



Stakeholder Consultation Workshop For the Establishment of National Framework for Climate Services in India (NFCS–India)

5-6 October 2023

Organized and coordinated by
India Meteorological Department (Delhi and Pune)
Ministry of Earth Sciences, Govt. of India

Co-Hosted by and Venue
CHRIST University, Lavasa Campus, Pune

NFCS-India Workshop Statement 2023

Background

All communities globally, especially the poor and the most vulnerable, are struggling to cope with the growing risks due to enhanced extreme events, amplified climate variability, and climate change. Decision-makers in many climate-sensitive sectors, such as water, agriculture, fisheries, health, forestry, transport, tourism, energy, disaster risk management, and defence, are increasingly concerned about growing adverse impacts due to climate risks but are insufficiently equipped to access and make effective use of available climate information even in this digital era. In order to provide them with the information needed to support decision making in climate-sensitive contexts and to ensure effective use of such information, a systematic approach is needed to consolidate national capacities and address key gaps. With science at the heart of how society deals with the impacts of climate variability, climate extremes, and change, we can ensure that adaptation and risk management are smarter, more effective, and better targeted. While recent scientific and technological advancement and its potential for application offer the prospect of continuing improvement in climate information, monitoring, and prediction services, the most urgent need is for an effective and sustained inter and intra interface among providers and users of climate services. Compared to weather services, which deal with weather patterns over a few days, climate services focus on longer-term climate patterns and provide greater lead time for climate risk management actions. Climate services deal with historical climate data, including long-term climate variability and trends, short-term climate forecasts from sub-seasonal to inter-decadal scales, and multi-decadal climate change projections. Climate services also help in understanding broader climate patterns and their implications for various sectors, such as agriculture, water resources, etc., and support long-term planning and policy development leading to significant socio-economic benefits.

The World Meteorological Organization (WMO), of which India is one of the founding members and an active co-sponsor, has promoted an innovative platform called the Global Framework for Climate

Services (GFCS), which helps bring together different stakeholders through active coordination and collaborative engagements. The overarching goal of the GFCS is to enable better management of the risks of climate variability and change and adaptation to climate change at all levels through the development and incorporation of science-based climate information and prediction into planning, policy, and practice. Implementation of GFCS is structured on five foundational pillars comprising, (i) observations and monitoring; (ii) research, modeling, and prediction; (iii) climate services information systems; (iv) user interface platforms; and (v) capacity development. The GFCS focuses on developing and delivering services in five initial priority areas, addressing the basic societal issues and presenting the most immediate opportunities for bringing benefits to human safety and well-being enabling sustainable development. These priority areas are water, agriculture and food security, energy, health, and disaster risk reduction.

To help all climate services stakeholders at the national level join forces and work together with mutually agreed working arrangements to collectively pursue the common goal of achieving a climate-smart society, a National Framework for Climate Services (NFCS), premised on the concept of the GFCS, is considered essential to strengthening the production, availability, delivery, and application of science-based climate monitoring and prediction services. The NFCS is envisioned to facilitate strengthened collaboration between and among various stakeholders for delivering full-value chain climate services in the country. While it is encouraging that some collaboration is already happening in the country with a limited scope, a formal platform for collaboration is required to build on and scale up these partnerships for sustainable development and to cope with the threat of climate change in the coming years. In this regard, the participants agree that a suitable implementation of NFCS should be pursued in India. As per the GFCS guidelines, the nodal agency for coordinating the NFCS is the concerned National Meteorological and Hydrological Service (NMHS). The India Meteorological Department (IMD), which discharges the responsibilities of NMHS for India within the WMO structure, has therefore taken the initiative to convene this stakeholder consultation workshop and is recommended to serve as the implementing agency of NFCS-India.

Stakeholder Consultation Workshop

A Stakeholder Consultation Workshop for Establishing the National Framework for Climate Services in India (NFCS–India), was organized by the India Meteorological Department (IMD), under the Ministry of Earth Sciences (MoES), Government of India, and co-hosted by Christ University at Lavasa, Pune, Maharashtra, during 5-6 October 2023. The participants in this event included a wide range of experts relevant to climate services in the country, such as representatives from various central ministries (including earth sciences, water resources, agriculture, health, energy, defence and space), officials from various state governments, research organizations, academic institutions, professional bodies, industries, non-governmental organizations, students, and the media.

1. The workshop was structured with many presentations and talks by NFCS experts (national as well as from WMO), experts from the five GFCS priority areas (water, agriculture and food security, energy, health, and disaster risk reduction), Indian Navy, Indian Space Research Organization (ISRO), and several others. This was followed by a session focusing on the potential role of state governments in NFCS-India. The agenda also included breakout sessions moderated and led by the experts in the country to individually consider the national aspects of the five foundational pillars of the GFCS, comprising (i) observations and monitoring, (ii) research, modeling, and prediction, (iii) climate services information systems, (iv) user interface platforms, and (v) capacity development. Reports from the breakout sessions were discussed in detail in the plenary. It was generally agreed that short-term and long-term goals need to be identified for well-coordinated implementation of each of the

five pillars of the GFCS in the country. The overarching focus of the workshop remained on pursuing the establishment of a national framework for climate services in India and emphasizing the roles and responsibilities of the relevant stakeholders at different levels, which clearly emerged from the open discussions.

2. The presentations made at the stakeholder consultation workshop considered the following aspects:
 - a. Brief background and progress on the development of the concept of NFCS to consolidate the efforts of various agencies involved in climate studies/services in India;
 - b. Inputs from the participating stakeholders to support joint efforts towards the development of a well-defined NFCS in India to better support decision-making in climate-sensitive sectors;
 - c. The baseline capacities at the national level of both providers and users of climate services across all the foundational pillars and initial priority areas of the GFCS;
 - d. Initiation of comprehensive mapping of the existing capacities, with a preliminary list of key stakeholders and their potential contributions to the NFCS;
 - e. The needs and priorities, as well as current and projected capabilities for developing climate information and products tailored to the decision-making of different users in the country.
3. The workshop consultations brought out that the first priority is to bring more clarity on the requirements of the users to assess the providers' capabilities in meeting them. To work on this, IMD and others need to conduct more intensive stakeholder meetings with the subject matter experts for each sector. These meetings will help to develop scientific policy plan with objectives, results, methodology, identification of parameters, their spatial and temporal resolution, the precision that the users can work with, etc. The uncertainties involved also need to be duly communicated to the users, and they also need to learn how to take these uncertainties into account in their decision-making. Further, there are many levels of users within each sector that need to be considered. In the agriculture sector, for example, not only farmers are interested in climate services, but also policymakers like government bodies, private sector like food exporters, fertilizer manufacturers, and so on.
4. Based on the information presented and discussions through plenary as well as break-out sessions, the participants have agreed on the following aspects:
 - a. As NFCS India is very comprehensive climate frame involving multiple government and private partners at different levels, including policymakers and very senior government officials from various ministries, its establishment and governance need to be with the relevant higher authorities in the Government of India, under whose guidance and directives all the concerned agencies would be working in a very collaborative and constructive manner with time bound delivery and accountability. IMD, being the NMHS in the country, is considered to be the lead agency responsible for formulating the objectives and action plan in partnership with other agencies, under the guidance of the MoES.
 - b. A formal mechanism based on the NFCS concept suitably adapted for the Indian context will help in ensuring responsibility and commitment sharing among the agencies catering to the needs of various sectors on an operational basis. NFCS-India

will also facilitate state and central government agencies to collaborate and complement their efforts for timely exchange of climate information tailored to decision contexts;

- c. NFCS-India needs to develop suitable and mutually agreed approaches for improved coordination between service providers and user sectors and for timely exchange of data and products, which will significantly improve the delivery and optimal utilization of climate services. Enhanced functional collaboration among different organizations needs to be pursued, leading to further customization of climate services.
5. In order to establish NFCS–India to help all climate services stakeholders join forces and work together with mutually agreed working arrangements to collectively pursue the common goal of achieving a climate-smart society while mitigating climate risk, the participants have agreed on the following steps:
- a. The information exchange already taking place through the existing collaborative arrangements should be scaled up to a much larger extent with equitable participation of all the concerned agencies.
 - b. Detailed guidelines and governing structures need to be formulated for NFCS-India as per the suggestions received from the stakeholders, in accordance with the applicable Government procedures.
 - c. The NFCS-India is recommended to be initiated and led by the IMD, which is the NMHS in India, as per WMO guidelines as mentioned above.
 - d. NFCS needs to be closely aligned and integrated with the relevant national missions and policies dealing with climate change, such as the National Action Plan on Climate Change (NAPCC) as well as similar state action plans, in pursuit of achieving the seventeen Sustainable Development Goals (SDGs), particularly SDG 13 dealing with climate action.



- e. The initial efforts under the proposed NFCS-India should be focused on enhancing collaboration with all states, central agencies, and other agencies to whom IMD is already providing climate services, with a particular focus on the five initial priority areas of the GFCS.
- f. India has strong capabilities relevant to climate services, with proactive government ministries at central and state levels, leading universities, research institutes, professional societies, industries, and Non-Governmental Organizations (NGOs) working in the fields of climate and allied topics. All these potentials and capacities

are required to be brought together in a structured and complementary manner to close the gaps, ensure consistency, and facilitate better understanding and sharing of information for climate-sensitive decision making.

Roadmap Ahead

The participants of the Stakeholder Consultation Workshop on the National Framework for Climate Services for India (NFCS–India), comprised a wide range of experts involved in climate information provision as well as application at the national and state level. Following detailed presentations and discussions focused on the development of well-coordinated climate services in the country, the participants have adopted this statement. The draft statement is further developed by inviting comments from the participants after the workshop. The participants have broadly agreed on a roadmap ahead to ensure the successful establishment and implementation of NFCS-India in a sustainable manner, considering the needs and capacities of all the relevant stakeholders including the IMD, with some immediate post-workshop actions:

- a. Follow-up brainstorming sessions among the key agencies involved in each of the GFCS foundational pillars to formulate mechanisms to consolidate and complement their potential contributions to climate services;
- b. To have regular consultations of sector-wise stakeholder groups from each individual sector (disaster risk reduction, agriculture and food security, water resources, public health, and energy) and give 1-2 days' time for each of the individual sectors. The sector-wise brainstorming sessions need to be conducted to come up with data availability, data needs, and data gaps and also prioritize the activities to be taken up at different scales (e.g., farm level to country level, which will help enhance productivity as well as food security). The transport sector, which is much affected by climate variability in India, needs to be added as an important priority sector for climate services. Also, it was suggested that the climate effects and climate services requirements of the defence sector need to be sought in addition to the sectors mentioned above. Apart from sector-wise climate services, hazard-wise climate services (e.g., heat action plans) also need to be taken up in a well-coordinated manner.
- c. State government bodies also need to be revisited by the NFCS proposers to consult with the state authorities in detail to bring more clarity among themselves and also to get feedback from them. There could be a couple of brainstorming sessions in the next 3-month period for which IMD/MoES may consider extending all possible support.
- d. Socializing the concept of NFCS-India among the various communities as well as the general public through dedicated website, brochures, publications, media interactions, talks, etc.
- e. IMD to lead a comprehensive mapping of all the relevant stakeholders at national as well as state levels, including industries, private sector, academia, NGOs, etc.
- f. Recognizing the critical role of State Action Plans on Climate Change (SAPCCs) in addressing regional climate challenges and State Action Plans on Climate Change and Human Health (SAPCCHH) in addressing regional challenges of climate change on human health, NFCS-India may establish seamless integration with SAPCCs and SAPCCHHs as a baseline information source.

- g. Recognizing the importance of community level engagement and participation, it may be a requirement at grassroots level to involve community-level volunteers in the implementation process of NFCS-India.
- h. Recognizing the diversity of climate challenges and user needs across different regions of India, the development of local or regional nodal agencies within the states or specific geographic areas is essential. These local nodal agencies would serve as intermediaries between NFCS-India and local communities, businesses, and government bodies.
- i. The establishment of centralized real-time data repository is essential to enable easy access to comprehensive climate-related information required by diverse stakeholders. This repository may be designed for open access and user-friendliness which may integrate various climate data sources, offer real-time monitoring and alerts, ensure data quality, and encourage data sharing agreements.
- j. Prepare concept notes for regular and sustained conduct of National Climate Forums (NCFs) and also state-level climate forums in local languages as effective platforms for co-developing and communicating user-targeted climate services. Most states, districts, and even cities already have their own climate action plans prepared under the relevant government policies. NFCS can become part of it in the coming time. Such activities can later be further upscaled to provide improved and nation-wide climate services. Plan for the launch of NCF as soon as possible (preferably during the first quarter of 2024), which can also serve as a follow-up stakeholder consultation for NFCS-India.
- k. IMD to facilitate relevant WMO guidance on technical matters and the required global/regional inputs;
- l. Elaboration of all relevant administrative issues related to formal working arrangements within the NFCS-India, to ensure that the applicable Government procedures are complied with;
- m. High-level consultations with Secretaries of different Ministries at the national and state levels for guidance on formal arrangements;
- n. Briefing of HMoES and other concerned political leadership for further guidance and support;
- o. As per one of the recommendations received, after preparing the minutes of the high-level meeting and the work plan, the MoES is requested to consider approaching the highest possible governance (possibly Prime Minister's Office) to support and hold an inter-ministerial meeting to bring all stakeholders together.
- p. Propose an appropriate Working Group for necessary Government approval (preferably to be convened by MoES/IMD), to pursue further development of NFCS-India, with representation from the key stakeholders;
- q. The NFCS-India workshop organising committee will further prepare a consensus report to be submitted to IMD/MoES for taking the progress of NFCS-India initiation to higher governance through MoES before March 2024.