Bharat Rastogi

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Education

Oregon State University — Corvallis, USA
Ph.D. in Forest Ecosystems and Society, Advisor: Christopher Still — 2013–3018

- Dissertation: "Ecosystem photosynthesis and forest-atmosphere interactions inferred from carbonyl sulfide "

University of California, Santa Barbara — Santa Barbara, USA
M.A. in Geography, — 2011–2013

- Thesis: "Characterizing the Spatial and Temporal Patterns of Cloud cover and Fog Inundation for the Northern Channel Islands of California"

University of East Anglia — Norwich, U.K.
M.Sc. in Environmental Sciences, — 2009–2010

- Thesis: "Molecular and carbon specific isotope analysis of n-alkanes from a marine sediment as a proxy for glaciation during the last quaternary in the Gulf of Corinth, Greece"

St. Stephen's College, University of Delhi — Delhi, India
B.Sc. (Hons.) in Chemistry — 2006–2009

Experience

University of Colorado Boulder/NOAA Global Monitoring Laboratory — Boulder, USA
Postdoctoral Scholar in Carbon Cycle Greenhouse gases — 2019–present

- Improving the monitoring capability of carbon budget for the US Corn Belt - integrating multi-source satellite data with improved land surface modeling and atmospheric inversions
- Use satellite and *in-situ* data together to solve for CO2 fluxes at high-resolution in a regional inversion over the US Corn Belt. Evaluate bias in satellite retrievals of total column CO2 from OCO-2 over North America.

Oregon State University — Corvallis, USA
Postdoctoral Scholar with Christopher Still — August 2018–January 2019

- Characterizing spatial and temporal patterns of near-surface clouds in the Pacific Northwestern US by analysing cloud data from satellites, airport records and radiosondes.

Oregon State University — Corvallis, USA
Graduate Research Assistant — 2013–2018

- Measurement and modeling of carbonyl sulfide and other environmental data. Analysing co-located eddy covariance fluxes of CO_2 and water vapor.

Publications

[1] M. Leonard, L. Bruhwiler, A. R. Jacobson, A. Kaushik, B. Rastogi, I. Baker, K. Haynes, A. S. Denning, and A. Subramanian, "Assessing the present-day terrestrial carbon cycle from a variety of data-driven carbon cycle models and a process-based phenology model", *in-revision: Journal of Geophysical Research: Biogeosciences*, .

[2] B. Rastogi, J. B. Miller, M. Trudeau, A. Andrews, L. Hu, M. E. Mountain, T. Nehrkorn, K. Guan, and C. B. Alden, "Evaluating consistencies between total column CO_2 retrievals from *OCO-2* and the in-situ network over *North America*: Implications for carbon flux estimation", *in-prep: manuscript available upon request*, .

[3] C. J. Still, B. Rastogi, G. F. Page, D. M. Griffith, A. Sibley, M. Schulze, L. Hawkins, S. Pau, M. Detto, and B. R. Helliker, "Imaging canopy temperature: Shedding (thermal) light on ecosystem processes", *New Phytologist*, 2021.

[4] A. W. Dye, B. Rastogi, R. E. Clemesha, J. B. Kim, R. M. Samelson, C. J. Still, and A. P. Williams, "Spatial patterns and trends of summertime low cloudiness for the pacific northwest, 1996–2017", *Geophysical Research Letters*, vol. 47, no. 16, e2020GL088121, 2020.

[5] Y. Jiang, C. J. Still, B. Rastogi, G. F. Page, S. Wharton, F. C. Meinzer, S. Voelker, and J. B. Kim, "Trends and controls on water-use efficiency of an old-growth coniferous forest in the pacific northwest", *Environmental Research Letters*, vol. 14, no. 7, p. 074 029, 2019.

[6] B. Rastogi, M. Berkelhammer, S. Wharton, M. E. Whelan, M. S. Itter, J. B. Leen, M. X. Gupta, D. Noone, and C. J. Still, "Large uptake of atmospheric *OCS* observed at a moist old growth forest: Controls and implications for carbon cycle applications", *Journal of Geophysical Research: Biogeosciences*, vol. 123, no. 11, pp. 3424–3438, 2018.

[7] B. Rastogi, M. Berkelhammer, S. Wharton, M. E. Whelan, F. C. Meinzer, D. Noone, and C. J. Still, "Ecosystem fluxes of carbonyl sulfide in an old-growth forest: Temporal dynamics and responses to diffuse radiation and heat waves", *Biogeosciences*, vol. 15, no. 23, pp. 7127–7139, 2018.

[8] M. E. Whelan, S. T. Lennartz, T. E. Gimeno, R. Wehr, G. Wohlfahrt, Y. Wang, L. M. Kooijmans, T. W. Hilton, S. Belviso, P. Peylin, B. Rastogi, *et al.*, "Reviews and syntheses: Carbonyl sulfide as a multi-scale tracer for carbon and water cycles", *Biogeosciences*, vol. 15, no. 12, pp. 3625–3657, 2018.

[9] C. Still and B. Rastogi, "What drives carbon isotope fractionation by the terrestrial biosphere?", *Journal of Geophysical Research: Biogeosciences*, vol. 122, no. 11, pp. 3108–3110, 2017.

[10] B. Rastogi, A. P. Williams, D. T. Fischer, S. F. Iacobellis, K. McEachern, L. Carvalho, C. Jones, S. A. Baguskas, and C. J. Still, "Spatial and temporal patterns of cloud cover and fog inundation in coastal california: Ecological implications", *Earth Interactions*, vol. 20, no. 15, pp. 1–19, 2016.

Teaching

- **Teaching Assistant** at Oregon State University — Spring 2015 and 2017
  Scientific Methods for Analyzing Natural Resource Problems (FES 399/NR 325)
- **Teaching Assistant** at University of California, Santa Barbara — Spring 2013
  California's Channel Islands (Geog 149/ Environmental Studies 111)
- **Teaching Assistant** at University of California, Santa Barbara — Fall 2011 and 2012, Winter 2012 and 2013
  Oceans and Atmosphere (Geog 3A)
- **Teaching Assistant** at University of California, Santa Barbara — Spring 2012
  Land, water and life (Geog 3B)

Scholarships and Awards

- Student Sustainability Initiative, Oregon State University — 2017
- Richard Waring Travel Scholarship — 2013 –2017
- Richardson Graduate student fellowship — 2013
- Provost's Distinguished Graduate Student Scholarship — 2013

- Faculty of Science International Student Fund Award, University of East Anglia, 2009
- Science Meritorious Scholarship, University of Delhi 2007

Workshops and Proffesional Courses

- Integrated carbon and water for Ecological and Biochemical synthesis 2017
  Stevenson, WA
- Flux Course 2015
  Mountain Research Station, University of Colorado, Boulder
- Conservation ethics workshop 2014
  Oregon State university Corvallis, Oregon
- Pacific Coastal Fog Workshop 2012
  USGS: Menlo Park, California

Skills

- Measurement and Analyses of eddy covariance, trace gases, stable isotopes and environmental data
- Analyses of ecophysiological data
- Analyses of remote sensing data
- Working on supercomputing systems (NASA HECC, NOAA)

Languages

- **Python:** Proficient
- **Matlab:** Proficient
- **R:** Proficient
- **bash:** Intermediate
- **LaTeX:** Advanced
- **ArcGIS:** Proficient