

WCRP Income Strategy

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Background Information

The World Climate Research Programme (WCRP) coordinates and facilitates international climate research to develop, share, and apply the climate knowledge that contributes to societal well-being. Through international coordination WCRP pursues frontier scientific questions related to the climate system that are too large and too complex to be tackled by a single nation, agency, institution, or scientific discipline. In doing so, WCRP brings together scientists from around the world, at all stages of their careers, to advance our understanding of the multi-scale dynamic interactions between components of the climate system and external forcing, as well as addressing and studying the role of humans on climate and society. WCRP informs the development of policies and operationally focused climate services, and promotes science capacity building and education, which is done through partnerships with other programs. By doing so the World Climate Research Programme (WCRP; www.wcrp-climate.org) is taking the lead in ensuring that the global, regional and national climate research communities create the enduring, rigorous and scientific foundation required to meet this urgent demand for robust and useful regional climate information, the delivery of which to stakeholders is needed to inform the implementation of the Sustainable Development Goals (SDGs).

WCRP is sponsored and supported by three parent organizations, notably the World Meteorological Organization (WMO), the International Science Council (ISC), and the Intergovernmental Oceanographic Commission (IOC) of the United Nations Educational, Scientific, and Cultural Organization (UNESCO). All three co-sponsors support WCRP intellectually as well as financially. The intellectual sponsorship implies that WCRP's strategic plan and research priorities are consistent with, and embedded in, the plans of the three co-sponsors and thereby adds value to all three. Their sponsorship also implies that WCRP aligns well with the programs and communities supporting all three co-sponsors. Furthermore, the combination of all three co-sponsors spans the international network from which WCRP draws its community and support. WCRP's resulting joint activities assures that each sponsor benefits much more than a single sponsorship would allow and that the sum is more than its parts. All nations and organizational structures together allow and secure the science that underpins WCRP.

Financially WCRP's coordination work is supported through direct contribution from its parent organizations (co-sponsors) and through indirect contributions provided by member-organizations of WCRP's co-sponsors. Accordingly, understanding WCRP's income structure requires consideration of all income streams together, including direct and indirect contributions. At the same time, it is also important to consider all national contributions supporting WCRP's science that form the basis for WCRP's success and, in fact, also confer a substantial benefit for all parent organizations together.

In the following we summarize WCRP's present income streams and explain the different categories of ongoing expenditure. This will be done in terms of (1) WCRP's current annual income (focusing on 2020 and 2021, with some historical information provided for context) and (2) Expenditure: Secretariat, International Project Offices and Science Coordination.

Current Income Status

WCRP is supported financially through its sponsoring programs, through voluntary national contributions, through national commitments to operate international project offices as well as national funding streams for science.

Table 1 provides an overview of WCRP's income. The actual income (from the external audits of WCRP's Trust Fund - JCRF) is listed for the years 2015 – 2019. For the years 2020 and 2021, an estimate is provided. WCRP's direct income streams are separated into the following three components.

1) **Salary support** for (i) Staffing and operating the centralized WCRP Secretariat located at WMO Headquarters in Geneva, Switzerland; (ii) WCRP Secretariat Staff located at sites outside Geneva (seconded staff); and (iii) Support provided by the employing institutions for the JSC Chair and Vice Chair to cover the costs of their time and some of their operational costs.

(i) Financial support for running the WCRP Secretariat at WMO in Geneva is provided primarily through WMO covering salary for staff as well as a portion of the operational costs¹, including travel funds for Secretariat staff. Presently four personnel are located in Geneva. These staff, in particular the Head, are also required to support WMO related activities within WMO, such as the Research Board, providing input to the WMO Operating, Budget and Monitoring and Evaluation Activities, WMO Congress preparation etc., that are related to the WMO's World Climate Research Division.

It must be recognized that the direct financial support provided by all co-sponsors to WCRP's science activities and to the WCRP Secretariat has decreased significantly over the years. As an example, the support provided by IOC is around 20%, and for WMO ca. 30%, of that provided in and prior to the early 2000s. ISC support has for many years been indirect i.e. via national contributions (see below).

(ii) Additional personnel, not located in Geneva, are supported through national contributions from ISC/IOC associated organizations:

- Staff in Paris (1/2 FTE supported by IPSL/LSCE; indirect ISC contribution)
- Staff in Bergen (1/2 FTE at U. Bergen; indirect ISC contribution)
- Salary for additional staff for 2 years (equivalent to 1 person for 2-years; through NOAA and categorized as IOC/ISC contribution)
- ½ FTE provided directly by ISC in the context of communications.

(iii) In addition, support of daily business through the JSC Chair and Vice Chair putting in about 20% of their time being paid for by ISC associated organizations (universities, research institutions).

2) **Support of International Project Offices** operating as satellites of WCRP's Secretariat.

Several national institutions provide substantial funding to cover the costs of hosting WCRP's International Project Offices (IPOs) that support Core Projects and other core activities. This now includes Project Offices supporting WCRP's service-oriented "flagship" projects; CORDEX and, since 2021, CMIP. The respective funds are typically provided through national sources not connected to WMO. As an example, funds from NASA go directly to support the GEWEX IPO, while multi-agency funds support the US CLIVAR office in the US. CLIVAR IPOs also receive financial support from the First Institute of Oceanography in Qingdao (China) and the Indian Institute of Tropical Meteorology (IITM)

¹ Certain Geneva office costs e.g. Building, IT and certain staff costs (e.g. education grants for secretariat staff and redundancy payments) are, under the terms of the original WCRP LoA charged directly to the JCRF and are therefore not covered by WMO but have to be budgeted for each year.

in Pune (India). CMIP efforts are supported especially through funding from the US Department of Energy (DOE), while the European Space Agency (ESA) are funding the costs of hosting our new CMIP IPO. The SPARC IPO is supported through funding from the German Aerospace Center (DLR), while the CliC IPO is financially supported through the University of Bergen and potentially at the University of Massachusetts in the US via NSF/NASA (proposal currently being revised). A SubSeasonal to Seasonal (S2S) Project office is hosted in Korea and a CORDEX Office in Sweden.

For 2020 this contribution to WCRP’s income amounted to a total of 3.6M Swiss Francs (CHF) per year. Most of these funding sources are from Agencies or Institutions linked to ISC or IOC. In 2021 the new CMIP IPO will be launched, bringing in an additional 900K CHF per year through ESA.

In the future two more IPOs are envisioned to come into existence in support of the two new Core Projects (Earth System Modeling and Observational [ESMO] and Regional Information for Societies [RIfS]). We also envision providing some form of project and coordination support for our new Lighthouse activities.

- 3) **Support of international coordination work.** Funds that support WCRP’s international coordination flow primarily through the Joint Climate Research Fund (JCRF), an independent trust fund held by WMO on behalf of the three co-sponsors of WCRP. The JCRF is independently audited each year. All support for international coordination activities, and some operational costs for the WCRP Secretariat, is provided to this fund. Respective funds are provided through financial contributions by WMO and, directly or indirectly, the other two co-sponsors.

National voluntary contributions also come into the WMO system through the JCRF. The majority of these contributions come from the National Academies of Sciences i.e. ISC Members. Over the past decades, WCRP has received significant financial support via this route on through our national sponsors on an annual basis to enable scientific activities and developments. For example, the national contributions for 2020 and 2021 into the JCRF are more than 1/2M CHF per year.

A summary of annual income covering the years 2015 through 2021 is provided in Fig. 1, split into three categories: 1) contributions from WMO; 2) national support of IPOs (for 2020 and 2021 only); and 3) contributions associated with ISC and IOC. We note that the income for calendar year 2021 is estimated based on previous years and ongoing developments, e.g., the creation of the new CMIP IPO, supported through ESA.

Focusing on the years 2020 and 2021, we find the following contributions in terms of percentage of the total income: To see the evolution, this has to be compared to the earlier interval from 2015 to 2018. Results are also displayed in Fig. 2 in terms of a pie chart.

2015 – 2018 (total): 46 % from WMO 8 % from ISC and IOC 46 % IPOs	2020+2021 (total): 23 % from WMO 18 % from ISC and IOC 59 % IPOs
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Table 1: WCRP Yearly Income by Source in Swiss Francs (2015-2019 based on official external audits). *Note that this does not include the support received for IPOs (this is included in Table 2).*

Year	JCRF Total Net Financial Assets ²	National contributions Mostly ISC aligned	IOC	WMO Total	WMO Components: Sum of a), b) and c) equals WMO Total		
					a) Staff Salary	b) IT, building, staff on-costs	c) Net Science Contribution
2015	1,848,000	280,000	110,500	2,042,000	1,318,000	184,000	540,000
2016	1,329,000	280,000	110,500	1,653,000	1,533,000	86,000	34,000
2017	1,051,378	235,026	29,000	1,593,300	1,613,000	74,000	(93,700)
2018	1,047,764	167,572	29,000	1,600,619	1,059,346	165,221	376,052
2019	559,254	230,951	21,054	1,208,500	1,257,994	57,694	(107,188)
2020 ³	879,515	1,015,439 ⁴	22,975	1,253,975	816,137	194,488	243,350
TOTALS	11,883,411	2,208,988	323,029	9,351,394			
Percentage of Total Income		19%	3%	79%			

² Defined by Independent audit report as total financial assets less total liabilities.

³ Estimated for all income source categories; JCRF Total Net Financial Assets from draft audit report.

⁴ Includes contributions from ISC, via staff working at: IPSL/LSCE; Universities of Bergen and Hamburg (JSC Chair); CSIRO (JSC Vice Chair) and NOAA (OSC Support); *for 2020 only* (Table 1) and *2020 and 2021 only* (Table 2).

Table 2: WCRP Yearly Income by Source in Swiss Francs (2015-2019 based on official external audits).

Year	ISC, IOC ²	WMO Total	IPOs (2020 – 2021, includes CMIP IPO)
2015	390,500	2,042,000	
2016	390,500	1,653,000	
2017	264,025	1,593,300	
2018	196,572	1,600,619	
2019	419,507	1,208,500	
2020	918,414	1,253,975	2,797,260
2021 ¹	1,038,414	1,253,000	3,680,460

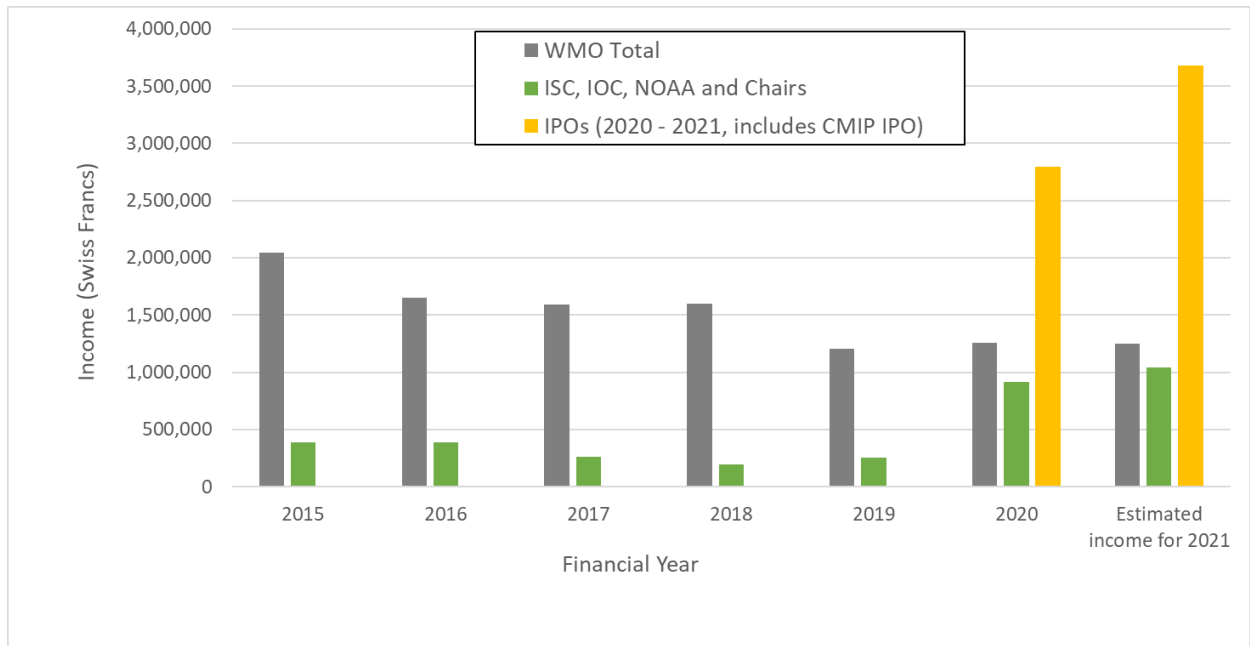


Figure 1: Summary of annual income split into contributions associated with ISC and IOC, from WMO, and national support of IPOs. The summary covers the years 2015 to 2021 (estimated). Chart illustrates data in Tables 1 and 2.

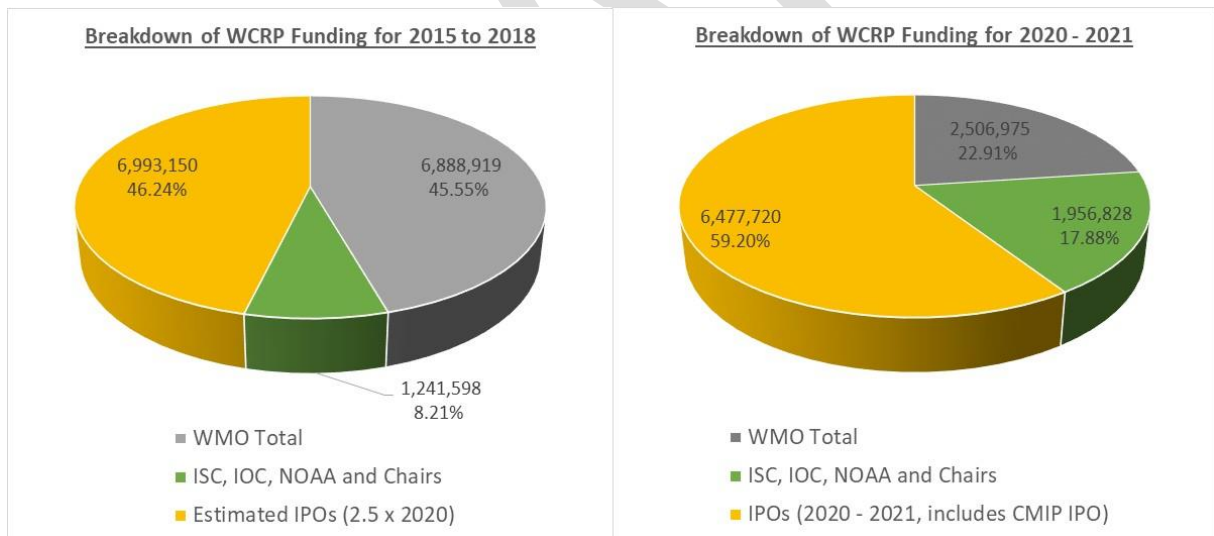


Figure 2: Pie chart showing contribution to WCRP's total income from WMO (gray), ISC and IOC (green), and national voluntary contributions to IPOs (yellow).

Note: 1. The IPO contributions were estimated for 2015 – 2018, using figures from 202 and 2021, and 2. ISC and IOC contributions include the income for salaries for staff from IPSL/LSCCE; Universities of Bergen and Hamburg (JSC Chair); CSIRO (JSC Vice Chair) and NOAA (OSC Support).

Current Expenditure on Coordination/Secretariat Support

Expenditure covers the salaries of the WCRP Secretariat and IPO staff, and supports science coordination.

1) WCRP Secretariat:

The staff of the WCRP Secretariat situated in Geneva is primarily supported through WMO. Most of the respective expenditure, and therefore financial support, reflects the UN salary scale, currently (from the 14th of July 2021) covering four positions (one P5 and three P3). This support also includes operations of the Secretariat as well as travel support for Secretariat members. In total this amounts to 1.2 M CHF.

Excluded from these amounts funded by the WMO are the costs for those staff that are attached to the WCRP Secretariat but that are not working from the Geneva office. Salaries for these staff are contributions from organizations associated with ISC and IOC, and are not charged to WMO:

- 2) IPSL: Catherine Michaut (30-50%)
- 3) U Bergen: Beatriz Balino (50% from 1 Jan. 2021)
- 4) NOAA: Still to be appointed, 1-2 people for 2 years in support of the 2023 WCRP OSC
- 5) Chair, Vice-Chair: support of the Secretariat and WCRP work, for between 2 and 4 days per week, which is funded from their home institutions.

In total this financial support of the WCRP Secretariat sourced externally from WMO, amounts to around 440K CHF per year at least for the next 2 years.

2) International Project Offices (IPOs)

International Project Offices are offices supporting WCRP core-projects and core activities. In terms of the WCRP structure, they are satellites of the WCRP Secretariat. As an example, each of the current, ongoing Core Projects is supported by an IPO. In addition, CORDEX and S2S have an IPO and from 2021 there will also be a CMIP IPO.

Funding to support the IPOs is sourced from voluntary contributions from individual nations, primarily via research institutions or national academies (ISC members). These funds are used to cover expenditure incurred through salary costs, IPO operations (including printing, computing etc.) and travel of IPO staff members. In total, this financial support for the IPOs sums to over almost 3 million CHF in 2020 (Table 1) and the years prior. This amount will increase by about 900 CHF per year in 2021, to over 3 million CHF, with the launch of the CMIP IPO (Table 1).

This item will further increase in the future as WCRP is in the process of adding two extra IPOs to the newly generated core-projects (beyond the new CMIP IPO) and by adding additional support to the new Lighthouse activities.

3) International Coordination

Support of WCRP's international science coordination is covered primarily through annual voluntary contributions from individual nations, and by annual contributions from WMO and IOC. All national contributions essentially come through national academies or funding agencies, i.e., agencies associated with ISC. All those voluntary contributions are used to cover the science coordination organized within WCRP's core activities. They also cover the coordination work of the JSC, such as annual JSC meetings.

In the past, most of the voluntary national funds were used to support travel, to bring together WCRP scientists engaged in various core activities. Using 2019 as an example the major areas of expenditure (beyond salaries for WMO staff and consultants and WMO annual charges) were:

- Four Core Projects (CLIVAR, CliC, SPARC and GEWEX): 204k CHF
- Grand Science Challenges: 39k CHF
- Modeling (including CORDEX), data and observations: 148k CHF
- JSC Costs: 84k CHF

- WCRP Secretariat operations (including staff travel, printing etc.): 52k CHF
- WCRP 40th Anniversary: 79k CHF
- Other (Education and Capacity building, regional etc.): 7k CHF

In 2020, COVID-19 hit, interrupting all in-person operations and forcing WCRP (as every other organization) to move its operations to online. This particularly affected the many meetings and workshops that would have occurred, as is appropriate and necessary given our important facilitation and coordination role. This development will have consequences for future operations and spending as explained further below.

Beyond a purely monetary consideration, WCRP's expenditure and coordination work also includes significant "non-cash" contributions from involvement and service across our scientific community. To quantify this, we estimated the number of people continuously involved voluntarily in performing WCRP's coordination work. In total, this amounts to about 5500 scientists (this will fluctuate according to ongoing activities or events):

- 1) JSC: 17 people
- 2) All WCRP's core activities: 1200 people
- 3) People participating in organized workshop and conferences: 4200 people
- 4) People participating in WCRP's regional consultations: 1200 people

Science that is supported on a national level, which draws on the coordination and leadership the WCRP provides to climate science, and including the number of scientists involved in WCRP related climate science, will be summarized at a later stage.

Outlook

At a later date, and as part of the implementation process, two more sections will be included in this document to address additional important aspects. The first will be to document those aspects of national climate science that benefit from, and rely upon, the work of the WCRP. The second of these is to provide an outlook in terms of our forward strategy for investment (and therefore expenditure) in ongoing and new WCRP initiatives. The strategic investment approach will be developed in consultation with national agencies, regarding national science support, and the WCRP family regarding its priorities for the post-COVID19 spending and investment strategy.:

1) National WCRP related Science Support

Funding for all WCRP science activities is provided through national funding streams, i.e. national funding agencies and national academies. The support is generated in response to national calls for research often launched in consultation with the WCRP leadership. This national science support provides the funding required undertaking the climate science coordinated and facilitated by WCRP and in this way is what carries WCRP's research priorities forward and benefits all co-sponsors. Estimating the total amount of the respective science support is not easy as it fluctuates from year to year and from region to region.

2) Priorities for investments in the new WCRP

With the implementation of the new WCRP many things will change. This includes WCRP's new internal governance and structure, as well as changes to expenditure on new science initiatives and supporting structural elements such as the CMIP IPO and other new Project offices. In particular we anticipate a substantial impact on WCRP's operations post COVID-19 in that many meetings and workshops will be held virtually thereby saving on travel and logistics support. This aligns with WCRP's goal to reduce its carbon footprint and will free up voluntary financial contributions to pursue new avenues of WCRP's international coordination by setting new goals. We also envisage substantially different models for both fundraising and expenditure of national contributions. At the same time, needs for appropriate communications, coordination and research infrastructure support will continue.

Many of the respective details still need to be worked out as part of the ongoing implementation of the new WCRP and will be established after JSC-42 as part of the implementation procedure – including the ongoing consultation as mentioned.