

**ADVERTISEMENT FOR RESEARCH FELLOWSHIPS UNDER MRFP RESEARCH
FELLOW PROGRAM AT MoES ORGANIZATIONS (30 NOS.)**

(UR-14, OBC-8, SC- 4, ST-2, EWS-2)

The Ministry of Earth Sciences (MoES), Govt. of India is mandated to provide the nation with best possible services in forecasting the monsoons and other weather/climate parameters, ocean state, earthquakes, tsunamis and other phenomena related to earth systems through well integrated programmes. The Ministry also deals with science and technology for exploration and exploitation of ocean resources (living and non-living), and play nodal role for Antarctic/Arctic and Southern Ocean research. The ministry has 10 key organizations such as:

- (1) India Meteorological Department (IMD)
- (2) National Center for Medium Range Weather Forecasting (NCMRWF), Delhi
- (3) National Center for Seismology, (NCS), Delhi
- (4) Indian Institute of Tropical Meteorology (IITM), Pune
- (5) Indian National Center for Ocean Information Services (INCOIS), Hyderabad
- (6) National Center for Polar and Ocean Research (NCPOR), Goa
- (7) National Institute of Ocean Technology (NIOT), Chennai
- (8) National Center for Coastal Research (NCCR), Chennai
- (9) National Center for Earth Science Studies (NCESS), Trivandrum
- (10) Center for Marine Living Resources and Ecology (CMLRE), Kochi

The MoES invites applications for Junior/Senior Research Fellow Program (MRFP) to be coordinated by Development of Skilled Manpower in Earth System Sciences (DESK-ESSC), at Indian Institute of Tropical Meteorology, Pune. MRFP is Ministry's dedicated JRF/SRF program in which eligible fellows will be selected through a nation-wide selection processes and subsequent interviews. Selection will be against each of the advertised positions as below. Selected fellows initially will undergo induction training at IITM (of four months duration) and will be sent to the respective MoES organizations as per given in the advertisement. Selected candidates are required to complete Ph.D. in relevant fields by registering to a university as per the norms of the respective MoES organization where the fellow will be engaged in research. MRFP fellows will be provided with a two year JRF and two year SRF fellowship as per the DST guidelines and will undergo the stipulated evaluation processes therein.

Qualifications:

In addition to the basic qualifications as below table, candidate should have qualified NET/GATE/LS (CSIR/UGC/ICAR). Candidates appeared for final year of M.Sc./ M.S./ M.Tech. can apply for the post and should write their aggregate marks upto the latest semester they have appeared but their appointment is subject to having passed the M.Tech./M.Sc./M.S. examination as evidenced by mark sheets/provisional degree certificate.

Age Limit: 28 years as on last date of application; c) Stipend (JRF): Rs.31,000/- p.m. plus admissible HRA;

d) Tenure: 04 years (as followed in DST norms)

For General and OBC Category: Minimum 60% aggregate mark in the qualifying examination is essential.

For SC/ST/Physically Handicapped Category: Minimum 55% aggregate marks in qualifying examination is essential.

Candidates who would like to avail fellowship from CSIR/UGC/ICAR and work as JRF in MRFP are also encouraged to apply. Such candidates need to specify in the online application form about their preference of fellowship (whether availing MRFP Research Fellowship or CSIR/UGC/ ICAR fellowship).

Upper age limit is relaxed by 5 years for SC/ST, 3 years for OBC, 10 years for physically handicapped and as per rule for ex-servicemen.

Reservation: As per GOI norms.

All applications have to be sent online via the online application link at <https://iitmjobs.tropmet.res.in/job/rarf-mrfp-2019.php> . Hard copy applications will not be accepted.

Last Date of Application: **15th June 2019**

Candidates should apply against respective Position Code. Applicants are allowed to apply for more than one position. In any circumstances wrong entry of position code will not be rectified after the application is submitted. In case of rectification required a fresh application may be filed within the last date of application.

| Position Code | Subject | Number Of Positions | Essential Qualifications | Desirable qualifications |
|----------------|---|---------------------|--|---|
| NCESS-MRFP-01 | Near shore Coastal Processes | 01 | Masters degree in Physical Oceanography, Ocean Sciences, Ocean Technology or Civil Engineering | Experience in oceanographic data collection in the near shore region/ modeling of coastal processes. |
| NCESS-MRFP-02 | Cloud physics and Thunder Storm Research | 01 | Masters degree in Physics, Mathematics, Atmospheric Science, Meteorology or Remote sensing | Experience in atmospheric measurement and data analysis. Knowledge of working with GrAds/ Fortran/C/Python. |
| NCESS-MRFP-03 | Quaternary Geology and Paleoclimate Studies | 01 | Masters degree in Geology, Applied Geology, Marine Geology, Hydrology or Civil Engineering | Experience in Laboratory analysis of sediments, Remote sensing and GIS, Ground water or Flood modeling |
| NCESS-MRFP-04 | Geology, Geochemistry, Geochronology and Geophysics | 01 | Masters degree in Geology, Applied Geology, Geophysics or Applied Geophysics | Experience in petrography, Geochemistry, Geochronology, Geophysical or Landslide modeling |
| NCS-MRFP-01 | Seismology | 01 | Master's degree in Geophysics/Geology | Experience in Seismology, Geophysical techniques |
| INCOIS-MRFP-01 | Numerical Ocean modeling (circulation and wind-waves) and data assimilation | 02 | M.Sc. in Physical Oceanography/Physics/Meteorology/or M.Tech in Atmospheric Science/Meteorology | Experience in Oceanographic data analysis/Oceanic Model output analysis, Skill in FORTRAN/PYTHON programming Language/Software knowledge such as NCL, CDO, FERRET etc. |
| INCOIS-MRFP-02 | Marine biogeochemical modelling and ecosystem dynamics. | 01 | Post Graduate Degree (M.Sc., M. Tech., M.Sc. (Tech.)) in Oceanic Sciences/ Atmospheric Sciences / Climate Sciences / Meteorology / Oceanography / Physical Oceanography / Physics / Mathematics or its equivalent from a | (i) It is desirable that the student has carried out his/her master's dissertation on physical oceanography, marine biogeochemistry and ecosystem, or in the analysis of marine biogeochemical data, (ii) Programming skills in |

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| | | | recognized university / institute. | Fortran, C/C++, Python etc, and (iii) Familiarity with scientific visualization and analysis software such as FERRET, GMT, MATLAB, ODV, GRADS etc. |
| INCOIS-MRFP-03 | Micrometeorological aspects of air-sea flux transfer in Indian Ocean | 01 | M.Sc Oceanography / Meteorology/ Atmospheric Science/Physics/Mathematics | Experience in handling meteorological data, skill in matlab/IDL/Ferret programming etc. |
| NCMRWF-MRFP-01 | Data Assimilation | 01 | Post Graduate degree in Physical Sciences (Physics/Applied Physics/ Atmospheric Sciences/ Meteorology/Oceanography/Geophysics with | Good Knowledge in computer programming (Fortran/C/ Python etc.) and Linux/Unix (shell scripts). |
| NCMRWF-MRFP-02 | Ensemble Prediction | 01 | Meteorology as one of the subjects/Climate Science or equivalent subjects) or Mathematical Sciences (Mathematics/Applied Mathematics or equivalent subjects) | Familiarization with numerical prediction and related fields. Knowledge in Remote Sensing/Satellite Meteorology/GIS for NCMRWF-MRFP-01 |
| NCMRWF-MRFP-03 | Coupled Modeling | 01 | Candidates should have studied Physics/Mathematics at Graduation Level | Knowledge in Matlab/R/Big data Analytics/Machine Learning for NCMRWF-MRFP-04 |
| NCMRWF-MRFP-04 | Forecasting Extreme/Severe Weather events and Verification | 01 | | |
| NCPOR-MRFP-02 | Phytoplankton productivity & bio-optical studies in Polar waters | 01 | M.Sc. in Marine Biology/Biological Oceanography/Marine Sciences/Oceanography/Remote sensing | Experience in scientific expeditions or cruises for sample collections/ analysis of biochemical parameters/sound knowledge of computers/satellite data processing. etc. |

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| NCPOR-MRFP-01 | Ocean and atmospheric forcing on sea ice variability. | 01 | M.Sc. in Atmospheric Sciences/ Meteorology/ Marine Science (Physical oceanography) /Remote Sensing or M.Tech in Atmospheric Science/Meteorology/Remote Sensing | Experience in processing multispectral satellite data/ Atmospheric/Oceanic fields. Skill in C programming Language and Software knowledge of Matlab, GIS, NCL or CDO, FERRET, etc. |
| NCPOR-MRFP-03 | Antarctic sea-ice variability and coupled atmosphere-ice-ocean processes. | 01 | M.Sc. in Geoinformatics/ Physical Oceanography/Physics/Atmospheric Sciences/Meteorology/ or M.Tech in Geoinformatics/ /Atmospheric Science/Meteorology/ | Experience in ocean-atmospheric data analysis, Programming languages/software skills in C++, Python, CDO, FERRET,GRADS and GIS softwares. |
| CMLRE-MRFP-01 | Physical processes associated with the coralline ecosystem of Lakshadweep | 01 | M.Sc. in Physical Oceanography/Oceanography/Marine Sciences/Physics /Meteorology / or M.Tech in Ocean Technology/ Atmospheric Science | Experience in Ocean data processing and analysis, Skill in R, Python. Experience in ship based/mooring measurements |
| CMLRE-MRFP-02 | Meso-scale processes associated with selected biological hotspots | 01 | M.Sc. in Physical Oceanography/Oceanography/Marine Sciences/Physics / or M.Tech in Ocean Technology | Experience in Ocean data processing and analysis, Skill in R, Python. Experience in ship based measurements |
| CMLRE-MRFP-03 | Dynamics of Eastern Arabian Sea | 01 | M.Sc. in Physical Oceanography/Oceanography/Mathematics/Physics /or M.Tech in Ocean Technology | Experience in Physical Ocean data processing, analysis and Modelling |
| CMLRE-MRFP-04 | Hatchery technology for marine ornamental fishes | 01 | M.Sc. in Marine Biology/Oceanography/Marine Sciences/Aquaculture/ or M.Phil in Aquaculture and Fishery | Experience in Aquaculture. Taxonomic identification skills |

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| CMLRE-MRFP-05 | Biogeography, Ecology and biosystematics of crustaceans | 01 | M.Sc in Marine Biology/ Zoology/ M.F.Sc | Experience in crustacean taxonomy and Biology/ Cruise participation/ Field Work |
| NCCR-MRFP-01 (Ecosystem Modeling) | Marine Ecosystem Modelling | 01 | M.Sc. in Physics/ Physical Oceanography/ Marine Science or M.Tech in Marine Chemistry | Experience in processing and analysis of global model data/ global data archives related to Ocean-Atmospheric parameters, Programming Skill in LINUX/ UNIX/ FORTRAN/Matlab etc; working experience in software such as GRADS/ NCL/ CDO/ FERRET/Tecplot etc. |
| NCCR-MRFP-02 (Water Quality Prediction) | Coastal water quality Modelling | 01 | M.Sc. in Chemistry/Environmental Science or M.Tech in Environmental Engineering/ Ocean engineering | Experience in Ocean Modelling. Programming skills in MATLAB, FORTRAN or Python /Software knowledge such as NCL, FERRET etc. |
| NCCR-MRFP-03 (Coastal Pollution) | Coastal Pollution Risk Assessment | 01 | M.Sc. in Marine Biology/ Zoology | Experience in coastal pollution, and impact assessment of pollutants on Marine ecosystem by applying predictive models |
| NCCR-MRFP-04 (Coastal Processes) | Coastal processes Modelling | 01 | M.Sc. in Physics/Mathematics/ physical Oceanography or M.Tech in Ocean Engineering/ coastal/ocean management | Experience in coastal process / hydrodynamic Modelling, participation in nearshore hydrodynamic field data collection |
| NCCR-MRFP-05 (Sea Water Quality Monitoring) | Seawater Quality Monitoring | 01 | M.Sc. Degree in Marine Biology / Botany/ Zoology/ Marine Microbiology/ Microbiology . | Research experience in field work including collection of marine samples, preservation, analysis, data archival, data processing and reporting. |

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| NIOT-MRFP-01 | OA | 01 | M.Sc in Physics/Applied Mathematics/Electronics | Experience in Signal processing/data processing skill in Matlab programming |
| NIOT-MRFP-02 | OOS | 01 | M.Sc in Oceanography/ Atmospheric Sciences Or M Tech Ocean Technology or equivalent | Experience in data processing Skill in Matlab programming |
| NIOT-MRFP-03 | OOS | 01 | M.Sc in Oceanography/ Atmospheric Sciences Or M Tech Ocean Technology or equivalent | Experience in data processing Skill in Matlab programming |
| NIOT-MRFP-04 | MSS | 01 | M.Sc. Or M.Tech in Physics/ Electronics | Experience in Signal processing/data processing techniques. skill in Matlab programming and image generation techniques |