# Dr Amulya Chevuturi


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| Contact Address: | UK Centre for Ecology & Hydrology (UKCEH)<br>Maclean Building, Benson Lane, Crowmarsh Gifford, Wallingford, Oxfordshire, OX10 8BB |
| Profession / Specialisation: | Hydrologist Data Scientist |
| Job Title: | Research Associate |


## Professional and Educational Qualifications

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| PhD Atmospheric Sciences | Jawaharlal Nehru University | 2015 |
| MSc Environmental Studies | TERI University | 2009 |
| BSc Zoology (Hons.) | Delhi University | 2007 |

## Summary of Professional Expertise


Amulya Chevuturi is a Hydrological Data Scientist at UKCEH, Wallingford with expertise in understanding global precipitation and its variability under current and future climate, evaluating model forecast skill and uncertainty, investigating rainfall related hazards (floods and droughts). She is currently contributing to multiple projects at UKCEH, e.g., UK rainfall datasets (Hydro-JULES), blending global hydrological products (HydroSOS) and UK droughts (CANARI). She previously worked as a PDRA at NCAS, University of Reading, where she was involved in various projects with a focus on floods and drought forecasting, monsoon and its onset, tropical precipitation forecasts, spatial and temporal scales of precipitation variability, hydrological cycle and climate change. During her Ph.D., she simulated and analysed extreme precipitation events over India, including western disturbances, cloudbursts and hailstorms; events which may lead to secondary impacts like flash floods. She has 13 first-author peer-reviewed papers, 14 co-author peer-reviewed publications, 2 first-author edited book chapters and 1 co-author book publication (https://orcid.org/0000-0003-2815-7221). She has formed strong national and international collaborations (e.g. ECMWF, UK, India Meteorological Department, India, Peking University, China, National Institute of Amazonian Research, Brazil). She has engaged with media to disseminate information about her research work. She has teaching experience in computing and climate sciences and has supervised Masters' and Bachelors' student dissertations.


## Employment History

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| 2021 | - | Present | Research Associate, UKCEH |
| 2016 | - | 2021 | Post-Doctoral Research Assistant, National Centre for Atmospheric Science |
| 2009 | - | 2010 | Guest lecturer, Lady Irwin College, Delhi University |
| 2009 | - | 2009 | Environmental Consultant, Emergent Ventures India |

## Selected Work Experience

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| 2022 | - | 2025 | Task lead in NC-International for global hydrological forecasts |
| 2022 | - | 2025 | Task lead in CANARI project for UK drought analysis |
| 2022 | - | 2025 | Researcher in STARS4Water |
| 2022 | - | 2023 | Researcher in Digital Twin project for UK |
| 2021 | - | 2023 | Researcher in Hydro-JULES project as data scientist |
| 2022 | - | 2022 | Researcher in eFLaG project for spatial coherence of UK droughts |
| 2021 | - | 2022 | Researcher in HydroSOS project for global hydrological forecasts |
| 2021 | - | 2022 | Co-PI in CSSP Brazil project proposal - PEACFLOW 2 |
| 2021 | - | Present | NFRA representative for Wales |
| 2020 | - | 2020 | Co-PI in NERC REP - Forecasting flash droughts at subseasonal timescale |
| 2020 | - | 2021 | Co-PI in CSSP Brazil project proposal - PEACFLOW |
| 2019 | - | 2019 | Co-PI in UROP - The "Indian Easterly Jet" |

## Memberships of Committees, Boards, Etc

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| 2022 | Member of British Hydrological Society |
| 2017 | Fellow of Royal Meteorological Society (FRMetS) |

**Selected Publications**


**Chevuturi A**, Tanguy M, Facer–Childs K, Martinez–de la Torre A, Sarkar S, Thober S, Samaniego L, Rakovec O, Kelbling M, Sutanudjaja EH, Wanders N, Blyth E (2023) Improving global hydrological simulations through bias–correction and multi–model blending, Journal of Hydrology, 621, 129607, DOI: https://doi.org/10.1016/j.jhydrol.2023.129607.

Tanguy M, **Chevuturi A**, Marchant BP, Mackay JD, Parry S, Hannaford J (2023) How will climate change affect spatial coherence of streamflow and groundwater droughts in Great Britain? Environmental Research Letters, 18: 064048, DOI: https://doi.org/10.1088/1748–9326/acd655.

**Chevuturi A,** Klingaman NP, Rudorff CM, Coelho CAS, Schongart J (2021) Forecasting annual maximum water level for the Negro River at Manaus. Climate Resilience and Sustainability, https://doi.org/10.1002/cli2.18

Feng X, Zhang W, Zhu Z, **Chevuturi A**, Chen W (2021) Variability and changes in Pearl River Delta water level, from the ocean and atmosphere perspectives. Journal of Hydrometeorology, https://doi.org/10.1175/JHM-D-21-0037.1.

**Chevuturi A**, Turner AG, Johnson S, Weisheimer A, Shonk J, Stockdale TN, Senan R (2021) Seasonal forecasting skill of the Indian monsoon and its onset in the ECMWF seasonal forecasting system 5 (SEAS5). Climate Dynamics, http://doi.org/10.1007/s00382-020-05624-5

Klingaman NP, Young M, **Chevuturi A**, Guimaraes B, Guo L, Woolnough SJ, Coelho CAS, Kubota PY, Holloway CE (2021) Sub-seasonal prediction performance for austral summer South American rainfall. Weather & Forecasting, 36: 147-169, http://doi.org/10.1175/WAF-D-19-0203.1

Cui J, Piao S, Huntingford C, Wang X, Lian X, **Chevuturi A**, Turner AG, Kooperman GJ (2020) Vegetation forcing modulates global monsoon and water resources in a CO2-enriched climate, Nature Communications, 11: 5184, http://doi.org/10.1038/s41467-020-18992-7

Shonk J, Turner AG, **Chevuturi A**, Wilcox L, Dittus A, Hawkins E (2020) Uncertainty in aerosol radiative forcing impacts the simulated global monsoon in the 20th century, *Atmospheric Chemistry and Physics*, http://doi.org/10.5194/acp-20-14903-2020

Monerie P-A, **Chevuturi A**, Cook P, Klingaman NP, Holloway CE (2020) Role of atmospheric horizontal resolution in simulating tropical and subtropical South American precipitation in HadGEM3-GC31. *Geoscientific Model Development,* http://doi.org/10.5194/gmd-13-4749-2020.

Martin GM, **Chevuturi A**, Comer RE, Dunstone N, Scaife AA, Zhang D (2019) Predictability of South China Sea Summer Monsoon onset, *Advances in Atmospheric Sciences*, 36(3): 253-260, http://doi.org/10.1007/s00376-018-8100-z. ***AAS Esteemed Original Paper Prize 2021***.

**Chevuturi A**, Turner AG, Woolnough SJ, Martin G, MacLachlan C (2019) Indian summer monsoon onset forecast skill in the UK Met Office initialized coupled seasonal forecasting system (GloSea5-GC2). *Climate Dynamics*, 52: 6599-6617, http://doi.org/10.1007/s00382-018-4536-1.

**Chevuturi A**, Klingaman NP, Turner AG, Hannah S (2018) Projected changes in the Asian-Australian monsoon region in 1.5°C and 2.0°C global-warming scenarios. *Earth's Future*, 6: 339-358, http://doi.org/10.1002/2017ef000734. ***Journal's top cited paper in 2018-2019***

**Chevuturi A**, Dimri AP, Thayyen RJ (2018) Climate Change over Leh (Ladakh), India. *Theoretical and Applied Climatology*, 131(1–2): 531–545, http://doi.org/10.1007/s00704-016-1989-1

**Chevuturi A**, Dimri AP (2016) Investigation of Uttarakhand (India) disaster- 2013 using Weather Research and Forecasting model. *Natural Hazards*, 82(3): 1703–1726, http://doi.org/10.1007/s11069-016-2264-6

Dimri AP, **Chevuturi A** (2016) Western Disturbances – An Indian Meteorological Perspective. Springer International Publishing, http://doi.org/10.1007/978-3-319-26737-1.

**Chevuturi A**, Dimri AP, Gunturu UB (2014) Numerical simulation of rare winter hailstorm event over Delhi, India on 17 Jan 2013. *Natural Hazards & Earth System Sciences*, 14: 3331-3344, http://doi.org/10.5194/nhess-14-3331-2014.