

JOB DESCRIPTION

Vacancy reference:	SRF22320
Post Title:	Post-Doctoral Researcher
Grade:	Grade 6
School/Department:	Department of Meteorology
Reports to:	Dr. Rémi Tailleux
Responsible for:	N/A

Purpose

Ocean heat uptake is a key controlling physical process of global warming, surface temperature change and sea level rise. As part of a 3-year NERC funded project, the successful applicant will test and implement a recently developed simple formulation of ocean heat uptake based on Walin (1982)'s theory of water masses using a mix of observations and state of the art climate change simulations. One of the main aims of the project will be to develop a simplified but accurate model of ocean heat uptake for use in simple climate models, which will improve the accuracy of climate change projections.

Main duties and responsibilities

The successful applicant will be responsible for testing and implementing a newly developed simplified but rigorous representation of ocean heat uptake aimed at improving the ocean component of simple climate models such as MAGICC. This will primarily entail:

- Analysing ocean heat uptake in a wide range of climate change simulations performed with various climate models in the light of a new theoretical simplified framework,
- Performing new numerical simulations with general circulation models if needed,
- Reporting the results in leading scientific journals and at international conferences,
- Developing and testing a workable simplified representation of ocean heat uptake in simple climate models.

Supervision received

The work is to be carried out at the University of Reading under the main supervision of Dr Rémi Tailleux, in close collaboration with the Co-Investigators of the projects: Dr. David Ferreira, Dr. Till Kuhlbrodt and Prof. Jonathan Gregory and the MetOffice Project Partner Prof. Jason Lowe.

Contact

For more information please contact directly Rémi Tailleux (R.G.J.Tailleux@reading.ac.uk)

Terms and conditions

This is a full time position for up to 3 years, depending on salary scale.

This document outlines the duties required for the time being of the post to indicate the level of responsibility. It is not a comprehensive or exhaustive list and the line manager may vary duties from

time to time which do not change the general character of the job or the level of responsibility entailed.

Date assessed:

PERSON SPECIFICATION

Job Title	School/Department
Post-Doctoral Researcher	MPCS/Meteorology

Criteria	Essential	Desirable
Skills Required	<ul style="list-style-type: none"> • Familiarity with data analysis of preferably large datasets with software such as Python and/or Matlab • Good numeracy skills and ability to understand theoretical work • Good programming skills • Good organisation skills 	<ul style="list-style-type: none"> • Strong numeracy skills and taste for theoretical analysis/mathematical modelling • Strong proficiency with data analysis using Matlab and/or Python • Knowledge of Fortran programming
Attainment	<ul style="list-style-type: none"> • A PhD in Physical Oceanography or Atmospheric Sciences or closely related field 	<ul style="list-style-type: none"> •
Knowledge	<ul style="list-style-type: none"> • Some background knowledge in ocean and climate modelling 	<ul style="list-style-type: none"> • Familiarity with the literature about ocean heat uptake and simple climate models • Familiarity about the literature about ocean and climate modelling • Familiarity with ocean mixing parameterisations
Relevant Experience		<ul style="list-style-type: none"> • Experience with working in Unix/Linux environments • Experience with running numerical ocean models • Experience in analysing large data sets
Disposition	<ul style="list-style-type: none"> • Ability to carry out independent research work • Strong motivation to acquire the new skills and knowledge required to do the project 	<ul style="list-style-type: none"> •
Other	<ul style="list-style-type: none"> • Strong communication, presentation, and writing skills 	

Completed by: Rémi Tailleux	Date: 26 March 2018
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