm for Computational Earth Science - A web-object-based approach to Earthquake Simulations," Geocomplexity and the Physics of Earthquakes, J. Rundle, D. Turcotte, W. Klein eds., AGU monograph, 120, 219–244, 2000, published online 2013, DOI: 10.1029/GM120p0219.
- [108] Lyzenga, G.A., W.R. Panero, **A. Donnellan**, 2000, The Influence of Anelastic Surface Layers on Postseismic Thrust Fault Deformation, *J. Geophys. Res.*, 105, 3151–3157.
- [109] Lundgren, P., M. Protti, **A. Donnellan**, M. Heflin, E. Hernandez, D. Jefferson, 1999, Seismic cycle and plate margin deformation in Costa Rica: GPS observations 1994–1997, *J. Geophys. Res.*, 104, 28,915–28,926.
- [110] Hager, B.H., G.A. Lyzenga, **A. Donnellan**, and D. Dong, 1999, Reconciling Rapid Strain Accumulation with Deep Seismogenic Fault Planes in the Ventura Basin, California, *J. Geophys. Res.*, 104, 25,207–25,219.
- [111] Argus, D., M.B. Heflin, **A. Donnellan**, F.H. Webb, D. Dong, K.J. Hurst, G.A. Lyzenga, M.M. Watkins, and J.F. Zumberge, 1999, Shortening and Thickening of Metropolitan Los Angeles Measured and Inferred Using Geodesy, *Geology*, 27, 703–706.
- [112] **Donnellan, A.** and G. A. Lyzenga, 1998, GPS Observations of Fault afterslip and upper crustal relaxation following the Northridge earthquake, *J. Geophys. Res.*, 103, 21,285–21,297.
- [113] **Donnellan, A.** and F.H. Webb, 1998, Geodetic observations of the M 5.1 January 29, 1994 Northridge aftershock, *Geophys. Res. Lett.*, 25, 667–670.
- [114] Heflin, M.B., D. Dauger, D. Dong, **A. Donnellan**, K. Hurst, D. Jefferson, G. Lyzenga, M. Watkins, F. Webb, J. Zumberge, 1998, Rate change observed at JPLM after the Northridge earthquake, *Geophys. Res. Lett.*, 25, 93–96.
- [115] Bawden, G., **A. Donnellan**, L. Kellogg, D. Dong, J. Rundle, 1997, Geodetic measurements of seven decades of horizontal strain near the White Wolf fault, Kern County California: I. Observations, *J. Geophys. Res.*, 102, 4957–4976.
- [116] Hudnut, K. W., Z. Shen, M. Murray, S. McClusky, R. King, T. Herring, B. Hager, Y. Feng, P. Fang, **A. Donnellan** and Y. Bock, 1996, Co-Seismic Displacements of the 1994 Northridge, California, Earthquake, *Bull. Seism. Soc. Am.*, 86, S19–S36.
- [117] Jones, L., K. Aki, M. Celebi, **A. Donnellan**, J. Hall, R. Harris, E. Hauksson, T. Heaton, S. Hough, K. Hudnut, K. Hutton, M. Johnston, W. Joyner, H. Kanamori, G. Marshall, A. Michael, J. Mori, M. Murray, D. Ponti, P. Reasenberg, D. Schwartz, L. Seeber, A. Shakal, R. Simpson, H. Thio, M. Todorovska, M. Trifunovic, D. Wald, and M. L. Zobak, 1994, The Magnitude 6.7 Northridge California, Earthquake of January 17, 1994, *Science*, 266, 389–397.
- [118] Grant, L. B., and **A. Donnellan**, 1994, 1855 and 1991 surveys of the San Andreas fault: Implications for fault mechanics, *Bull. Seism. Soc. Am.*, 84, 241–246.
- [119] Bills, B. G., S. L. de Silva, D. R. Currey, R. S. Emenger, K. D. Lillquist, **A. Donnellan**, and C. B. Worden, 1994, Hydro-isostatic deflection and tectonic tilting in the central Andes: Initial results of a GPS survey of Lake Minchin, *Geophys. Res. Lett.*, 21, 293–296.
- [120] **Donnellan, A.**, B. H. Hager, and R. W. King, 1993, Discrepancy between geologic and geodetic deformation rates in the Ventura basin, *Nature*, 366, 333–336.
- [121] **Donnellan, A.**, B. H. Hager, R. W. King, and T. A. Herring, 1993, Geodetic measurement of deformation in the Ventura basin region, southern California, *J. Geophys. Res.*, 98, 21,727–21,739.

- [122] Feigl, K., D. Agnew, Y. Bock, D. Dong, **A. Donnellan**, B. Hager, T. Herring, D. Jackson, T. Jordan, R. King, S. Larsen, K. Larson, M. Murray, Z-K Shen, and F. Webb, 1993, Space geodetic measurement of crustal deformation in central and southern California, 1984–1992, *J. Geophys. Res.*, 98, 21,677–21,712, DOI: 10.1029/93JB02405.

### White Papers/Reports/Books

- [1] Chaussard, E., C. Jones, **A. Donnellan**, Remote Sensing for Geohazards and Natural Resources Problems, Springer, in press.
- [2] **Donnellan, A.**, D. Harding, P. Lundgren, K. Wessels, A. Gardner, M. Simard, C. Parrish, C. Jones, Y. Lou, J. Stoker, K.J. Ranson, B. Osmanoglu, M. Lavalley, S. Luthcke, S. Saatchi, R. Treuhaft, 2021, Observing Earth’s Changing Surface Topography and Vegetation Structure: A Framework for the Decade, NASA Surface Topography and Vegetation Incubation Study, 210 pp.
- [3] Brandenberg, S.J., P. Wang, C.C. Nweke, K. Hudson, S. Mazzoni, Y. Bozorgnia, K.W. Hudnut, C.A. Davis, S.K. Ahdi, F. Zareian, and J. Fayaz, Collaborating authors: B. Brooks, R. Gold, D. Ponti, K. Scharer, D. McPhillips, C. DuRoss, T. Ericksen, J. Hernandez, J. Patton, B. Olson, T. Dawson, J. Treiman, K. Blake, J. Bachhuber, C. Madugo, J. Sun, **A. Donnellan**, G. Lyzenga, E. Conway, 2019. Preliminary report on engineering and geological effects of the July 2019 Ridgecrest earthquake sequence (pp. 1-69). Geotechnical Extreme Event Reconnaissance Association.
- [4] NISAR, 2018. NASA-ISRO SAR (NISAR) Mission Science Users’ Handbook. NASA Jet Propulsion Laboratory. 261 pp. (**Andrea Donnellan** Chief Editor)
- [5] **Donnellan, A.**, R. Arrowsmith, Y. Ben-Zion, J. Rundle, L. Grant Ludwig, M. Glasscoe, A. Ansar, J. Green, J. Parker, E. De Jong, P. Lundgren, K. Reicherter, T. Scambos, 2016, Connecting Plate Boundary Processes to Earthquake Faults using Geodetic and Topographic Imaging, White paper submitted to RFI #2 for the 2017 Decadal Survey for Earth Science and Applications from Space.
- [6] Davis, J.L., L. H. Kellogg, J. R. Arrowsmith, B. A. Buffett, C. G. Constable, **A. Donnellan**, E. R. Ivins, G. S. Mattioli, S. E. Owen, M. E. Pritchard, M. E. Purucker, D. T. Sandwell, and J. Sauber, 2016, Challenges and Opportunities for Research in ESI (CORE), Report from the NASA Earth Surface and Interior (ESI) Focus Area Workshop, November 2–3, 2015, Arlington, Virginia.
- [7] **Donnellan, A.**, B. Hallet, S. Leprince, study leads, 2015, Gazing at the Solar System: Capturing the Evolution of Dunes, Faults, Volcanoes, and Ice from Space, Report of the Keck Institute for Space Studies Workshop, June 16 – 20, 2014, California Institute of Technology, 54 pp.
- [8] **Donnellan, A.**, Bawden, G., Rundle, J., eds., 2009, Report of the DESDynI Applications Workshop, October 29–31, 2008, UC Sacramento Conference Center, Sacramento, California.
- [9] Bardet (Chair), J.P., D. Ballantyne, G.E.C. Bell, **A. Donnellan**, S. Foster, T.S. Fu, J. List, R.G. Little, O’Rourke, T.D., and M.C. Palmer, 2010, Expert Review of Water System Pipeline Breaks in The City of Los Angeles – Summer 2009, Report to Los Angeles City Council, April 13, 2010.
- [10] Elachi, C., **A. Donnellan**, 2008, Preparing L.A. for Potential Earthquakes: Applications of Space Technology, Art Center College of Design, The Los Angeles Earthquake Sourcebook, November 2008.
- [11] Zebker, H., H. Shugart, M. Fahnestock, eds, K. Bergen, S. Buckley, C. Dobson, **A. Donnellan**, R. Dubayah, Y. Fialko, E. Fielding, R. Forster, T. Freeman, B. Hager, F. Hall, R. Houghton, K. Jezek, M. Lefsky, A. Loverro, B. Pichel, H-P. Plag, E. Rignot, P. Rosen, S. Saatchi, and R.

- Wynne, 2007, Report of the July 17–19, 2007 Orlando, Florida Workshop to Assess the National Research Council Decadal Survey Recommendation for the DESDynI Radar/Lidar Space Mission.
- [12] Zebker, H., J. Andrews, **A. Donnellan**, Y. Fialko, M. Glasscoe, B. Holt, K. Jezek, I. Joughin, S. Lehner, B. Minster, P. Rosen, J. Runble, J. Sauber, M. Simons, W. Thatcher, 2005, InSAR Workshop Summary Report, October 20–22, 2004.
  - [13] Solomon, S.C., V.R. Baker, J. Bloxham, D. Burbank, B.F. Chao, A. Chave, **A. Donnellan**, A. Gillespie, T. Herring, R. Jeanloz, B. Minster, W.C. Pitman III, E. Rignot, M. Simons, D.L. Turcotte, M.L.C. Zoback, 2003, Living on a Restless Planet, Solid Earth Science Working Group Report, NASA/JPL.
  - [14] **Donnellan, A.**, J. Ries, J. Rundle, G. Fox, J. Parker, R. Crippen, E. De Jong, B. Chao, W. Kuang, 2002, NASA Earth Science Enterprise Computational Technology Workshop, Solid Earth Science Summary.
  - [15] **Donnellan, A.**, J. Parker, J. Rundle, G. Fox, P. Stolorz, J. Salmon, J.B. Minster, T. Henyey, T. Jordan, Grant, L., T. Tullis, L. Kellogg, D. Turcotte, 1999, A New Architecture for analyzing and exploring space-based geodetic data: General Earthquake Models Computational Infrastructure, submitted to NASA AIST RFI, June 1999.
  - [16] Silver, P., et al., 2000, The Plate Boundary Observatory, Creating a Four-dimensional Image of the Deformation of Western North America, submitted to the National Science Foundation, May, 2000.