Training activities on meteorology and climatology hosted by the Italian Air Force

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Education & Training in meteorology and climatology

COP 28

DUBAI 9th OF DECEMBER 2023

Consiglio Nazionale delle Ricerche
Istituto per la BioEconomia

EUMETSAT
H SAF
SUPPORT TO OPERATIONAL HYDROLOGY AND WATER MANAGEMENT

CIRA
Italian Aerospace Research Centre

UNIVERSITY OF NAPLES PARTHENOPE

Education
Specializazion
& Training

UNIVERSITA' CAMPUS BIO-MEDICO DI ROMA

METEO EXPERT
WEATHER & CLIMATE

BAKU 18th OF NOVEMBER 2024

WHAT

ITAF MET SERVICE HAS THE PRIVILEGE TO PROPOSE THE «WHOLE OF COUNTRY» EDUCATION&TRAINING CATALOGUE OF SPECIALIZED COURSES, TAILORED FOR SPECIFIC NEEDS OF FIELD OPERATORS

WHO

THE DESIGNERS AND THE OWNERS OF THESE COURSES ARE THE QUALIFIED PARTNERS HERE REPRESENTED, BUT IN THE NEAR FUTURE THE PARTNERS COULD BE MORE

WHOM

STUDENTS, RESEARCHERS, DECISION MAKERS, TECHNICIANS, FARMERS, CAPABILITY PLANNERS….

WHY

TO CONTRIBUTE IN ENHANCING CAPACITIES AND COMPETENCIES IN DEVELOPING STATES AND TERRITORIES THROUGH COMPLIANCE WITH WMO REGULATIONS, EDUCATION &TRAINING, REGIONAL SUPPORT AND RESEARCH.

ALL COURSES ARE CONDUCTED IN ENGLISH, IN SOME CASES IN FRENCH TOO, AND ARE CHARACTERIZED BY FLEXIBILITY AND ADAPTABILITY TO FULLY MEET THE NEEDS OF THE RECIPIENTS. MANY COURSES ARE COMPLEMENTED WITH PRACTICAL ACTIVITIES, EXPERIMENTATIONS AND EXERCISES IN DIFFERENT LOCATIONS OF THE ITALIAN METEOROLOGICAL OBSERVATION NETWORK AND SCIENTIFIC LABORATORIES.

GENERAL METEOROLOGY

COLLABORATION WITH PRIVATE, RESEARCH AND FORMATION INSTITUTES AND OTHER INSTITUTIONAL BODIES

MARINE METEOROLOGY

AVIATION METEOROLOGY

EU-single sky
ICAO
Italian Civil Aviation Authority
Italian Civil ANSP

SPACE WEATHER

MILITARY METEOROLOGY

INTERACTION WITH ITALIAN NAVY, ARMY AND OTHER MILITARY/POLICE BODIES

NATO GEO MET

ITAF MET SERVICE PLAYS THE ROLE OF NATIONAL MET SERVICE AS CONSEQUENCE OF RULES AND PROVISIONS WHICH ASSIGN TO IT SPECIFIC FUNCTIONS BOTH IN THE CIVILIAN AND MILITARY FIELD

NATIONAL REPRESENTATIVE IN THE INTERNATIONAL MET ORGANIZATIONS

World Meteorological Organization
EUMETSAT
EUMETNET
ECMWF

ONE OF THE ITAF MET SKILLS IS TO ENSURE EDUCATION, TRAINING, QUALIFICATION AND CERTIFICATION OF MET PERSONNEL ACCORDING TO THE WMO AND ICAO REQUIREMENTS. IN PARTICULAR WE TRAIN THE FOLLOWING PROFESSIONAL FIGURES:

- METEOROLOGIST AND AERONAUTICAL METEOROLOGIST (WMO BIP-M)
- METEOROLOGICAL TECHNICIAN (WMO BIP-MT)
- SPACE METEOROLOGICAL TECHNICIAN (*) (SWx)

(*) WMO N.1083 IS BEING MODIFIED TO INSERT THIS NEW PROFESSIONAL "FIGURE". WE ARE ANTICIPATING THIS NEW PROFESSION

WMO BIP-M

Course Organization:
Series of modules and some complementary conferences

- Preliminary module of Mathematics and Physics for students without a scientific degree: **386 hours**
- General Meteorology Module: **273 hours**.
- Module of Physical and Dynamic Processes modeling of the Atmosphere: **70 hours**.
- In-depth module in Climatology and Statistics: **30 hours**
- English module (if necessary): **100 hours**.
- Aeronautical Meteorology Module: **200 hours**
- On job Training general meteorology: **120 ore**.
- On job Training in Aeronautical Meteorology: **250 hours**.
- Conference cycle: **16 hours**

Recipients
the course is open to military and civilian personnel, both italian and foreign in order to operate as forecaster and aeronautical forecaster, as well in the areas of development of meteorological methods and applications.

WMO BIP-MT

Course Organization:
Two modules for a total of **270 hours** of lessons and **200 hours** of On Job Training

- General Meteorology and Aeronautics Course for Aeronautical Meteorological Technician **Basic** (WMO – BIPMT)
  - Course duration **150 hours**
  - On Job training: **100 hours**
- **Complementary course**
  - Course duration **120 hours**
  - On Job training: **100 hours**

Recipients
The course is open to military and civilian personnel, both italian and foreign in order to operate as weather observer and as technical aeronautical meteorologist.

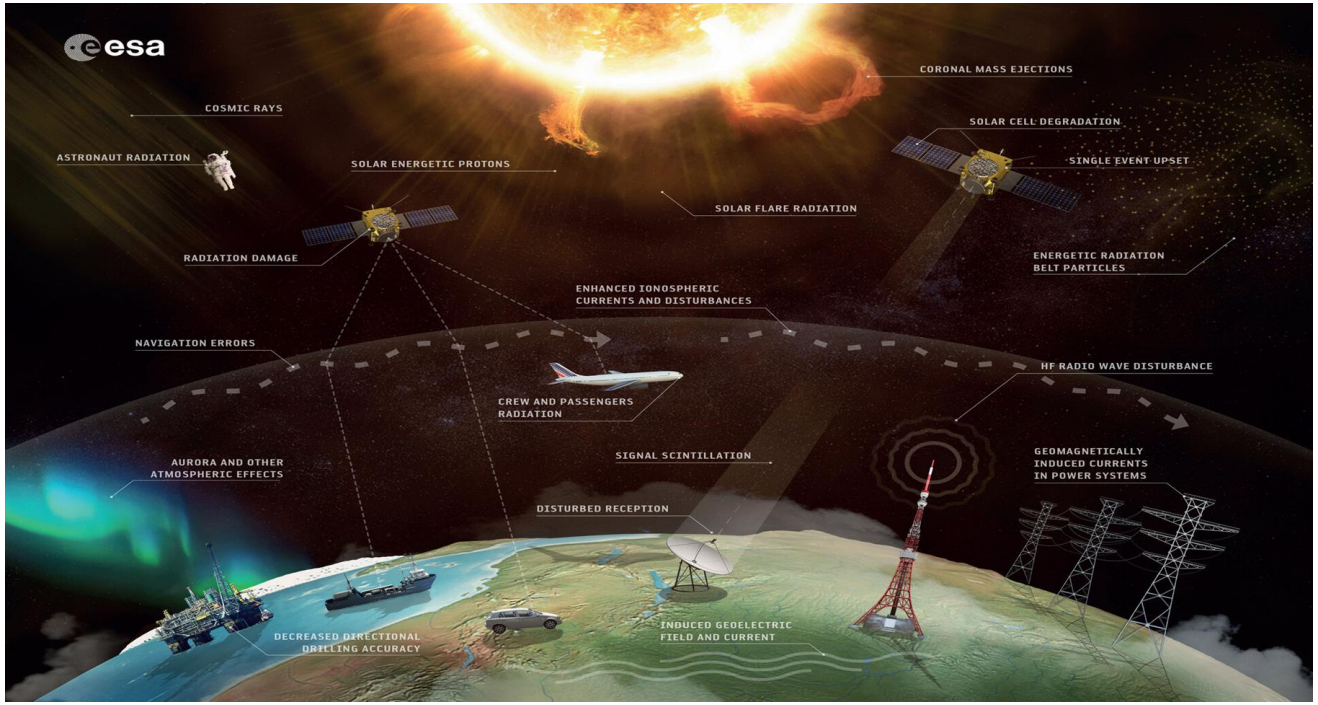
SPACE WEATHER COURSE

Course Organization
Module of **70 hours**

Recipients
Personnel already qualified as "meteorologists" according to WMO n° 1083 (Basic Instruction Package for Meteorologist, BIP-M)

Training objective:
- to acquire the basic elements for understanding the phenomena connected to space weather and interaction with the magnetosphere and the Earth's atmosphere.
- to train personnel for the analysis of SWx phenomena and data in order to predict their impact effects on critical infrastructure in orbit and on Earth.

Space Weather:
the new frontier of aerospace forecast.
The impact on everyday life.



AVIATION METEOROLOGY

AERONAUTICAL METEOROLOGY MODULE

SUBJECT	HOURS
Aviation and Operational Meteorology	70
Measurement tools and methods	40
IT and networks	15
Aeronautical weather codes	12
Air navigation elements	7
	144

Aviation and Operational Meteorology

Dangerous Meteorological phenomena for flying (turbulence, wind shear, orographic waves, jet stream, icing, fog, thunderstorm,volcanic ash tornado and tropical cyclone)

Flight Folder Planning and Documentation

Some definitions, available charts, operating procedures, briefings

Measurement tools and methods

meteorological quantities, concept of measurement and associated errors, measuring instruments of temperature, humidity, pressure, wind, precipitation..etc,

Aeronautical weather codes

METAR, TAF, SIGMET, SPECI, AIRMET and different warnings

IT and Network

GTS, WIS, ICAO-AFTN, PROMETEO2 , MESSAGE COMPOSER, DISSEMINATION

Aeronautical Meteorology and the international Organizations

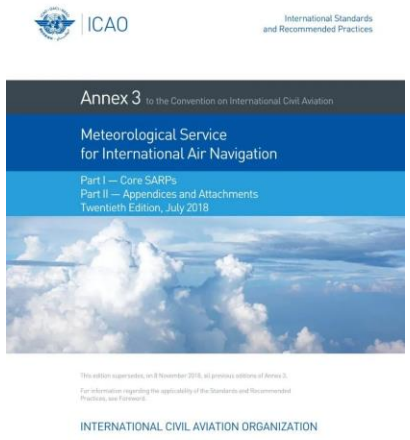
Definition, ICAO, ICAO and WMO, EASA and EU-ASA

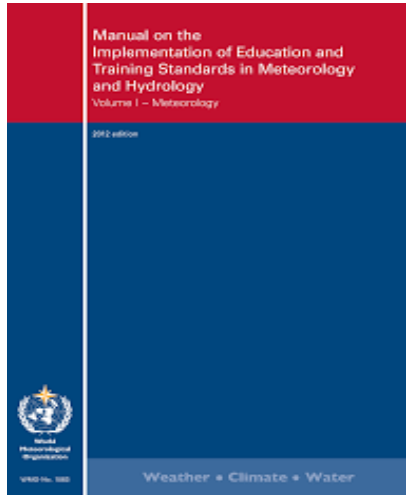
Lessons can be provided in presence and/or on line

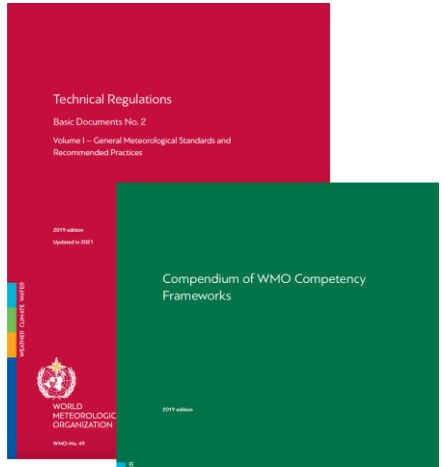
At the end of any module, an evaluation test will be given (either on site or online)

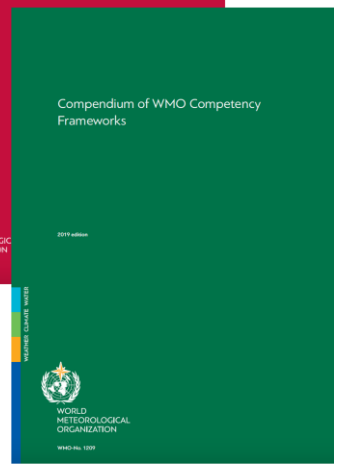
A period of OJT in a duty station at the weather forecasting room is mandatory, with a final evaluation in real scenarios

At the end of the training courses, the PRs with WMO will issue a joint certificate of conformity with the provisions of the WMO and ICAO regulations









If any, then extra slides