Dear Colleagues,

Please find attached seven vacancy announcements for positions at CCRS in Singapore. We have recently received a significant resource increase to enhance our capabilities in all of the areas covered by these posts. I encourage you to spread this information to colleagues and departments within your university/institute.

Best Regards,

Erland Källén (NEA) • Director of CCRS• Meteorological Service Singapore • Tel : +65 6488 1852 • Fax : +65 6289 1846 •
Email :Erland_Kallen@nea.gov.sg • ccrs.weather.gov.sg

S/No	Position	Branch/Section	Deadline for applications
1	Senior Principal Research Scientist	Climate Branch	4 May 2019
2	Research Scientist/Senior Research Scientist (Atmospheric chemistry)	Weather Branch / Weather Modelling Applications Section	9 May 2019
3	Research Scientist/Senior Research Scientist (Model physics)	Weather Branch / Weather Modelling Development Section	9 May 2019
4	Research Scientist/Senior Research Scientist (Ensemble data assimilation)	Weather Branch / Weather Modelling Development Section	9 May 2019
5	Senior Research Scientist/Deputy Principal Research Scientist (Climate variability and predictability)	Climate Branch / Seasonal to Sub seasonal Section	9 May 2019
6	Senior Research Scientist (Global climate model projections)	Climate Branch / Climate Modelling and Predictions Section	9 May 2019
7	Research Scientist (Global climate model projections)	Climate Branch / Climate Modelling and Predictions Section	9 May 2019

Climate Research in Singapore
Senior Principal Research Scientist

Appointments will be for a 3-year initial period with a prospect of a permanent position.

Annual salaries will be in the range of **SGD 150K - SGD 245K**. The starting salary and the level of entry will depend upon experience. In addition to annual salary, a performance-related bonus payment and relocation allowances will apply.

Deadline for application: 4 May 2019

Background

The Centre for Climate Research Singapore (CCRS) is a research institute focusing on a number of weather and climate research areas which are of importance to Singapore and the wider Southeast Asian region. The centre is well supported with long-term core funding from the Singapore Government. In addition to the establishment of a number of research positions, a dedicated CRAY XC-40 has been installed to support modelling activities. The Centre also supports research groups in Singapore with external project funding.

In the climate area there are four main threads to the existing and future research activities:

- The generation of climate scenarios for Singapore and the Southeast Asian region. In 2015 a major climate assessment project was completed and currently CCRS is embarking on a new assessment project to be delivered in the next few years. This project involves the regional downscaling of global model projections to a finer resolution over Singapore and Southeast Asia and a scientific evaluation of the results. Sea level rise is a vital aspect of climate change for Singapore and a dedicated National Sea Level Project has been initiated at CCRS. Current and future work involves an in-depth analysis of the key results coming from climate change projections and a scientific understanding of the mechanisms governing climate change.

- The fundamental understanding of climate processes and mechanisms that are of first order importance to Singapore and the wider Southeast Asian region. These include tropical convection, monsoon dynamics, MJO and the role of remote tele-connections from ENSO and IOD. Working with global centres, we are also developing our capabilities in sub-seasonal to seasonal prediction for the Southeast Asian region.

- A better characterisation and understanding of decadal climate variability and the drivers of changes in extreme weather in the region is needed. Fundamental research in this area is part of the research programme at CCRS.
- Climate change impacts on water resources, human health, biodiversity, food security and the energy sector. These research areas will be pursued in collaboration with research groups in Singapore universities and research institutes.

We are looking for a team leader for the climate area to both develop and lead the science programme and to grow the group. We are seeking established scientists with an international reputation and a strong background in climate research. The specific job responsibilities will include:

- Lead and line-manage the research team that is working to better understand and predict climate variability and change in Southeast Asia
- Undertake and publish their own research in topics important to the region
- Develop research plans for the climate research activities
- Provide scientific/technical guidance and training to team members
- Ensure the appropriate external representation of the centre's climate work via national and international conferences and workshops
- Collaborate nationally and internationally with key institutions that lead in associated climate research activities. There is also the possibility of developing an affiliated academic position with local universities.
- Engage in an advisory capacity with national level stakeholders who are responsible for climate change policy and planning

Requirements

- A PhD (or equivalent research experience) in a relevant physical science such as meteorology, oceanography, mathematics or physics
- At least 10 years of post-doctoral research experience, with a proven record of success as demonstrated by publications in peer-reviewed journals
- Demonstrated ability to inspire, lead and manage a team of PhD level researchers and technical experts
- Experience from participating in large research consortia
- Good written and verbal presentation skills

It is an advantage to have

- Familiarity with tropical/Maritime Continent processes
- Experience of leading large scale research consortia

Application details:

Interested candidates are invited to apply online at the Singapore Public Service Job Portal at www.careers.gov.sg. Alternatively, you can submit your resume to NEA_MSS_Contact@nea.gov.sg. Only shortlisted candidates will be notified.

Research Scientist/Senior Research Scientist (Atmospheric Chemistry)
Centre for Climate Research Singapore

The Centre for Climate Research Singapore (CCRS) is the research arm of the Meteorological Service Singapore (MSS). CCRS has two main branches focussing on Weather and Climate research. Within the Weather Branch, the Weather Modelling Applications (WMA) section conducts research and development in atmospheric dispersion modelling and other downstream applications which utilise Numerical Weather Prediction (NWP) information.

Appointments will be for a 2-year initial period with a prospect of a permanent position.

Annual salaries will be in the range of SGD $55K to $120K The starting salary and the level of entry will depend on experience. In addition to annual salaries, relocation allowances may apply.

Deadline for application: 9 May 2019

Background

CCRS is expanding its efforts to develop atmospheric dispersion modelling capabilities geared towards operational prediction. We are seeking a highly motivated scientist to join the WMA section and lead developments in the area of atmospheric chemistry modelling. The specific job responsibilities of this position include:

- Developing and enhancing dispersion modelling systems to predict the transport of airborne pollutants in the context of Singapore and the region;
- Conducting research and analysis to improve modelling of atmospheric chemistry processes for the benefit of air quality forecasting;
- Performing diagnosis and verification of the dispersion model forecasts and contributing to other aspects of the modelling system development;
- Keeping abreast with the latest international developments in atmospheric chemistry and air quality modelling;
- Working with local and international institutes and cultivating relevant research partnerships; and
- Presenting results at international meetings and publishing research in peer-reviewed journals.

Candidate Requirements

- A PhD (or equivalent research experience) in a research area relevant to atmospheric chemistry modelling;
- Experience in the development and application of atmospheric dispersion and air quality modelling systems;
- High level of proficiency in scientific computing and experience working with High Performance Computing (HPC) environments;
- Demonstrate ability to undertake research work both individually and as part of a team; and

- Good command of spoken and written English and good communication skills.

Application details:

Interested candidates are invited to apply online at the Singapore Public Service Job Portal at www.careers.gov.sg. Alternatively, you can submit your resume to NEA_MSS_Contact@nea.gov.sg. Only shortlisted candidates will be notified.

Research Scientist/Senior Research Scientist (Model physics)
Centre for Climate Research Singapore

The Centre for Climate Research Singapore (CCRS) is the research arm of the Meteorological Service Singapore (MSS). Formally launched in 2013, the centre has two research branches: Climate Branch and Weather Branch. The centre's focus is on weather and climate research areas of importance to Singapore and the wider Southeast Asian region. The centre is well supported with a dedicated super-computer.

Appointments will be for a 2-year initial period with a prospect of a permanent position.

Annual salaries will be in the range of SGD $55K to $120K. The starting salary and the level of entry will depend on experience. In addition to annual salaries, relocation allowances may apply.

Deadline for application: 9 May 2019

Background

CCRS is expanding its efforts to develop state-of-the-art Numerical Weather Prediction (NWP) capabilities for operational prediction, as well as to become a regional centre of expertise in high-resolution NWP research and development. In addition to the in-house resources, we also have an extensive collaboration with the UK Met Office that is developing a high-resolution tropical forecast system.

We are seeking a highly motivated scientist with a strong background in meteorology, mathematics, physics or a related discipline to join the Weather Modelling Development (WMD) Section and lead the cloud physics related activities. The specific job responsibilities of this position will include:

- Keeping abreast with the latest international developments in model physics with a focus on cloud microphysics;
- Carrying out research to improve the quality of the forecasts produced by the high-resolution 'SINGV' NWP system, for the benefit of Singaporean stakeholders;
- Performing diagnosis and verification of the forecasts, in terms of relevant high-impact weather parameters, e.g. heavy rainfall, wind gusts, etc.;
- Providing scientific/technical advice to other team members on some work aspects to improve the effectiveness of the team; and
- Presenting results at international meetings and publishing the research in peer-reviewed journals.

Candidate Requirements:

- A PhD in a relevant field such as meteorology, fluid dynamics, mathematics or physics;
- Expertise in radiative transfer and atmospheric turbulence or experience with weather/climate model physics with a focus on cloud microphysics;
- Demonstrate ability to undertake research work both individually and as part of a team;
- Proficient in scientific computing;

- Proven record of success as demonstrated by publications in peer-reviewed journals;
- Good written and verbal presentation skills; and
- Able to supervise and coach less experienced team members in conducting research projects (for Senior Research Scientists).

Application details:

Interested candidates are invited to apply online at the Singapore Public Service Job Portal at www.careers.gov.sg. Alternatively, you can submit your resume to NEA_MSS_Contact@nea.gov.sg. Only shortlisted candidates will be notified.

Research Scientist/Senior Research Scientist (Model physics)
Centre for Climate Research Singapore

The Centre for Climate Research Singapore (CCRS) is the research arm of the Meteorological Service Singapore (MSS). Formally launched in 2013, the centre has two research branches: Climate Branch and Weather Branch. The centre's focus is on weather and climate research areas of importance to Singapore and the wider Southeast Asian region. The centre is well supported with a dedicated super-computer.

Appointments will be for a 2-year initial period with a prospect of a permanent position.

Annual salaries will be in the range of SGD $55K to $120K. The starting salary and the level of entry will depend on experience. In addition to annual salaries, relocation allowances may apply.

Deadline for application: 9 May 2019

Background

CCRS is expanding its efforts to develop state-of-the-art Numerical Weather Prediction (NWP) capabilities for operational prediction, as well as to become a regional centre of expertise in high-resolution NWP research and development. In addition to the in-house resources, we also have an extensive collaboration with the UK Met Office that is developing a high-resolution tropical forecast system.

We are seeking a highly motivated scientist with a strong background in meteorology, mathematics, physics or a related discipline to join the Weather Modelling Development (WMD) Section and lead the ensemble data assimilation related activities. The specific job responsibilities of this position will include:

- Keeping abreast with the latest international developments in ensemble data assimilation;
- Carrying out research to improve the quality of ensemble forecasts produced by the high-resolution 'SINGV' NWP system, for the benefit of Singaporean stakeholders;
- Performing diagnosis and verification of the forecasts, in terms of relevant high-impact weather parameters, e.g. heavy rainfall, wind gusts, etc.;
- Providing scientific/technical advice to other team members on some work aspects to improve the effectiveness of the team; and
- Presenting results at international meetings and publishing the research in peer-reviewed journals.

Candidate Requirements:

- A PhD in a relevant field such as meteorology, fluid dynamics, mathematics or physics;
- Experience with NWP system with a focus on ensemble data assimilation;
- Demonstrate ability to undertake research work both individually and as part of a team;
- Proficiency in scientific computing;
- Proven record of success as demonstrated by publications in peer-reviewed journals;
- Good written and verbal presentation skills;

- Able to supervise and coach less experienced team members in conducting research projects (for Senior Research Scientists)

Application details:

Interested candidates are invited to apply online at the Singapore Public Service Job Portal at www.careers.gov.sg. Alternatively, you can submit your resume to NEA_MSS_Contact@nea.gov.sg. Only shortlisted candidates will be notified.

Decadal Variability and Predictability
Senior Research Scientist/Deputy Principal Research Scientist

The Centre for Climate Research Singapore (CCRS) is offering an exciting job opportunity for an experienced scientist with a background in global climate models and data analysis, to inform regional climate change studies. The position will contribute to the development of a new set of National Climate Change Projections for Singapore.

Appointments will be for a 2-year initial period with a prospect of a permanent position.

Annual salaries will be in the range of SGD $76K to $152K. The starting salary and the level of entry will depend on experience. In addition to annual salaries, relocation allowances may apply.

Deadline for application: 9 May 2019

Background

The Seasonal and Sub-Seasonal Prediction section focuses its research on climate processes relevant to Singapore and Southeast Asian region and developing predictions for its stakeholders on timescales ranging from sub-seasonal to seasonal. It also works closely with the Climate Modelling and Prediction (CMP) section which is focused on longer-term climate projections. In keeping pace with international scientific developments and growing interest from stakeholders, CCRS is enhancing its capabilities in analysing decadal predictions and understanding the coupled climate processes on this time-scale, aiming at the current knowledge gap between seasonal predictions and climate projections.

Against the backdrop of long-term climate change, the ability to detect changes in climate patterns and attribute those changes to variability on shorter (decadal) timescales is crucial. This ensures that the influence of climate drivers, on annual, multi-year, or decadal trends that either moderate or complement the long-term climate effects, are properly quantified. Being in a region that is heavily impacted by ENSO cycle, Indian Ocean sea surface temperature variability and the Madden-Julian Oscillation, it is important to understand how these intra-seasonal to inter-annual phenomena are modulated by longer-term variability.

We are seeking an experienced scientist with a strong background in meteorology, oceanography or a related discipline to join the SSP research team within CCRS Climate Branch and contribute to a better understanding of coupled ocean-atmosphere dynamics for decadal variability and predictability. The specific job responsibilities will include:

- Conduct studies on climate drivers that affect the climate patterns over Singapore and Southeast Asia on the decadal timescale;
- Quantify and attribute observed changes on multi-year and decadal timescales to relevant drivers vis-à-vis climate change;
- Evaluate existing climate models' ability to represent multi-year and decadal climate processes;
- Assess the feasibility of making skilful multi-year and decadal predictions for the region from emerging international database (e.g. World Climate Research Programme's Decadal Climate Prediction Project) or using novel statistical approaches.
- Collaborate with other scientists at CCRS on climate variability and its relevance to climate change projections;
- Contribute to the supervision of junior scientists within the team; and

- Publish research outcomes in peer-reviewed publications and present findings at international meetings.

Candidate Requirements

- A PhD (or equivalent research experience) in a relevant physical science such as meteorology, oceanography, mathematics or physics;
- 5 to 10 years post graduate research experience and a recognised expert in their field;
- Familiarity with coupled processes across the tropics and the Maritime Continent on various timescales.
- Demonstrate ability to undertake research work both individually and as part of a team;
- Good understanding of how decadal climate models are configured and run, and their potential and limitations;
- Proficiency in scientific computing;
- Proven record of success as demonstrated by publications in peer-reviewed journals; and
- Good written and verbal presentation skills.

Application details:

Interested candidates are invited to apply online at the Singapore Public Service Job Portal at www.careers.gov.sg. Alternatively, you can submit your resume to NEA_MSS_Contact@nea.gov.sg. Only shortlisted candidates will be notified.

Global Climate Model Projections
Research Scientist / Senior Research Scientist

The Centre for Climate Research Singapore (CCRS) is offering a job opportunity for an upcoming scientist with a background in regional climate modelling and downscaling. The position will contribute to the development of a new set of National Climate Change Projections for Singapore.

Appointments will be for a 2-year initial period with a prospect of a permanent position.

Annual salaries will be in the range of SGD $55K to $120K The starting salary and the level of entry will depend on experience. In addition to annual salaries, relocation allowances may apply.

Deadline for application: 9 May 2019

Background

As a densely populated island city-state situated in the tropics, Singapore is vulnerable to the effects of climate change. The Centre for Climate Research Singapore (CCRS) is the leading national research centre building local research expertise in the weather and climate of Singapore and the wider Southeast Asia region. CCRS delivers climate change assessments to inform policy decisions about adaptation and planning and is currently embarking on a new set of projections coherent with the international research community agenda.

The 2nd set of National Climate Change Projection was released for Singapore by CCRS in 2015, in collaboration with the UK Met Office. This involved the regional downscaling of CMIP5 model projections to a finer resolution over Singapore and Southeast Asia using the UK regional climate model and their scientific evaluation. Detailed reports can be found on the CCRS website. An important aspect of the project was to evaluate the performance of the CMIP5 models in representing key atmospheric processes of relevance to the Maritime Continent and Singapore. Current work involves continued in-depth analysis of the large-scale and regional projections to assess the underlying mechanisms driving the projected changes and provide confidence estimates across the range of uncertainties.

We are seeking a research scientist with hands-on experience on global and regional climate data analysis, especially in using CMIP global climate modelling databases to deliver regional climate change studies, to join the CMP research team and contribute to the development of the next set of national climate change projections for Singapore. The specific job responsibilities will include:

- Analyse observed and modelling data to understand multi-scale climate processes in Southeast Asia;
- Evaluate the latest global climate model simulations from the international community (CMIP) and analyse their skills in simulating climate variability across Southeast Asia and of relevance to Singapore;
- Contribute to the development of the right framework to perform meaningful downscaling simulations to obtain suitable localised climate change projections;
- Provide advice for public and private stakeholders on the interpretations of the climate change projections to support mitigation and adaptation policy planning;
- Provide scientific/technical guidance and collaborate with other scientists in the team; and

- Publish research outcomes in peer-reviewed publications and present findings at international meetings.

Candidate Requirements

- A PhD (or equivalent research experience) in a relevant physical science such as meteorology, oceanography, mathematics or physics;
- At least 5 years post graduate research experience and a recognised expert in their field;
- Demonstrate ability to undertake research work both individually and as part of a team;
- Good understanding of global climate models and hands-on experience on CMIP datasets;
- Proficiency in scientific computing;
- Proven record of success as demonstrated by publications in peer-reviewed journals;
- Good written and verbal presentation skills; and
- Familiarity with tropical/Maritime Continent processes (if any).

Application details:

Interested candidates are invited to apply online at the Singapore Public Service Job Portal at www.careers.gov.sg. Alternatively, you can submit your resume to NEA_MSS_Contact@nea.gov.sg. Only shortlisted candidates will be notified.

Global Climate Model Projections

Research Officer / Research Scientist

The Centre for Climate Research Singapore (CCRS) is offering a job opportunity for an upcoming scientist with a background in regional climate modelling and downscaling. The position will contribute to the development of a new set of National Climate Change Projections for Singapore.

Appointments will be for a 2-year initial period with a prospect of a permanent position.

Annual salaries will be in the range of SGD $44K to $110K. The starting salary and the level of entry will depend on experience. In addition to annual salaries, relocation allowances may apply.

Deadline for application: 9 May 2019

Background

As a densely populated island city-state situated in the tropics, Singapore is vulnerable to the effects of climate change. CCRS is the leading national research centre building local research expertise in the weather and climate of Singapore and the wider Southeast Asia region. CCRS delivers climate change assessments to inform policy decisions about adaptation and planning and is currently embarking on a new set of projections coherent with the international research community agenda.

The 2nd set of National Climate Change Projection was released for Singapore by CCRS in 2015, in collaboration with the UK Met Office. This involved the regional downscaling of CMIP5 model projections to a finer resolution over Singapore and Southeast Asia using the UK regional climate model and their scientific evaluation. Detailed reports can be found on the CCRS website. CCRS has developed a tropical version of the UK Unified Model (SINGV) for Numerical Weather Prediction and recently started to test this model on climate time-scale to complete the next set of regional downscale climate simulations.

We are seeking a research scientist with hands-on experience in regional climate modelling and downscaling to join the climate research team and contribute to further development of our regional weather prediction model SINGV as an RCM and to complete required simulations to deliver a new set of national climate change projections for Singapore. The specific job responsibilities will include:

- Carry out the required downscaling simulations with the UM-based SINGV model and possibly other Regional Climate Models;
- Contribute to the evaluation of these RCMs simulations for both the current climate and future projection;
- Contribute to the development of the suitable interface between global and regional models;
- Provide technical guidance on using the RCM simulations and collaborate with other scientists in the team; and
- Publish research outcomes in peer-reviewed publications and present findings at international meetings.

Candidate Requirements

- A PhD (or equivalent research experience) in a relevant physical science such as meteorology, oceanography, mathematics or physics;
- Demonstrate ability to undertake research work both individually and as part of a team;
- Good understanding of dynamical downscaling approaches and hands-on experience running regional climate models, in particular experience with the UK Met Office regional model would be an advantage;
- Proficiency in scientific computing;
- Proven record of success as demonstrated by publications in peer-reviewed journals;
- Good written and verbal presentation skills; and
- Familiarity with tropical/Maritime Continent processes (if any).

Application details:

Interested candidates are invited to apply online at the Singapore Public Service Job Portal at www.careers.gov.sg. Alternatively, you can submit your resume to NEA_MSS_Contact@nea.gov.sg. Only shortlisted candidates will be notified.