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GCOS Regional Engagement

A paper by the Secretariat

Table of Contents

1. Introduction	2
2. Aim	3
3. Next Steps	3
3.1. Regional Workshops	3
3.2. National GCOS and other National Climate Systems.	4
3.3. National Focal Points	4
3.4. The GCOS Cooperation Mechanism.....	4
4. Other possible activities	5
5. Decision	5

1. Introduction

While some climate observations are coordinated by international organisations such as WMO, CEOS and CGMS, many others are operated and funded at national level. These observations are essential for observing the climate. While some countries coordinate their climate observations with formal organisation such as national GCOS, others do not.

GCOS does not have a coordinated regional or national activity. However, it should support these national efforts through guidelines, ECV requirements, assessing barriers to implementing observations and exchanging best practice.

Currently, there are several regional activities being undertaken by GCOS which could be better aligned. These activities include:

- **The GCOS Regional Workshops.** So far 3 of these workshops have been held (for the South Pacific, East Africa and the Caribbean). These have been held jointly with WMO (WIGOS) (Copernicus also had an contribution to one workshop). A fourth was being planned in Eastern Europe before the COVID-19 pandemic stopped travel. This was being organised with WMO's Regional Association 6 (Europe). These workshops, and their outcomes, have been well received especially by the UNFCCC SBSTA who has encouraged them to continue. They have aimed at better understanding the problems facing countries with limited resources when they try to make climate observations and to identify solutions (e.g. WMO's GBON and SOFF were developed from ideas produced by the South Pacific workshop).
- **National GCOS.** A few countries such as Switzerland, Germany and Austria have created "national GCOS" that coordinate climate observations in their territories. In addition, some countries have well-coordinated climate observations, e.g. Chile has just announced a national Climate Observatory. While GCOS has sent representatives to some of the annual meetings of the groups, GCOS has not considered how to relate to them in an organised way.
- **National Focal Points.** Countries have been asked to appoint national GCOS Focal Points. Many have done so although the current list is very out of date with people who no longer work in that role. Despite this the list has been useful as it does give a way of accessing people in NMHS that are interested in climate (for example, it was used for invitation to the regional workshops). There is an urgent need to revisit the role of the national focal points.
- **The GCOS Cooperation Mechanism (GCM).** While this is currently only doing very limited work due to lack of donor funds, it has made significant improvements to observations in some developing countries.
- The **CBS-LC-GCOS** (Commission on Basic Systems, Lead Centres, GCOS) are regional centres tasked with monitoring GSN and GUAN and contacting countries in their area of responsibility to resolve issues. While the governance of these Lead Centres has not yet been transferred to the new structure of WMO and its commissions, they are a good example of engagement with WMO at the regional level. National focal points are also of significant value here but recently GCOS has tended to use the WIGOS focal point as the primary contact.
- **GOOS Regional Alliances.** GOOS also supports regional groupings, however these are based around ocean regions. GOOS has also National Focal Points, for communication between GOOS and the national organisations and individuals involved in each IOC Member State's sustained ocean observing system infrastructure. The terms of reference for these National Focal Points was recently

updated and approved by GOOS SC. GOOS National Focal Points must promote nationally and/or regionally coordinated strategies and implementation for a sustained ocean observing system delivering the needed information to users

- The **GCOS Network Manager**, Tim Oakley, works with EUMETNET (WMO Regional Association 6 – Europe) both on the Observation System and Evaluation Team (OBS-SET) and the Working Group on Radiosondes. These groups are European focused, but their work also has a significant global impact, especially for those countries which support stations outside of Europe

2. Aim

There is no overall clear aim of the regional activities. The regional activities should support the mandate of GCOS – improving climate monitoring. Given the nature of many observations system this does mean a focus on national efforts. Based on the regional workshops, the overall aim of the regional activities should be to

AIM	To identify, support and advocate for solutions to the difficulties faced by countries with limited resources in implementing, archiving and disseminating climate observations.
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In implementing this aim GCOS should work with existing entities rather than duplicate existing efforts. The regional workshops have been held in association with WMO and this should continue. However, there are other ECV where another organisation may be more appropriate e.g. GOOS.

3. Next Steps

While a long-term approach is developed there are some immediate actions that should be taken.

3.1. Regional Workshops

The regional workshops should be restarted. In 2022, this can be done in association with WMO (WIGOS) who are already interested in holding joint workshops. In the longer term, a workshop looking at ocean or coastal issues may be appropriate.

So far, the workshops have been held for geographic areas. However, in future, it might be helpful to hold a workshop for countries with specific similarities e.g. for high mountain countries, heavily forested countries or countries with mangroves.

A key issue with regional workshops is funding. This can be alleviated to an extent by holding workshops jointly. However, a more sustainable solution would be a better approach. Given the need for extended detailed discussions and the facilities available in many countries these workshops should be held in person. Subsequent discussions and drafting or reports can be done on-line.

RECOMMENDATION: Restart the regional workshops, initially with WIGOS. In the longer term consider involving other organisations in the workshops.

3.2. National GCOS and other National Climate Systems.

So far, GCOS has welcomed these organisations and has been represented at some meetings. While these are good initiatives there is, in general, little need for a large involvement of GCOS. However, GCOS should consider:

- Establishing a list of such efforts to understand national involvement
- Creating some kind of forum for exchanging experience and expertise between countries. This might be useful for transferring knowledge to less developed countries and would also allow GCOS to identify gaps and the reasons for them.
- Ensuring that GCOS at the global level can report to the national efforts especially on new needs, ECV and global products that can assist nations.

RECOMMENDATION: Prepare a plan to engage with national GCOS and other national climate systems that focuses on information and experience exchange and on supporting those with limited resources.

3.3. National Focal Points

The current arrangement has not been looked at in many years and the current list is out of date. Their Terms of Reference (ToR) are to:

- Liaise within the National Meteorological and Hydrological Services on GSN and GUAN issues related to data availability and quality;
- Inform Lead Centres on current and potential problems that might impact data availability and quality;
- Respond to requests from Commission for Basic Systems (CBS) Lead Centres for GCOS Data regarding data availability and quality.

This is clearly linked to WMO and especially GSN and GUAN, although they have also been a point of contact for GCOS (e.g. for planning regional workshops). One way forward would be to broaden the remit of the GCOS National Focal Points away from just WMO to all climate organisations. Possibly this could be in association with national GCOS and national climate systems (section 3.2).

RECOMMENDATION: Produce a new ToR for the GCOS National Focal Points

3.4. The GCOS Cooperation Mechanism

The future funding and remit of the GCM is under consideration, both by GCOS and by the Joint Study Group on GCOS. Until these matters are addressed it is not possible to produce firm plans for the GCM.

However, it would assist this regional support if the future GCM has a focus on:

- Support across all the ECV
- Identifying available support from other organisations
- Identifying critical needs in individual countries.

RECOMMENDATION: That the GCOS secretariat ensures that these needs are included in the discussions about the GCM by the Steering Committee and Joint Study Group on GCOS.

4. Other possible activities

GCOS does not provide training as part of capacity development. Formally this may be part of the GCM but it has not occurred recently. There are many efforts to provide capacity development and GCOS could provide expertise to some of them to strengthen their climate components.

Best practices, guidelines and requirements allow countries to monitor in a way that delivers accurate high-quality, timely data. These exist for most ECV but GCOS should ensure that they are in place and up-to-date for all ECV.

The work GCOS is undertaking on observations for adaptation and mitigation will identify some observations at a local level that can help countries address their specific issues. This work should be developed to allow counties to benefit.

5. Decision

It is proposed that GCOS adopts a clear aim for the regional action plan.

DECISION	The GCOS steering committee agrees that the aim of regional activities is to identify, support and advocate for solutions to the difficulties faced by countries with limited resources in implementing, archiving and disseminating climate observations. This activity will include regional workshops, links with national GCOS and other climate systems, national focal points and the GCM.
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