

Curriculum Vitae

Name: Dr. Pranab Deb
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CURRENT ROLE

Assistant Professor, CORAL, IIT Kharagpur: My current research interests are: (1) past, present and future climate of the Himalayas, (2) climate change and variability over Antarctica. I am also working on the quantification of global teleconnection so as to provide a critical assessment of multi-model projections.

RESEARCH HIGHLIGHTS/EXPERIENCE

2017-2018 (Senior Research Associate-Climate dynamics, Climatic research Unit, University of East Anglia, UK): quantification of effects of biases in tropical precipitation on extra-tropical drivers of climate

2014-2017 (Climate modeller, British Antarctic Survey, Cambridge, UK): validation of regional climate model simulations against weather station data over West Antarctica, hindcast simulation of West Antarctic climate (1979-present), end of 21st century climate projections for West Antarctica

2009-2014 (PhD student, IIT Kharagpur, India): Modelling and observations of sea ice over the Indian sector of Southern Ocean: Tropics-to-pole teleconnection, Southern Annular Mode

2009 (Junior Research Fellow, IIT Kharagpur, India/Space Application Centre, Ahmedabad): Retrieval and analysis of data obtained from satellite scatterometer and study of sea ice

PROJECTS/FUNDING

Principal Investigator

1. Advanced Prediction of Himalayan Climate through Improved Monitoring of Winter Snowfall ISIRD, SRIC
2. Climate and Variability Over the Dronning Maud Land, East Antarctica using a High-Resolution Regional Climate Model National Centre for Polar and Ocean Research
3. Snowfall Himalayas National Geographic Society

Co-Principal Investigator

Sea Ice Energy Balance and Ice-Ocean Process Studies SPACE APPLICATIONS CENTRE, Indian Space Research Organization

SELECTED KEY PUBLICATIONS

Swetha Chittella, S. P., **Deb, P.**, & van Wessem, J. M. (2022). Relative contribution of atmospheric drivers to “extreme” snowfall over the Amundsen Sea Embayment. **Geophysical Research Letters**, 49, e2022GL098661. Doi: <https://doi.org/10.1029/2022GL098661>

Senapati, B., **Deb, P.**, Dash, M.K. *et al.* Origin and dynamics of global atmospheric wavenumber-4 in the Southern mid-latitude during austral summer. **Climate Dynamics** (2021). Doi: <https://doi.org/10.1007/s00382-021-06040-z>

Pranab Deb, A. J. Matthews, M. M. Joshi, and N. Senior, 2020: The Extratropical Linear Step Response to Tropical Precipitation Anomalies and Its Use in Constraining Projected Circulation Changes under Climate Warming. **Journal of Climate**, 33, 7217–7231, <https://doi.org/10.1175/JCLI-D-20-0060.1>.

Pranab Deb, Orr, A., Bromwich, D. H., Nicolas, J. P., Turner, J. & Scott Hosking, J. (2018). Summer Drivers of Atmospheric Variability Affecting Ice Shelf Thinning in the Amundsen Sea Embayment, West Antarctica. **Geophys. Res. Lett.**, 45. <https://doi.org/10.1029/2018GL077092>

Pranab Deb, M. K. Dash, P. C. Pandey (2018). Barrier layer characteristics of the Indian Ocean sector of the Southern Ocean during austral summer and autumn. **Polar Science**. <https://doi.org/10.1016/j.polar.2018.04.007>

Subhra Prakash Dey, Mihir Dash, **Pranab Deb**, Dhruvajyoti Samanta [...] P. C. Pandey (2018). Unusual Pre-monsoon Eddy and Kelvin Wave Activities in the Bay of Bengal during Indian summer Monsoon Deficit in June 2009 and 2012 (2018). **IEEE Geoscience and Remote Sensing Letters**. DOI 10.1109/LGRS.2018.2802543.

John Turner, Hua Lu, Ian White, John C. King, Tony Phillips, J. Scott Hosking, Thomas J. Bracegirdle, Gareth J. Marshall, Robert Mulvaney & **Pranab Deb** (2016). *Absence of 21st century warming on Antarctic Peninsula consistent with natural variability*. **Nature** 535, 411–415 (21 July 2016). doi:10.1038/nature18645

Orr Andrew, M. Couttet, C. Listowski, E. Collier, W. Immerzeel, **Pranab Deb** and Bannister D. (2017). *Sensitivity of simulated summer monsoonal precipitation in Langtang Valley, Himalaya to cloud microphysics schemes in WRF*. **Journal of Geophysical Research – Atmospheres**, doi: 10.1002/2016JD025801.

Turner, J., T. Phillips, G. J. Marshall, J. S. Hosking, J. O. Pope, T. J. Bracegirdle, and **Pranab Deb** (2017), Unprecedented springtime retreat of Antarctic sea ice in 2016, **Geophysical Research Letters**, 44, doi:10.1002/2017GL073656.

Solve Antarctica’s sea-ice puzzle, **co-signatory**, **Nature** 547, 275–277, (20 July 2017), doi:10.1038/547275a

Deb Pranab, M. K. Dash, S. P. Dey, P. C. Pandey (2016). *Non-annular response of sea ice cover in the Indian sector of the Antarctic during extreme SAM events: influence of SAM on sea ice cover over the Indian sector of Antarctica*. **International Journal of Climatology**. DOI: 10.1002/joc.4730

Deb Pranab, Andrew Orr, Scott J. Hosking, Tony Phillips, John Turner, Daniel Bannister, James O. Pope, Steve Colwell (2016). *An assessment of the Polar Weather Research and Forecast (WRF) model representation of near-surface meteorological variables over West Antarctica*. **Journal of Geophysical Research - Atmospheres**,

121. 1532-1548. Doi: 10.1002/2015JD024037

Deb Pranab, M. K. Dash, P. C. Pandey (2014). *Effect of Pacific warm and cold events on the sea ice behavior in the Indian sector of the Southern Ocean*, **Deep Sea Research Part I: Oceanographic Research Papers**, Volume 84, February 2014, Pages 59-72, ISSN 0967-0637, (<http://dx.doi.org/10.1016/j.dsr.2013.10.002>.)

NAME AND IMPACT FACTOR OF PEER-REVIEWED JOURNAL PAPERS

Nature - **69.504**

GRL - **5.58**

Journal of Climate - **5.380**

IEEE Geoscience and Remote Sensing Letters - **5.343**

JGR-Atmosphere - **5.22**

Climate Dynamics - **4.901**

International Journal of Climatology - **3.651**

Deep Sea Research Part I: Oceanographic Research Papers – **3.101**

Polar Science - **2.355**

DEVELOPMENTAL/ADMINISTRATIVE ACTIVITIES

- Interviewed for documentary by Germany's Public Broadcaster DW
- Chosen as a leader of the subcommittee "Climate-Ice sheet Processes in Antarctica" in SCAR programme INSTANT (Instabilities and Thresholds in Antarctica)
- Session chair for 'CORDEX - Antarctica Meeting' – 2021
- Reviewer for multiple high impact scientific journals (e.g., JGR-Atmosphere, GRL, Climate Dynamics)
- CRU associate fellow, UK, 2019
- SCAR Visiting Scholar award, 2020 (IIT Kgp to Byrd Polar and Climate Research Center, USA)
- Session convener for 'Extreme Events: Observations and Modeling session' at Asia Oceania Geosciences Society (AOGS) Meeting-2020
- Session convener for 'Antarctic meteorology and Climatology session' at American Geophysical Union Fall Meeting-2016
- Invited lectures at multiple universities/institutes, both in UK and India
- Seminar organiser for the Atmosphere, Ice and Ocean group at British Antarctic Survey, 2014-2015
- Interviewed (Video) by Royal geographical Society's Young Geographer of the Year competition, 2015
- Research Scholars' Mentor at CORAL, IIT Kharagpur from 2011-2013
- Mentored masters and high school students during post doc at Cambridge

List of selected Conferences

Pranab Deb, Andrew Orr, David H. Bromwich, and Julien P. Nicolas, Present ENSO modulation of summer surface melting of Amundsen Sea ice shelves. Arctic Science Summit Week 2018 & IASC Business Meetings, **SCAR/IASC Open Science Conference, 2018, Davos, Switzerland, Arctic Observing Summit.**

Deb Pranab, Climatic drivers of surface temperature and precipitation over west Antarctic ice shelves during 1979-2015 summer from a regional atmospheric model, **Polar CORDEX Meeting, 18-20 October, 2017, Cambridge, U.K.**

Deb Pranab, An assessment of Polar Weather Research and Forecasting (WRF) model representation of near-surface meteorological variables over West Antarctica, **Polar CORDEX Meeting, 18-20 October, 2017, Cambridge, U.K.**

Deb Pranab, Trends in surface meteorological conditions over West Antarctica during austral summer, 1979-2015 from a regional atmospheric model, **Joint IAPSO-IAMAS-IAGA Assembly, 26 Aug – 1 Sept, 2017, Cape Town, South Africa**

Deb Pranab, Observations and modelling of planetary boundary layer over marginal ice zone of Amundsen Sea Embayment, West Antarctica during late summer, **SCAR Open Science Conference-2016, Kuala Lumpur**

Deb Pranab, An evaluation of the performance of Polar Weather Research and Forecasting (WRF) model over West Antarctica, **SCAR Open Science Conference-2016, Kuala Lumpur**

Deb Pranab, Observations and modeling of planetary boundary layer over marginal ice zone of Amundsen Sea Embayment, West Antarctica during late summer, **The 11th Antarctic Meteorological Observation, Modeling & Forecasting Workshop, AMOMFW (June 6-8, 2016), Columbus, Ohio, USA**

Polar CORDEX investigations, International **Conference on Regional Climate-CORDEX 2016 (ICRC-CORDEX 2016), Stockholm 17th-20th May 2016**

Deb Pranab, Validation of near-surface variables simulated by Polar WRF over West Antarctica, **The 10th Antarctic Meteorological Observation, Modeling, & Forecasting Workshop, June 17 - 19, 2015- Cambridge, UK**

Deb Pranab, Assessment of the Polar WRF representation of near-surface meteorological variables over West Antarctica, **49th CMOS Congress & 13th AMS Conference on Polar Meteorology and Oceanography Tropics to Poles: Advancing Science in High Latitudes, 31 May to 4 June 2015, Whistler, British Columbia, Canada**

The UK Antarctic Research Symposium, 11–12 September, 2014, Bristol Glaciology Centre, University of Bristol, UK

Deb Pranab, M.K. Dash, Mihir Kumar Dash, Dhruvajyoti Samanta, P. C. Pandey, Intrusion of Antarctic melt water and its effect on the upper ocean behavior In Southern Indian Ocean, Ocean Sciences Meeting 2012, Salt Lake city, USA, February, 2012