

WCRP Coordination Office for Regional Activities (CORA)
Final Report 2019-2021

Prepared by

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1. BACKGROUND

CORA was established as a result of a concept developed by an ad-hoc WCRP group, to give an overview of climate information for regions¹ in the WCRP. After two years of discussions about the status and issues regarding the programme's regional activities, the group presented a document² entitled 'Scoping a framework for WCRP regional activities' containing a number of recommendations.

The recommendations were endorsed at the 38th Session of the WCRP Joint Scientific Committee (JSC-38 in 2017)³ and an international call for a coordinator for WCRP regional activities was launched in the same year. After the evaluation, two institutes were invited to jointly host the *Coordination Office for WCRP Regional Activities - CORA*: the Climate Service Center Germany (GERICS)⁴ in Hamburg, and the Bjerknes Centre for Climate Research (BCCR)⁵ in Norway for a three-year period (2019-2021).

CORA's mandate (Appendix A) was to assist in the integration and synergy of regional activities within WCRP in cooperation with all WCRP bodies, particularly with the Coordinated Regional Downscaling Experiment (CORDEX). In addition, it would identify opportunities, resources and partners to promote regional climate science and to address key challenges and objectives in the context of the WCRP Strategic Plan 2019-2028⁶.

CORA's personnel through the pilot period is shown in appendix A.

2. ACTIVITIES

During the first year, CORA established connections to all the co-chairs of the Core Projects (CP) and International Project Office (IPO) personnel, the leaders of the Grand Challenges (GC) and all

¹<https://www.wcrp-climate.org/climate-information-for-regions>

²https://www.wcrp-climate.org/WCRP-publications/2016/WCRP_Report_23_2016_Regional_Scoping.pdf

³https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&ved=2ahUKEwiX_cCYs_rH3AhX6S_EDHXskBKcQFnoECA0QAQ&url=https%3A%2F%2Fwww.wcrp-climate.org%2FWCRP-publications%2F2017%2FJSC-38-Summary-Report-2017.pdf&usg=AOvVaw2Xr9kdkRr34k018RTJc3L

⁴<https://www.gerics.de/>

⁵<https://www.uib.no/en/bjerknes>

⁶https://www.wcrp-climate.org/images/documents/WCRP_Strategic_Plan_2019/WCRP-Strategic-Plan-2019-2028-FINAL-c.pdf

the Working Groups. In this initial phase, the office personnel participated at the meetings of the Core Project's Scientific Steering Committees.

2.1. WCRP Survey

CORA performed a WCRP Survey⁷ among the Core Projects, Grand Challenges and Working Groups in order to make them aware of the existence of CORA and to collect knowledge about on-going and planned regional activities. The responses demonstrated there was a need for support and coordination of regional activities within WCRP.

2.2. WCRP CORA Regional Database

Since WCRP did not have an overview of its activities by region, CORA decided to build a database containing information on WCRP research activities in the different regions. Information gathered from the activities' homepage description formed the basis for the CORA-WCRP Regional Database⁸, an on-line tool with information searchable by continents and regions, and by scientific topic.

The aim of this database was to provide a tool to facilitate the coordination of regional activities, identify on-going and future synergies and research gaps, and avoid duplication of effort within the WCRP. Some of the questions that the database aims to answer are:

- where and what were the past and existing regional activities of WCRP from the different core projects, working groups, and grand challenges until 2019?
- where are the common activities of the different projects?

The database contains records of the past, present, and prospective regional activities of WCRP up until the year 2019. The activities relate to those within the Core Projects (CLIC, SPARC, CLIVAR, GEWEX, and CORDEX), Working Groups and Grand challenges, which are marked in the map according to their regions of focus (in continents, ocean basins, or global in scope). Some of the activities may have multiple regions of focus. The current database contains about 300 records of projects, panels/forums, evaluations, workshops, and capacity building. Figure 1 depicts the main features of the web-database.

⁷<https://drive.google.com/file/d/1-pbVY7DEMDHVJidJfnL2d-V2vNU-UaAF/view?usp=sharing>

⁸<https://hub.hereon.de/portal/apps/webappviewer/index.html?id=f3074b2cd84b4c2fa0de6afb57e0576f>

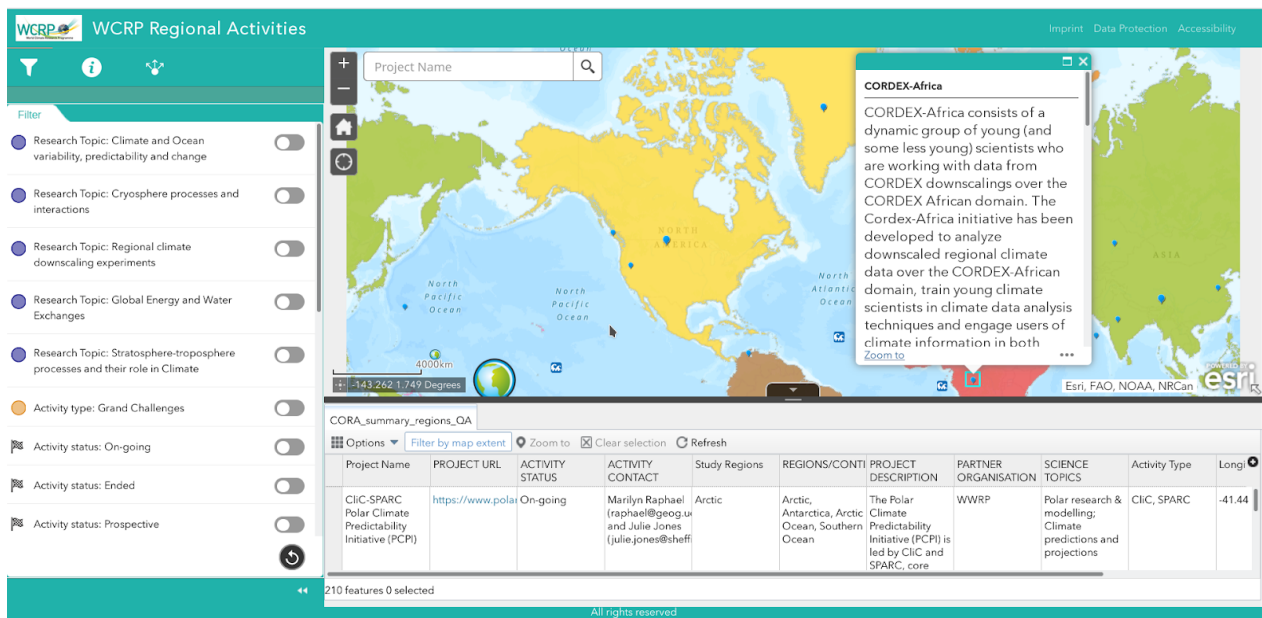


Figure 1. The main features of the WCRP Regional Activities are: (1) quick filters on research topics, activity type, status, and regions; (2) map with markers of regional activities; (3) pop-up information of the marker containing the details of the activity such as description, contact, website links; (3) quick search on activities; and (4) expandable attribute table containing the information of the database records, which can be exported to a csv file.

The first version of this database was created and developed by GERICS together with the Helmholtz Coastal Data Center (HCDC) using the ArcGIS Enterprise license of HCDC and currently maintained by GERICS and hosted at the Coastmap Portal, the Geo-IT platform of Hereon. The database is currently maintained in GERICS and the contact person is Armelle Remedio (armelle.remedio@hereon.de). Further details including a brief user guide is described in **Appendix B**.

2.3. Task Team on Regional Activities (TTRA)

At the end of 2019, CORA became a member of the TTRA. The task team was appointed by the JSC to advise on the implementation of structures and activities on *climate knowledge and information for regions*. The emphasis was on realising WCRP Objective 4 “Bridging Science with Society”.

CORA contributed to the discussions regarding the establishment of a *Working Group on Information for Regions and Society* (WGIRS), and assisted in the drafting of WGIRS terms of

reference⁹, membership¹⁰ and a concept document on *Framework of Climate Information (FoCI)*¹¹ projects.

The TTRA was charged after the 41th JSC session in May 2020 with putting together structural elements for a new WCRP Home “*Regional Information for Society (RiFS)*”. CORA assisted with the organisation of on-line meetings, prepared agendas and meeting minutes¹², and contributed to the preparation of a template with the strategic goals and high-level outcomes, relationships within and outside WCRP, structure, timeline, resources, gaps in knowledge and expertise, funding mobilization, and diversity. This template formed the basis for the TTRA’s recommendations¹³ for the new Home RiFS at the extraordinary meeting of the JSC in December 2020. The TTRA was then disbanded.

2.4. *Regional Information for Society (RiFS)*

The chairs of the disbanded TTRA then assumed the responsibility to start the process of setting up RiFS. CORA performed the following tasks:

- coordinated the formation of working groups: an Interim Coordination Group, a Governance group and four groups of building blocks;
- organized more than 20 on-line meetings including the preparation of agendas and minutes¹⁴;
- kept track of essential working documents, such as the Science Plan, Mission and Vision, and the Governance of RiFS.

2.5. *WCRP Climate Research Forums*

In 2020 WCRP launched a series of regionally-based Climate Research Forums, to exchange ideas, discuss new activities and opportunities being developed by WCRP, and explore ways that its community of scientists, partner programs, funders and end-users of its climate science can engage. CORA, together with the WCRP secretariat, assisted JSC co-chair Helen Cleugh in the organisation of six forums in the following regions: North and Central America, Caribbean and Greenland; South America; East Asia; Southeast Asia; Oceania; and Europe and Western Asia. The work consisted of: appointment of Regional Focal Points (RFPs) for each region, organisation of

⁹<https://docs.google.com/document/d/1qh1SlxFKQEgqduFUzhI5mNMOPz83ByUV/edit?usp=sharing&oid=103511712794519582197&rtpof=true&sd=true>

¹⁰https://docs.google.com/document/d/1XO5apAncXc0kk3kx111Qj_BUu2Fi5rie/edit?usp=sharing&oid=103511712794519582197&rtpof=true&sd=true

¹¹<https://docs.google.com/document/d/1CQDk8cl6l0VG-vZIMK25R6q70nbT512N/edit?usp=sharing&oid=103511712794519582197&rtpof=true&sd=true>

¹² https://drive.google.com/drive/folders/1MmSEpSRxUCNvs_TKrer0n-3McxWeKnxA?usp=sharing

¹³ <https://drive.google.com/file/d/14Hi7F2EVJzRsEoY07pP3u9e-pMNfRRqB/view?usp=sharing>

¹⁴<https://docs.google.com/document/d/1dlaP36lB-KogREVbRzYsq-vT4020EJqTSAuOjPySLe8/edit?usp=sharing>

online conferences, preparation of programs, invitation of speakers and panellists, production of promotional material and holding the event. The forums were organised entirely on-line and attracted audiences of between 170 and 350 participants.

2.6. *Miscellaneous*

In the period from 2019 to 2020, CORA was involved in the following additional activities:

- conducted a WCRP stakeholder’s stocktake¹⁵ to get an overview of the interactions of WCRP with climate services, public and private sectors.
- assisted in the preparation of a grant proposal to the Volkswagen Foundation for a workshop to consolidate the launching of a new **GEWEX Regional Hydrology Project in Central Asia**.
- volunteered to coordinate the “**Joint Core Project Initiative**” proposed by the co-chairs of the CPs and CORDEX at the JSC-40 with the purpose to serve as pilots of the FoCI.
- participated in the regular meetings of the **WCRP secretariat and the International Project Offices**. This has turned out as an important forum for the exchange of information and discussion of pertinent administrative and strategic issues common to all offices. The forum will become even more important as the IPOs are envisioned to become increasingly involved in the implementation of the new WCRP and its new activities, e.g., the Lighthouse Activities.
- assisted the **GC Near Term Climate Prediction** in the distribution and collation of information of the “WMO Annual to Decadal Climate Update”.
- assisted the **S2S community** with two user surveys of the “*WCRP/WWRP S2S phase II: real-time pilot projects*” initiative. The surveys aim at gauging the co-design and co-production of S2S forecasts among research scientists, stakeholders and end-users from each project. The results will be submitted for publication in a peer-reviewed journal in 2022.
- assisted the **GC Weather and Climate Extremes** with a presentation at AGU Fall 2019 in a session organised by the Future Earth *Knowledge Action Network on Emergent Risks and Extreme Events (Risk-KAN)*

3. CONCLUDING REMARKS

The mission of CORA was to identify opportunities, resources, and partners to promote regional climate science and to address key challenges and objectives in WCRP. The office was operational for three years from 2019 to 2021. Within that time, WCRP implemented a programme restructuring with a new vision and mission to target societal needs for climate information in the upcoming decade. During this period, CORA mainly supported WCRP in its transition phase especially in various activities leading to the establishment of Rifs as a new core project (2.4) and helped in the climate regional forums (2.5). GERICS will maintain the regional database until the Rifs-IPO is established.

¹⁵https://drive.google.com/file/d/1WfKUTc3Pr_2JEopRck8-QwhzWHMHmtYB/view?usp=sharing

STAFF

CORA - Norway

Science coordinator Beatriz Balino: 2019-2021 (100 % FTE)

CORA – Germany

Science coordinator Wiebke Schubotz: June 2019- Feb 2020 (100 % FTE)

Secretary Anke Schlünsen-Rico: Nov 2019-Feb 2020 (50% FTE); Mar 2020-Oct 2021
(100% FTE)

Science coordinator Armelle Remedio: mid-April 2020-Dec 2021 (80% FTE)

Senior Science Officer Paul Bowyer: 2019-2021. GERICS liaison (10% FTE)

Intern Kim Jiwon, South Korea: Aug 2019-Feb 2020 (100% FTE, funded by WMO)

Intern Seung Jae Mun, South Korea: Mar-Aug 2020 (100% FTE, funded by WMO)

Terms of Reference

Under the guidance of the WCRP Joint Scientific Committee (JSC), CORA will work closely with all WCRP Core Projects and their International Project Offices (IPO), Grand Challenges, Working Groups as well as the Joint Planning Staff (JPS).

In detail, CORA will:

1. Support the JSC to develop clear WCRP messages on regional climate science (primarily through key messages on fundamental climate science), to be reviewed at the annual JSC sessions;
2. Identify opportunities, resources and partners to promote WCRP messages on regional climate science in collaboration with the JPS;
3. Assist in integrating and synergizing regional activities within WCRP in cooperation with the Core Projects including CORDEX, the Grand Challenges, Working Groups and other key activities;
4. Support and coordinate the planning and implementation of scientific workshops, training and outreach activities that take place in regions, in close coordination with the JSC, the Core Project offices and the JPS;
5. Identify and review feasibilities, and engage regional activities for climate science that address key challenges and objectives of WCRP;

6. Develop and promote outreach material and website contents to demonstrate WCRP leadership in regionally-relevant WCRP research activities, in close coordination with the Core Project Offices and the JPS;
7. Report to the annual JSC sessions on the plans and progress of the integrated coordination of WCRP regional activities.

WCRP-CORA Regional Database

The WCRP CORA Team created this web database in order to fulfil their role in providing an overview of the WCRP regional activities. This database will enable the users to coordinate regional activities, identify synergies and research gaps, promote further synergies and avoid duplication of efforts within the WCRP organization. It aims to answer the questions on what and where are the regional activities of WCRP from the Core Projects, Working Groups, and Grand Challenges. The vision was to provide a tool to identify regional activities related to the WCRP in a targeted and efficient way.

The web database displays the past, present, and prospective regional activities of WCRP until 2019. The different activities were from the Core Projects (CLIC, SPARC, CLIVAR, GEWEX, and CORDEX), Working Groups and Grand challenges, which are marked in the map according to their regions of focus (in continents, ocean basins, or with global scope). Some of the activities may have multiple regions of focus. The current database contains about 300 records of projects, panels/forums, evaluations, workshops, and capacity building.

The database was created using the ArcGis Enterprise licence of HCDC and currently maintained by GERICS and hosted at the Coastmap Portal, the Geo-IT platform of Hereon. The web database could be downloaded and migrated to another server location e.g. within WCRP providing the system settings are similar. Additional steps needed in maintaining the database are further input from the WCRP Secretariat and the International Project Offices (IPOs) and discussions on the update and maintenance of the system.

The database is currently maintained in GERICS and further correspondence should be sent to Armelle Remedio (armelle.remedio@hereon.de). We acknowledge former CORA Team members (Wiebke Schubotz, Jiwon Kim and Seung Jae Mun) who largely contributed in gathering the records.

Brief User Guide

The left panel of the database contains the filters, information about the database, and the option for sharing the web application via email or social media platforms (facebook or twitter). The main panel contains the map with markers indicating the study regions of the WCRP regional activities in continents (blue drop), oceans (waves), or around the globe (earth). When clicking on the markers, the information on how many activities are in each marker or activity details such (Project Name, website, contact details, activity status and type, study regions) will pop-up.

The main panel also features a quick search for the title of the activity (Project Name). This search will provide you the location and further details of the selected activity.

Filters

In the filters tabs, the following options are available:

- a. Research Topic: Climate and Ocean variability, predictability and change; Cryosphere processes and interactions; Regional climate downscaling experiments; Global Energy and Water Exchanges; Stratosphere-troposphere processes and their role in Climate
- b. Activity Type: Grand challenges
- c. Activity Status: On-going, Ended, Perspective
- d. Regions: Africa, Antarctica, Arctic, Australasia, Europe, North America, South America, Oceans, Global
- e. Additional option to switch off the activities related to workshops or training.

The markers shown will be those that match all of the selected filters. The refresh button will refresh all the filters.

Attribute Table

The Attribute Table is displayed by pressing the arrow at the bottom of the map. This table will display the details of each activity. Additional options are:

- a. Additional filters e.g. specific research topics (Monsoons, etc).
- b. Show/Hide Columns
- c. Export the filtered results to a CSV file
- d. Clear selection
- e. Refresh