

# Job Title: Internal Research Fellow (PostDoc) on Exploiting Earth Observation for Climate Research

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## EUROPEAN SPACE AGENCY

Research Fellowship Opportunity in the Directorate of Earth Observation Programmes.

ESA is an equal opportunity employer, committed to achieving diversity within the workforce and creating an inclusive working environment. Applications from women are encouraged.

### Post

#### Internal Research Fellow (PostDoc) on Exploiting Earth Observation for Climate Research

This post is classified F2.

### Location

ECSAT, Harwell, United Kingdom

### Our team and mission

The goal of the European Space Agency's (ESA) Climate Office (ECO) is to increase the use of satellite-based Earth Observation (EO) data in climate science. Making optimal use of European and worldwide satellite data, we focus our work on a range of Essential Climate Variables (ECV) such as land cover, land surface temperature, soil moisture, fire, biomass, lakes, permafrost, snow, glaciers, ice sheets, sea ice, sea level, sea state, sea surface salinity, ocean colour, sea surface temperature, greenhouse gases, water vapour, ozone, aerosols, and clouds.

Our main activities are:

- the implementation of ESA's Climate Change Initiative ([cci.esa.int](http://cci.esa.int)), which delivers satellite-derived data sets of ECVs (as expressed by the Global Climate Observing System (GCOS)) tailored to the needs of the climate research and modelling communities worldwide.
- to generate such ECVs we analyse carefully climate user needs for long-term satellite-based observations and assess their feedback on the fitness for purpose of available climate data records.
- to create such ECVs it is necessary to perform scientific investigations, assess the data quality and develop the computational and modelling systems (e.g. data assimilation) to generate such data records for climate research. An important part is also the validation of the data sets produced against independent, space and ground-based, observations in collaboration with scientific users.
- finally, the ECVs produced by the ECO improve our understanding of key science questions posed by the changing climate and hence support the work of the Intergovernmental Panel on Climate Change (IPCC) and GCOS, with whom we work closely to enhance the evidence base for climate research.
- based on our research activities we raise awareness of the value of satellite data for climate research among the science community and the general public.

For more information, interested candidates are encouraged to visit the ESA websites: [www.esa.int](http://www.esa.int) and [cci.esa.int](http://cci.esa.int)

### Field(s) of activities/research

The selected candidate's research shall contribute to the activities of the ESA Climate Office, for example, through:

- the use of satellite-based observations in addressing key climate science questions. Any potential research project should include more than one (European and/or worldwide) satellite-derived variable (e.g. soil moisture and land surface temperature).
- the development of improved climate data records from satellite data, and/or improved methods of uncertainty characterisation, including the use of artificial intelligence and machine learning to improve or analyse satellite climate data records.
- the investigations into the physical consistency between different satellite-derived climate data records (e.g. aerosol and cloud properties), and the impact of inconsistencies in the data on applications.

- the quality assessment and validation of satellite-based data sets for climate science.
- improving public understanding of climate science (e.g. by developing and promoting GCOS Climate Indicators) and raising awareness of ESA's climate activities.

The successful candidate will have the opportunity to work in cooperation with relevant scientific projects within ESA's CCI programme.

### Technical competencies

Knowledge relevant to the field of research  
Research/publication record  
Ability to conduct research autonomously  
Breadth of exposure coming from past and/or current research/activities  
General interest in space and space research  
Ability to gather and share relevant information

### Behavioural competencies

Innovation & Creativity  
Continuous Learning  
Communication  
Relationship Management  
Self Motivation  
Problem Solving  
Cross-Cultural Sensitivity

### Education

Applicants should have completed or be close to completion of their PhD (or equivalent studies). Preference will be given to applications submitted by candidates within three years of receiving their PhD.

### Additional requirements

Applicants should have broad knowledge of climate research as well as broad knowledge of major international initiatives related to EO and climate research.

Applicants should have good analytical and communication skills and should be able to work in a multicultural environment in a fairly autonomous manner.

The working languages of the Agency are English and French. A good knowledge of one of these is required.

### Other information

For behavioural competencies expected from ESA staff in general, please refer to the [ESA Competency Framework](#).

The Agency may require applicants to undergo selection tests.

#### The closing date for applications is 09 October 2019.

In addition to your CV and your motivation letter, please add your proposal of no more than 5 pages outlining your proposed research in the "additional documents" field of the "application information" section.

If you require support with your application due to a disability, please email [contact.human.resources@esa.int](mailto:contact.human.resources@esa.int).

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Please note that applications are only considered from nationals of one of the following States: Austria, Belgium, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Luxembourg, the Netherlands, Norway, Poland, Portugal, Romania, Spain, Sweden, Switzerland, the United Kingdom and Canada and Slovenia as well as Bulgaria, Cyprus, Latvia, Lithuania, Slovakia as European Cooperating States (ECS).

Priority will first be given to candidates from under-represented Member States.

In accordance with the European Space Agency's security procedures and as part of the selection process, successful candidates will be required to undergo basic screening before appointment

