

**Report to the WCRP Joint Scientific Committee (JSC)
At the 44th Session of the JSC**

Academy LHA: *World Climate Science Academy (WCSA)*
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<https://www.wcrp-climate.org/academy>

1. Highlights achieved since JSC-43

1.1. Academy Surveys

The results of the first Stocktake Global Survey performed in 2021 entitled «*Climate Training Availability and Gaps*» and which was answered mainly by training recipients, prompted the need for two additional surveys:

- I. One focused on the Global South carried out in 2022 as in-depth interviews of informants from the 1st Stocktake
- II. A second Stocktake Global Survey targeting training providers only, and carried out in 2023.

Key messages from the surveys and interviews are:

Availability of climate training opportunities

- Training recipients from the Global South felt that the climate training opportunities currently available are inadequate and they would like to access additional training. However, there are relatively fewer training providers from the Global South; local experts, studies and datasets are also limited in the region.
- There is a good match between opportunities offered by training providers and those sought by users, who expressed a strong preference for informal training such as short courses, seasonal schools, and expert webinars.
- The target audience of available climate training not only includes climate scientists but practical users of climate information as well. This is especially beneficial for training recipients in the Global South who emphasize the importance of practical information and skills obtained from climate training.
- There is great interest in topics such as climate impacts, climate extremes, adaptation, risk and mitigation, among training recipients, especially from the Global South. Users also call for more inclusion of indigenous and local knowledge in the training.

Accessibility of available climate training opportunities

- Lack of funding was stated as the important barrier to accessing climate training opportunities. Nonetheless, most of the opportunities offered by training providers (notably those online) are for free. This highlights the importance of the Academy as a platform to increase the visibility of training opportunities.
- Offering training in English is generally okay, although translating to other languages would make training more accessible for non-English speakers.

Opportunities for WCSA

- Serve as a marketplace for climate training, the Academy can match not only training providers with training recipients, but also promote opportunities available with training needed. For example, the Academy could encourage more training in the following areas:
 - I. Training in impact and climate information for policymaking for PhD-holders and skills-based training for pre-PhD degree holders, with a stronger focus on the latter who have expressed greater interest in accessing additional climate training.
 - II. Contemporary topics (e.g., Climate impacts, extremes, adaptation, risk and mitigation) that offer practical usability of skills and information
 - III. Locally relevant training in the Global South that features local experts, local studies and datasets, and indigenous knowledge.
- The surveys disclosed several institutions willing to partner with the Academy to promote their training opportunities.
- The Academy could facilitate the collaboration among partner training providers from the Global South to address the lack of training opportunities and local experts in the regions.
- The Academy should encourage partner training providers to offer training in languages other than English, and to expand in-person training to hybrid format to become affordable and accessible especially for women.

A Synthesis Report of the stocktakes and interviews is available at:

https://www.wcrp-climate.org/images/WCSA_Stocktakes_SynthesisReport_April2023.pdf

We plan to publish the outcomes of the surveys in a journal paper as well as develop methodology guidelines for the conduction of future surveys.

1.2. Academy website: A website, presently under construction, will be the Academy’s “public face” and the major operating platform. The major feature of the site will be the catalogue, i.e., the repository of all in-house training activities and best practices, as well as training opportunities offered by WCRP sponsors, partners and other organisations. Other functionalities include information about the Academy (what it is and what is not), how to “Become a training provider” allowing for external providers to register their activities in the catalogue (after undergoing a vetting and endorsing process), “FAQs” and information of “Additional resources”.



1.3. Academy contribution to the Open Science Conference:

We expect to launch the website at the WCRP Open Science Conference in Kigali, scheduled at the Side Event “*Building a community of climate researchers*” convened by the chairs. The Academy has also submitted an abstract on the results from the Stocktake Surveys (Jamero et al.) to the Session: “*Capacity building for climate services*” convened by SG member De Amorim.

2. Planned initiatives and major events (next 3 to 5 years)

- ✓ To establish a new long-term business model for the Academy (see below)
- ✓ To become a well-established, overarching activity of WCRP, providing a robust service to the community by coordinating and promoting in-house training opportunities and best practices.
- ✓ To become a curator and long-term repository of such opportunities, thus increasing WCRP visibility.
- ✓ To partner with WCRP sponsors and key organisations delivering climate science education and training.
- ✓ To present webinars with users, and undertake stocktake surveys on a regular basis, to acquire information about climate science training opportunities offered globally with the purpose of guiding the development of the Academy.
- ✓ The Academy shall become a flagship activity for WCRP’s mission: “to develop, share, and apply climate knowledge that contributes to societal well-being”.

3. Active or planned collaborations with other Core Projects, Lighthouse Activities etc.

The chairs will continue to liaise with the leaders of Core Projects and Lighthouse Activities to explore venues of collaboration with the Academy for the promotion, curation and long-term repository of their training activities.

4. Partnerships with projects outside WCRP

The Academy will seek partnerships with WCRP sponsors, as well as local and regional training providers where appropriate. Examples of such partnerships are:

WMO Global Campus
UNESCO Open Learning
Future Earth
International Universities Climate Alliance
International Center for Theoretical Physics
NASA Applied Remote Sensing Training Program
African Institute for Mathematical Sciences (AIMS)
Global Change System for Analysis, Research and Training (START)
Asian Pacific Network for Global Change Research (APN)
Interamerican Institute for Global Change Research (IAI)

5. Issues and challenges

- The progress of the Academy was slowed down due to the resignation of one of the co-chairs mid-2022. It was not until early 2023 Dr Melissa Hart was appointed as the new co-chair. Dr Hart’s vast experience in academic training and education will be an asset to the Academy.
- The Consultant’s assistance to the Stocktake Working Group and Identity Working Group has been pivotal for the completion of the surveys (design, execution, interviews and analyses) as well in the development of the Academy catalogue (design and collection of WCRP internal data). Their engagement has been extended until March 2024 to aid in the launching of the website at the OSC, the publication of a

journal paper on the surveys, developing guidelines for conduction of future surveys, and assisting in the principles of vetting and endorsement of training opportunities to be promoted by the Academy.

- After two years of excellent work, first under a Science Plan Development Team and later under a Steering Group with the assistance from the consultants and the WCRP secretariat, it has become clear that the Academy does not fit the Lighthouse Activity concept. This is because the activity neither conducts research nor has a time-limited duration. Further, the Academy represents an inherently overarching activity that touches all aspects of WCRP. Therefore, the Steering Group is putting forward a proposal for a new and long-term business model for the Academy, to be considered by the JSC and discussed under the Academy dedicated session at the JSC-44. The proposal is presented in the Appendix.

**APPENDIX: A PROPOSAL for a NEW BUSINESS MODEL
for the
WORLD CLIMATE SCIENCE ACADEMY**
<https://www.wcrp-climate.org/academy>

Background

In 2020, when the WCRP was planning new initiatives entitled “Lighthouse Activities (LHAs)”, it was realized that education and training was an overarching theme in all WCRP activities. However, WCRP education and training initiatives were not being captured in a central repository, nor was there a similar comprehensive, climate science focused, training resource offered elsewhere. Therefore, the idea of an LHA to meet the education and training needs of WCRP activities, and climate science researchers globally, resulted in the formation of the Academy.

Academy objectives

- Collate and promote in-house WCRP training activities and educational material developed by WCRP to the global science community.
- Be an acknowledged broker between training providers and users of training, both within and outside of the WCRP.
- Systematically review the global climate education landscape, to identify gaps in training and development opportunities.
- Develop a subscriber base that advertises training opportunities.

Academy expected outcomes

- A modern, well developed, and maintained *web-based platform* that allows users to access training opportunities within and outside WCRP. The website will be launched at the Open Science Conference, allowing the opportunity to engage with, and solicit feedback from, training providers and researchers attending the event, notably from Africa.
- An *online repository of in-house WCRP training* activities and materials. For the first time, WCRP will have a complete catalogue of research training generated by the programme.
- *Regular stocktake surveys* to collate details of climate science training opportunities being offered globally, to guide the development of the Academy.
- *Disseminate information* about upcoming training events through social media (Facebook, Twitter, LinkedIn, etc) as well as recently published knowledge products from the WCRP community (e.g., MyClimateRisk «Tipping Points» webinar series)
- *Partnerships*: As training is core to academia, as well as many national and international research programmes, it is important that the Academy collaborates closely with these organisations. By developing partnerships, there is opportunity to take advantage of their long experience, avoid duplication of efforts, and co-design or co-badge training opportunities where appropriate, to ensure the WCRP Academy remains unique and fit for purpose. The Academy will seek to form partnerships with its sponsors, and local and regional training providers where appropriate. Examples of such partnerships are:

WMO Global Campus
UNESCO Open Learning
Future Earth

International Universities Climate Alliance
International Center for Theoretical Physics
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Academy achievements 2020-2022

SURVEYS

- First Stocktake Global Survey: «*Climate Training Availability and Gaps*». The goal of the survey was to identify training needs of current and future climate scientists and examine gaps in availability and access from the perspective of training recipients. A total 414 unique survey responses from training recipients: gender balance (54% men, 44% women, 2% other) and a fairly even split between respondents living in the global North (48%) and global South (52%). Respondents were mostly working full time in universities or research institutions, and roughly half (51%) had obtained a PhD as their highest level of education. Carried out in 2021.

The results from the first stocktake prompted the need of two more surveys, as follows:

- In depth interviews: «*Climate Education and Training Opportunities in the Global South*». The goal was to understand the training needs and accessibility in the Global South to complement the results of the 1st Stocktake Survey. Carried out in 2022. A total of 14 interviews were conducted (all of which participated in the 1st Stocktake). The interviewees came from Africa (36%), Asia (36%) and Latin America (29%). Gender distribution was 50-50 while 71% were undergraduate/graduates and 29% PhD degree.
- Second Stocktake Global Survey: “*Training providers*”. Goal: To target training providers in order to understand better the global landscape of available climate science training opportunities. The survey was conducted between January and March 2023. A total of 23 institutions completed the survey, of which almost half were research/educational institutions (including universities), and the rest were non-profit, research programs, regional training centres, or government offices.

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WCSA WEBSITE

A website, presently under construction, will be the Academy’s “public face” and the major operating platform. The main feature of the site will be a catalogue, i.e., the repository of all in-house training activities and best practices, as well as training opportunities offered by WCRP sponsors, partners and other organisations. Other functionalities include information about the Academy (what it is and what is not), how to “Become a training provider” allowing for external providers to register their activities in the catalogue (after undergoing a vetting and endorsing process), “FAQs” and information of “Additional resources”.

The way forward

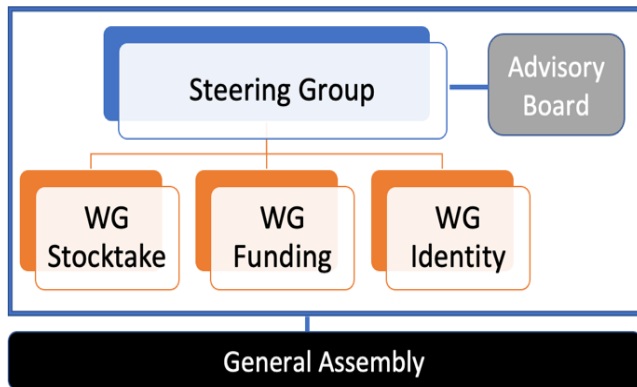
After two years of excellent work, first under a Science Plan Development Team and later under a Steering Group, it has become clear that the Academy does not fit the Lighthouse Activity concept. This is because the activity neither conducts research nor has a time-limited duration. Further, The Academy represents an inherently overarching activity that touches all aspects of WCRP.

The Steering Group hereby puts forward the following proposal for a new, long-term business model for the Academy, separated from to the LHA concept, for the consideration of the JSC.

A NEW STRUCTURE FOR THE ACADEMY

We propose the Academy departs from its present LHA structure (Left diagram) in favour for a one consisting of a Support Unit and an Advisory Board (right diagram).

Present Academy structure



Proposed new Academy structure



The Support Unit (SU) will be led by a *Manager* with skills beyond research, e.g., education and training, educational technologies, philanthropy, business and marketing. The Manager will report to the Advisory Board. The Manager will be assisted by a *Web and Graphics Designer* with skills in database and web platform software. The web designer reports to the Manager. If funding allows, the Support Unit would have in addition a *Liaison and Communications Officer*.

The Advisory Board (AB) will be composed of representatives from stakeholders (e.g., providers and users of the Academy services such as trainers and trainees, funding agencies and Early Career Researchers). The function of the AB is to provide input, feedback, and future direction(s) of the Academy to the Manager and will report to the WCRP JSC.

Funding scheme

As a long-term activity, the Academy must have sustained funding. We hereby present two funding scenarios: a low- and high-level funding scenarios, and what can be achieved (outcomes) under both.

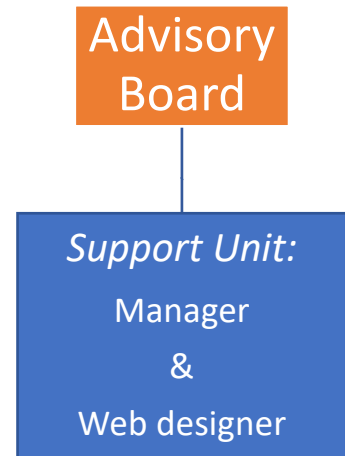
LOW-FUNDING SCENARIO

A low-funding scenario involves a basic Support Unit with a Manager (full position) and a Web Designer (a consultant, on demand). Funding for administrative expenses (e.g., Web domain, security licences, etc) will be additional.

Duties of the Manager: (i) Population and maintenance of the catalogue of training opportunities and (ii) Liaison with the climate science community within and outside the WCRP.

Duties web designer: Development of the catalogue and web platform functionalities.

Outcomes: The Academy will be able to provide service to the WCRP community and maintain a catalogue of a limited number of training opportunities from partners and organisations outside WCRP.



HIGH-FUNDING SCENARIO

The high-funding scenario involves a full-fledged Support Unit with a Manager (1 full position), a liaison and communications officer (1 full position), and web designer (consultant, on demand). Administrative expenses in addition.

Duties Manager

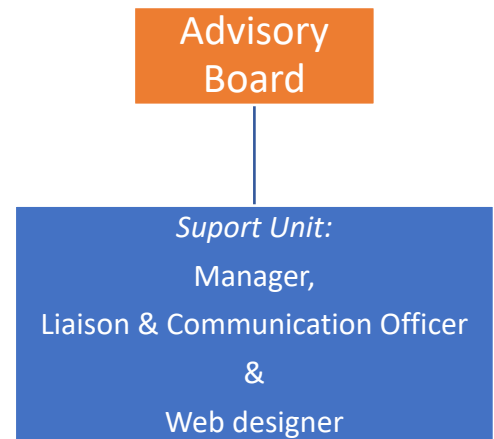
- Development and implementation of the Academy’s long-term strategy.
- Coordination of in-house training opportunities among CP and LHAs
- Pursue relationship with relevant partners and organisations.
- Develop “best practices” documentation for training activities.
- Carry out surveys on a regular basis to identify gaps in climate science training and communicate this information to training providers.
- Develop relationships with potential funding organisations.

Duties Liaison & Communication Officer

- Liaison with the climate science community in the WCRP community (CPs and LHAs) and partners identified through the surveys and other Academy outreach activities.
- Assist the manager in the population of the Academy catalogue.
- Assist the manager in the promotion of the WCRP Academy with relevant partners and organisations.
- Maintain and update the Academy social network profile.
- Develop metrics for use and function of the website; develop measures of success of the Academy.

Duties Web and Graphic Designer

- Curation, maintenance and development of the web platform and optimization of its functionality.
- Secure the long-term repository of WCRP training opportunities.
- Data visualization, statistical tools



Outcomes: The Academy will provide a robust service to the WCRP community (coordination, repository, best practices). It will also be an outlet to in-house training activities and expertise, enhancing thus the visibility of WCRP. By partnering with training providers and other appropriate organisations, The Academy has the opportunity to become the go-to resource for access to climate science training and development. In short: the Academy, with adequate funding, has the potential to become a flagship activity for WCRP's mission: "to develop, share, and apply climate knowledge that contributes to societal well-being".

Chris Lennard and Melissa Hart, co-chairs
On behalf of the WCRP Academy Steering Group
28 April 2023