

Capacity Development and Education and Training Programmes



WMO OMM

World Meteorological Organization
Organisation météorologique mondiale

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Capacity Development Programme

The **purpose** of the Capacity Development Programme is to ensure, through coordinated actions of the WMO Secretariat and collaborative efforts of Members and for their mutual benefit, the enhancement and development of the capabilities of NMHSs

The overarching **objective** of the Capacity Development Programme is to improve the relevance, impact, and sustainability of WMO capacity development activities.

Education and Training Programme

Education and Training (ETR) activities are foundational for the WMO as promulgated by Article 2 of the Convention: “(f) *To encourage research and training in meteorology and, as appropriate, in related fields and to assist in coordinating the international aspects of such research and training*”.

The **purpose** of the WMO Education and Training Programme (ETRP) is to address the growing deficit in the capability and number of adequately educated and trained personnel required to provide weather, climate, hydrological, and related environmental services.



Education and Training Programme dimensions

- (a) Capacity Building and continuous professional development
- (b) Technology Integration
- (c) Global Reach
- (d) Alignment with WMO Initiatives
- (e) Institutional Partnerships

Capacity Building and continuous professional development

The program focuses on

a) building and sustaining the competencies of NMHSs personnel,

b) enhancing the training capabilities of institutions and experts,

and

a) developing leadership and management skills within NMHSs.



Technology Integration

Emphasizing sustainable development, the ETRP aims to increase the capability of NMHSs to utilize new technology applications effectively.

Global Reach

The ETRP prioritizes assisting Members, particularly Least Developed Countries (LDCs) and Small Island Developing States (SIDSs), by providing bilateral and multilateral support for national education, training, and research activities.



Alignment with WMO Initiatives

Through cross-cutting activities, the Program contributes to the WMO Strategy for Service Delivery, the implementation of the WMO Capacity Development Framework (WCDF), the Global Framework for Climate Services (GFCS), and the WMO Global Campus initiative.

Institutional Partnerships

Education and training activities are conducted in collaboration with various institutions, including WMO Training Centres, national meteorological training institutions, universities, and research centres.



Overall objectives of ETRP

- To assist the NMHSs in developing staff with the **competencies** required to deliver the meteorological, hydrological, and related environmental services mandated by their governments and that help them meet their international obligations;
- To promote capacity development by assisting NMHSs in the attainment of an **appropriate level of self-sufficiency in meeting their education and training needs** and developing their human resources;



Overall objectives of ETRP

- To coordinate education and training activities across WMO to **avoid overlapping efforts and increase the cost-efficiency and impact** of the education and training events by using the know-how and expertise of the WMO ETR Office.
- To support human resource development in NMHSs through a coordinated, priority-driven **approach based on competency implementation** outcomes;



Overall objectives of ETRP

- Encourage and support the NMHSs in **developing their own learning structures** and strengthen the exchange of training knowledge, resources, and expertise.
- To promote high-quality continuing education, training, and research so as to keep the Members' relevant staff up to date with the latest scientific advances and technological innovations and to **support the needed competencies**;



ETRP Governance

The WMO Executive Council (EC) oversees the Education and Training Programme through the EC-Capacity Development Panel (EC-CDP).

Coordination of the activities contributing to the Education and Training Programme is provided by the WMO Secretariat through the Education and Training Office

**The competence of an institution in
delivering services is based on its
leadership and the competence of its staff**



Without competent, well-educated, and trained human resources, services will not be sustainable

A coherent global approach to education, training, and professional development is vital

A common and authentic starting level of education and training for each member of the operational staff is vital: compliance with the WMO Basic Instruction Package

Training needs to be authentic, and related to the job description, i.e. activities conducted

The role of the WMO Regional Training Centres will expand to empower the National Training Structures



Compendium of WMO Competency Frameworks

2019 edition

Guide to Competency

2018 edition

Guidelines for the Assessment of Competencies for Provision of Climate Services

2022 edition

Guidelines for Trainers in Meteorological, Hydrological and Climate Services

Technical Regulations

Basic Documents No. 2

Volume I – General Meteorological Standards and Recommended Practices

2019 edition

Updated in 2021

Guide to the Implementation of Education and Training Standards in Meteorology and Hydrology

Volume I – Meteorology

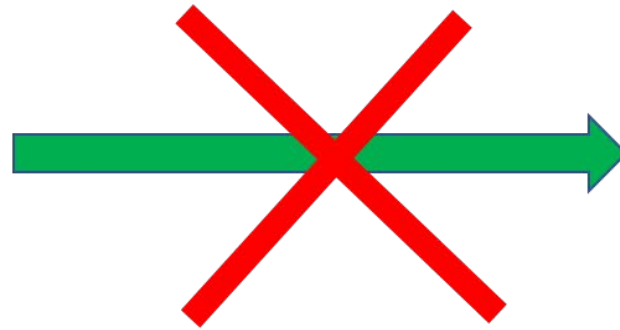
2015 edition



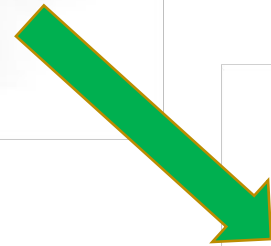
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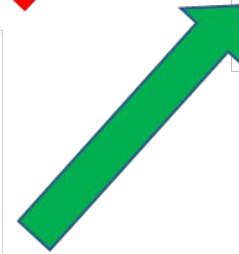
BIP
Specialized education
and training

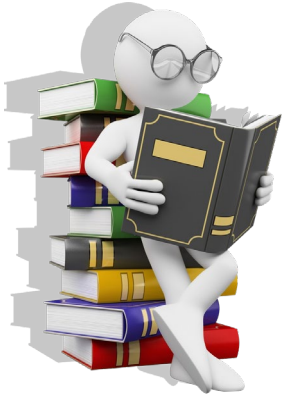


Competent staff

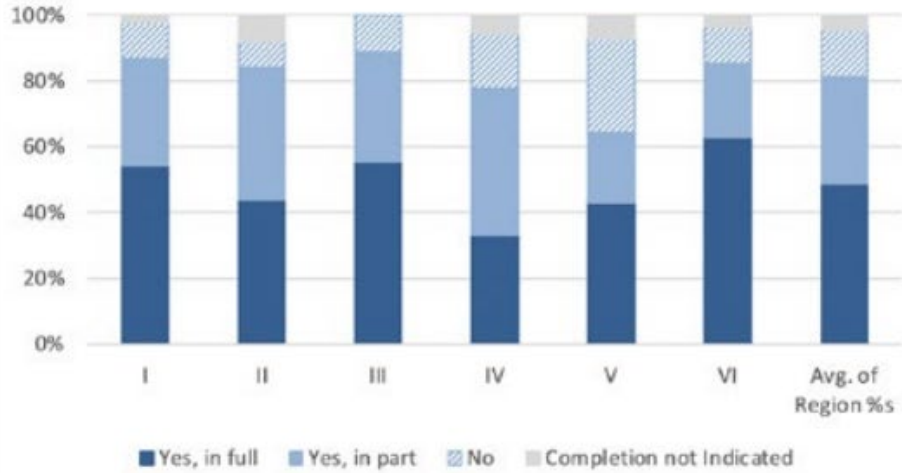


Obtaining/ maintaining
competencies

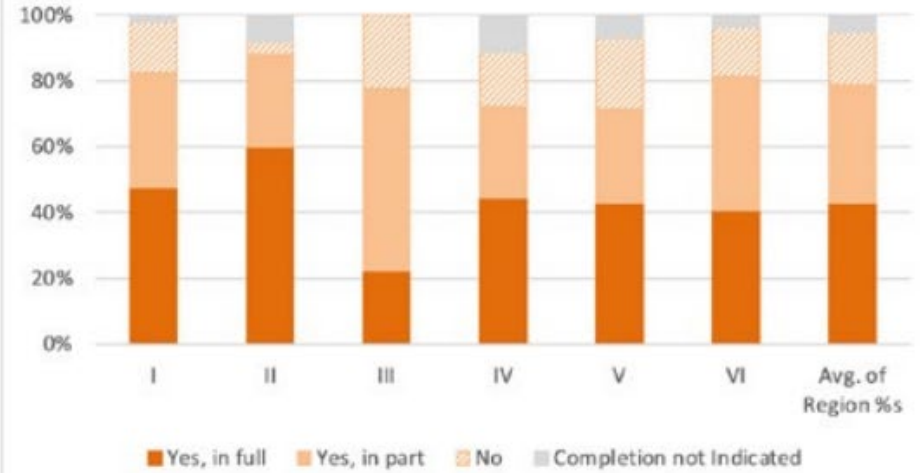




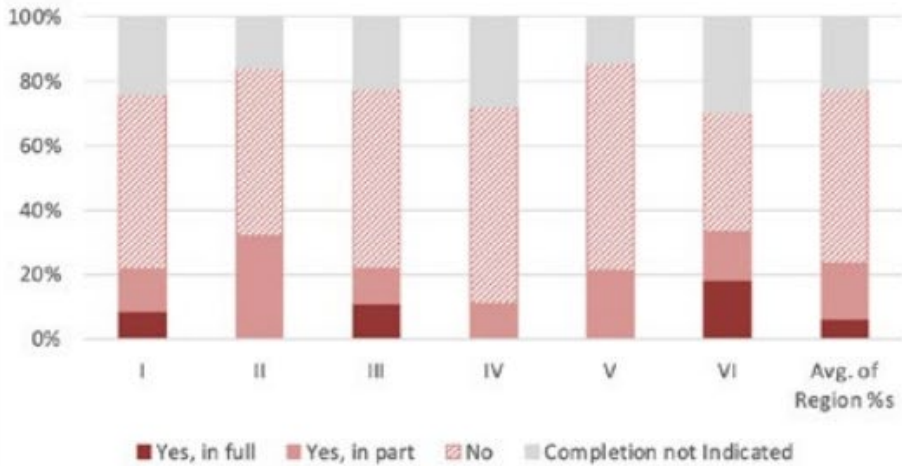
Completion Rates: BIP-M



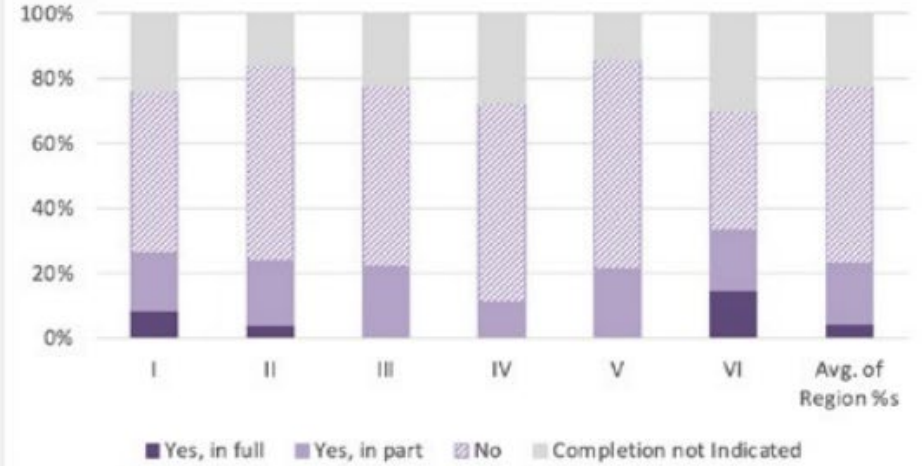
Completion Rates: BIP-MT



Completion Rates: BIP-H



Completion Rates: BIP-HT





**Education
(BIP)**



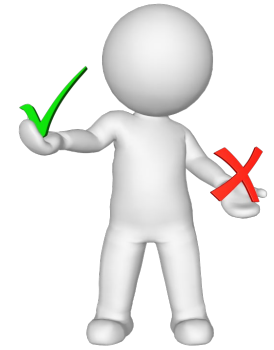
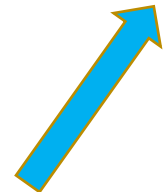
Training



**Specialist
Training**



**On-the-Job
Training**



**Competency
Assessment**



COMPETENT



ETR Surveys and results

According to the 2022 WMO Survey on the status of human resources in NMHSs*, more than 90,000 staff members need training in various professional areas.

Number of staff in need of training							
	Regions						
Professional Categories	I	II	III	IV	V	VI	Global
Met Tech	2505	31584	726	262	195	813	36085
Manager	444	19248	106	674	132	165	20769
Climatologist	297	11112	66	93	141	110	11819
Meteorologist	1295	4706	299	2363	502	746	9911
Researcher	240	5186	33	13	46	276	5794
Support Staff	1192	963	273	1259	150	528	4365
Hydrologist	170	58	94	292	18	90	722
Customer/Comms	198	96	46	81	50	97	568
Regional Totals	6341	72953	1643	5037	1234	2825	90033



WEATHER CLIMATE WATER
TEMPS CLIMAT EAU



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