



SAHF Strategic direction for Numerical Weather Prediction (NWP) 2030

Related document(s): SAHF NWP [Strategy 2030](#) and [Roadmap](#)

1. INTRODUCTION

1.1 Numerical weather prediction (NWP) across timescales (from nowcasting to climate prediction) forms the basis of most weather and climate predictions and related products and services for decision-making on a day-to-day basis. Developing, maintaining and operating an NWP capability is a major endeavour in terms of financial, scientific, technical and human resources. Many National Meteorological and Hydrological Services (NMHSs) are currently facing reductions in personnel and budget, which constrain their ability to implement, operate and sustain such systems, thereby a need for a regional approach.

1.2 Noting the increasing demand for more accurate, reliable and location specific forecasts by user sectors and society, the SAHF Working Group on NWP (WG/NWP) prepared a SAHF NWP Strategy 2030 and Roadmap that considers both the dramatic changes in science and technology and the constraints faced by NMHS in south Asia.

1.3 Furthermore, SAHF member countries have been benefiting from bilateral technical support from advanced NMHSs that have been building the capacity and creating a pool of experts in the South Asia region that could help implementing, operating and sustaining regional NWP systems.

2. DISCUSSION

2.1 The SAHF WG/NWP proposes a 2030 vision as: "Full regional NWP integration, cooperation and innovation to ensure the safety and security of the people, and to realize contributions to economic sectors and society well-being in South Asia".

2.2 The SAHF WG/NWP proposes to focus on non-Tropical Cyclone (TC) hazards, noting that TC and storm surges are well covered by RSMC New Delhi and INCOIS, respectively.

2.3 The SAHF WG/NWP developed an SAHF NWP Strategy 2030 founded on three main Pillars, as follows:

This document has been prepared with the financial support from World Bank's Resilient Asia Program, funded by the UK government's Foreign Commonwealth Development Office (FCDO). This funding is delivered through Climate Action for a Resilient Asia (CARA), the UK's flagship regional programme to build climate resilience in South Asia, Southeast Asia and the Pacific islands.

- *Pillar 1: Impact* – main goal: making use of well-tested methodologies and tools in the region with the support of development partners focusing on transboundary extreme weather events
- *Pillar 2: Science and Technology* – main goal: applying methods and innovative ML/AI approaches for improving reliability and accuracy of general forecasts, marine forecasts and forecasts over the mountain regions.
- *Pillar 3: Research and Development* – main goal: studying the impacts of climate drivers and applying post-processing, big data and analytics for the development of sectoral applications and services.

2.4 The SAHF WG/NWP developed an associated Roadmap which describes the actions required to achieve the goals set in the SAHF NWP Strategy 2030, with related timelines, required partnerships, and financial resources.

2.5 To implement regional NWP Strategy 2030 and Roadmap, there are critical decisions to be made focused on:

- Optimisation of the provision and sharing of computing resources.
- Development partner coordination and engagement in the implementation of the NWP Strategy, specifically on training and on further integration of data and products into the operational forecast processes. This also includes the ECMWF plans to achieve fully open data status in October 2025 (as announced at: <https://www.ecmwf.int/en/about/media-centre/news/2025/ecmwf-achieve-fully-open-data-status-2025>), which allows ECMWF Members to provide access to all the ECMWF catalogue to any NMHS with whom they partner with.
- Establishment of sub-groups for marine meteorology and mountain meteorology led by one of the countries.
- Use of robust, cost-effective (licence free), flexible and agile infrastructure and processes for efficient and easy access products.

3. ACTION REQUIRED BY THE SAHF EXECUTIVE COUNCIL

3.1 The SAHF Executive Council is invited to:

- (a) Review, and propose amendments (as appropriate), to the draft NWP Strategy 2030 proposed by the SAHF WG/NWP and endorse it.
- (b) Review, and propose amendments (as appropriate), to the draft Roadmap proposed by the SAHF WG/NWP and endorse it.
- (c) Decide on actions to be taken to address each of the aspects outlined in paragraph 2.5.

3.2 The SAHF Executive Council is invited to consider, and revise the following resolutions for adoption:

- Endorses and adopts the NWP Strategy 2030 and Roadmap for implementation.
- Requests SAHF Secretariat to consult with RIMES, IMD, NCMRWF-BIMSTEC for the allocation of computing resources for basic service delivery capacity enhancement activities (e.g. for verification; tool customization), wherein countries will have to be provided with individual credentials to run their own applications, and report to SAHF EC on the status by September 2025. Collectively, a common computing resource area must also be established to allow joint activities and training support.
- Requests the co-chairs of the WG/NWP with the support of RIMES, and in coordination with WB and WMO technical teams, to develop a comprehensive NWP training program for 2025/2026 engaging existing partners in the region (e.g. FMI, Met Norway Met Office UK, NCMRWF, RIMES, and some WMO World Meteorological Centres and RSMCs). The NWP training program must be prepared and submitted to SAHF EC for consideration by July 2025, in order to initiate implementation in September 2025.
- Requests the WG/NWP, in coordination with WMO and other relevant partners, to develop a work plan for further integrating the Severe Weather Forecasting Programme (SWFP) resources and data and products from WMO World Meteorological Centres (such as the ECMWF) into the national forecasting processes, and submit it to SAHF EC for consideration by July 2025, in order to initiate implementation in September 2025.
- Establishes a sub-group on marine meteorology with the following membership (leads): Bangladesh (co-lead), India, Maldives (co-lead), Myanmar, Pakistan and Sri Lanka with mentoring support from the Indian National Centre for Ocean Information Services (INCOIS), India
- Requests the sub-group on marine meteorology, with the support of partners, to develop a work plan and submit it to SAHF EC for consideration by July 2025, in order to initiate implementation in September 2025.
- Establishes a sub-group on mountain meteorology with the following membership (leads): Afghanistan, Bangladesh, Bhutan (co-lead), India, Nepal (co-lead) and Pakistan.
- Requests the sub-group on mountain meteorology, with the support of partners, to develop a work plan and submit it to SAHF EC for consideration by July 2025, in order to initiate implementation in September 2025.
- Requests RIMES to host DIANA, SMARTMET, METCAP+ on the DataEx platform and provide training, with the support of Met Norway, FMI and Turkish Met Service, for country selection/decision, installation and setup. This activity is intended to start in Q3/2025.