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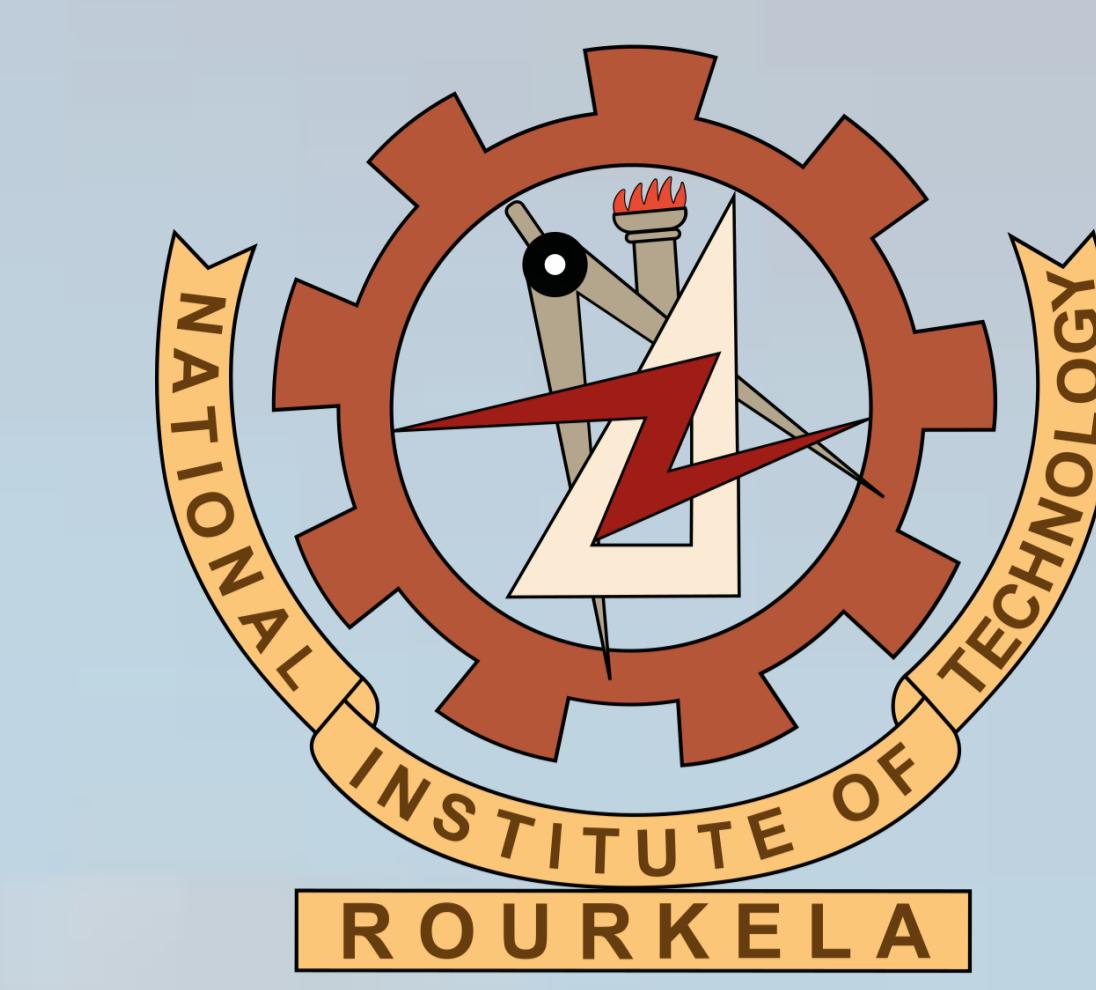
Climate change is no longer a distant concern—it is driving more frequent and more intense extreme weather events across the globe. Recent years have revealed not only the devastating power of single climate extremes, but also the amplified societal impacts when these events strike close together in space or time. In our interconnected world, the ripple effects of such combinations can be especially severe, disrupting communities, economies, and ecosystems on an unprecedented scale.

Compound extreme events—such as droughts fueling wildfires, or heatwaves intensifying drought conditions—are becoming alarmingly common. These overlapping crises are more complex, harder to predict, and far more destructive than the sum of their parts. To protect societies and ecosystems, we must deepen our understanding of how these factors interact, and develop better tools for forecasting, risk assessment, and mitigation.

Research on correlated climate extremes is advancing rapidly, bringing together expertise from climate dynamics, atmospheric science, boundary-layer meteorology, statistics, climatology, policy, and the social sciences. Projections suggest that changes in circulation patterns and regional feedbacks, such as land-atmosphere interactions, are likely to further intensify these risks. At the same time, cutting-edge advances in spatial statistics and extreme-value theory offer powerful new approaches to untangling this complexity.

This Conference calls for original research that tackles these urgent challenges. We invite contributions on the dynamics, forecasting, and risk assessment of compound extreme events, as well as strategies for adaptation and mitigation. Studies integrating modeling, theory, and observational data are especially encouraged. Together, we can shape a clearer understanding of these escalating threats—and chart pathways to reduce their impact. Keeping this in view, ONCE-2026 deliberates on the following subthemes:

- Compound extreme events: Diverse approaches by observations and numerical modeling
- Concurrent Events over the Indian subcontinent
- Sequential or persistent compound extreme events
- Impact of land use and land cover changes on compound events
- Analysis and prediction of compound extremes using AI/ML/DL techniques etc.
- Systemic Risk: Identification, Response and Societal Feedbacks in disaster risk reduction
- Roles of oceanic and atmospheric processes in the development of compound extremes
- Compound extremes and Air Pollution Interactions
- Impact of compound extremes on Agriculture, livestock, fisheries



ONCE - 2026



National Conference

on

**Observational and Numerical aspects
of Compound Events (ONCE)**

**28th - 30th January 2026
National Institute of Technology
Rourkela,
Rourkela, Odisha**

Organised by

**Department of Earth and Atmospheric
Sciences,
National Institute of Technology
Rourkela, Rourkela**

and

**Indian Meteorological Society
Rourkela Chapter**

ABOUT THE INSTITUTE

National Institute of Technology (NIT) Rourkela is a highly prestigious institute with a reputation for excellence in research, consultancy and education at undergraduate, postgraduate and doctoral levels. It is passionately committed to making our country a world leader in technology and science and to inculcate this commitment among all its students.



NIT Rourkela has a diversified academic program with 17 academic departments offering specialized courses at undergraduate, postgraduate and doctoral levels of studies. The Institute currently offers 21 undergraduate programs in the major disciplines of engineering, architecture, science, humanities and management, and post graduate programs in diversified fields of research areas. While the academic programs offered by NIT Rourkela are in tune with the National Education Policy, the quality of education is continuously upgraded by periodical revision of syllabi based on the needs of industry and academia. With different inclusive initiatives and the introduction of a standardized education policy, over the years, the Institute's graduates have been great performers at professional fronts in India and abroad. With the focus on teaching and learning across departmental boundaries, the mix-technology and management skills, NITians have been valuable assets to our country.

ABOUT THE DEPARTMENT

The Department of Earth and Atmospheric Sciences is set up to provide state of the art education and research in earth, climate, ocean, and planetary sciences. The department promotes interdisciplinary research linking geological processes, natural hazards, environmental issues, weather and climate. The department has completed ten years of its existence in 2023. Currently, the department offers M.Sc. (Applied Geology), M.Sc. (Atmospheric Sciences), M.Tech. (Atmosphere and Ocean Science), and Ph.D. programs.

HOW TO REACH NIT ROURKELA

Rail: Rourkela is well connected by train routes with all parts of the country. It is situated on the Howrah –Mumbai line and as well as on Ranchi- Bhubaneshwar line.

Road: Rourkela is well connected with the various parts of the state by NH 10 & 23.

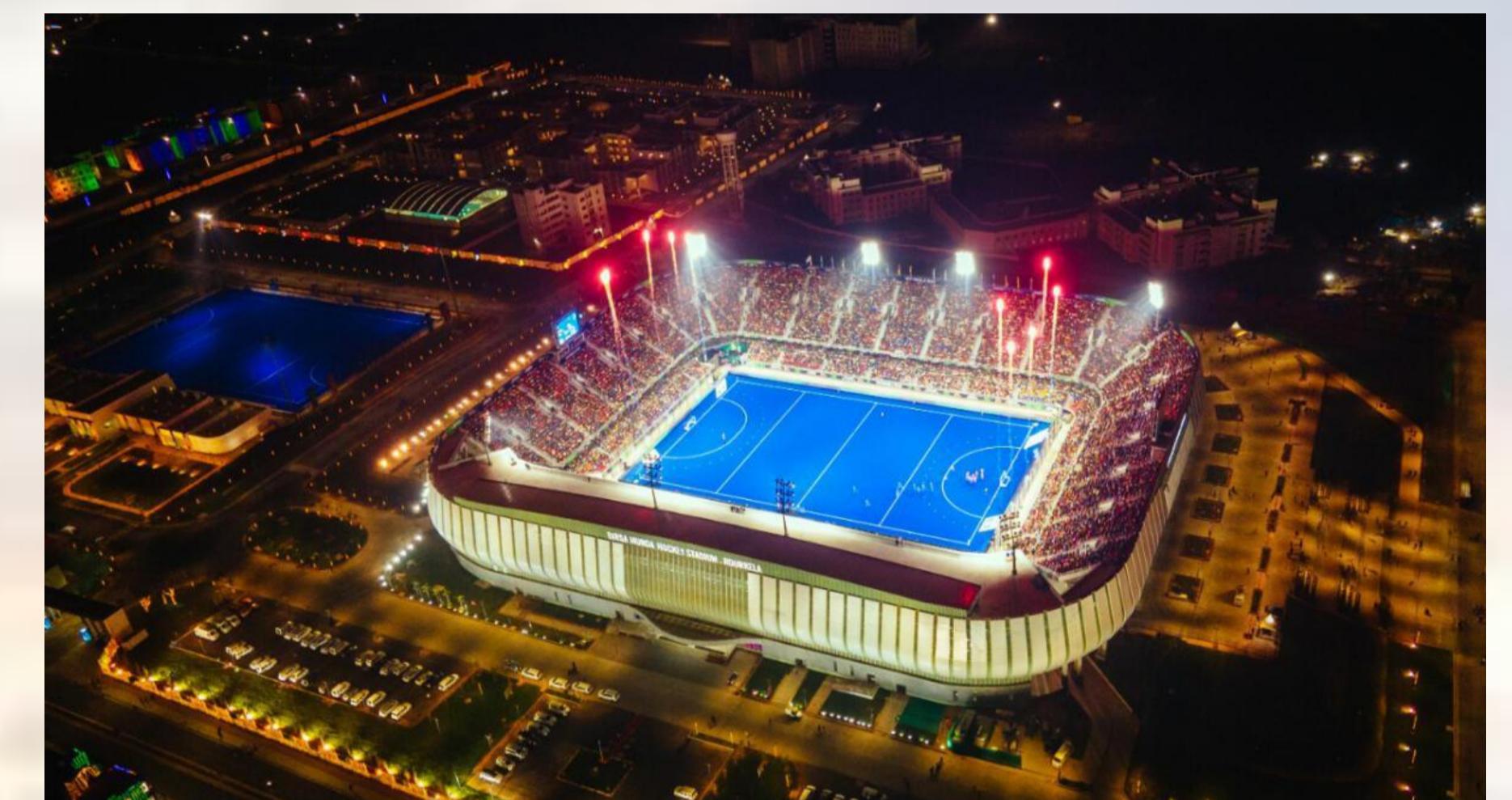
Station to NIT Campus: Auto/Taxi available at Rourkela railway station, which is 7 km away from the campus.

Nearest Railway stations	Nearest Airports
Rourkela-7 km	Jharsuguda – 130 km
Jharsuguda-130 km	Ranchi-170 km
Ranchi- 170 km	Bhubaneswar – 316 km
Tatanagar- 195 km	



WEATHER IN ROURKELA

Minimum temperature during January is around 5-10°C with mostly dry and cold conditions.



CALL FOR PAPER AND ABSTRACT SUBMISSION

The original research papers from India and abroad, covering ONCE-2026 theme/sub-themes are invited for presentation. Authors may submit abstracts not exceeding 300 words. Kindly send the abstracts to email address: once2026@nitrkl.ac.in

IMPORTANT DATES

Abstract Submission Ends: **05th January 2026** **15th January 2026**

Intimation on Acceptance: **06th January 2026** **16th January 2026**

Online Registration Starts: **07th January 2026**

Early Bird Registration Ends: **15th January 2026** **20th January 2026**

PUBLICATIONS

Selected conference papers will be considered for publications in peer reviewed (SCI/Scopus indexed) Journal: Meteorology and Atmospheric Physics (SpringerNature): <https://link.springer.com/collections/gdbjgjeaab> as special issue(s). Scientific committee will evaluate the papers and recommend the full paper submission.

E-mail for all correspondence: once2026@nitrkl.ac.in

REGISTRATION FEES

CATEGORY	BY 20 th January 26	ON SPOT
Students	₹ 3000/-	₹ 4000/-
Faculty and Researchers	₹ 5000/-	₹ 6000/-
Industry Professionals	₹ 7000/-	₹ 8000/-
Industry Exhibitions	₹ 50000/-	

The Registration Fee can be paid to following bank account.

Bank Name	: State Bank of India
Branch	: NIT Rourkela
Branch Address	: NIT Rourkela, Rourkela 769008
Account Number	: 36734418111
IFSC Code	: SBIN0002109
Account name	: CONFERENCE NIT ROURKELA
MICR Code	: 769002007
SWIFT Code	: SBININBBI37
UPI ID	: 2804180418@sbi
Merchant Name	: Conference NIT Rourkela
UPI QR Code	



TRANSPORT AND ACCOMMODATION

ONCE-2026 has limited resources for offering travel and accommodation support, and all participants are expected to secure support from their own sources. However, some support may be extended to a few case-to-case basis subject to the availability of resources, with priority given to students without financial support.

Industry Presentation & Exhibition Special sessions are planned to provide a platform for industry/entrepreneurs. A presentation slot of 15 to 20 minutes duration will be allowed for selected industry/entrepreneurs. Provision is also made for vendors to exhibit their products and services.

VENUE: National Institute of Technology Rourkela, Rourkela, Odisha, India.

CONTACT PERSON

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