



## Italian Air Force Center of Aeronautic Meteorological Experimentations Technology, training, development, testing and calibration

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### Historical note

In 1904 the Captain of the Regal Army Maurice M. Wells undertaken the first aerostatic experiences on the Lake of Bracciano. To such purpose, in November 1907 it was projected a Military Aerologic Observatory, able to furnish meteorological support to the near years for dirigible and to start the first systematic studies on the low and medium atmosphere. In 1910 the observatory began its activity. In 1923, passing to the dependences of the dawning Regal Aeronautics, it became Experimental Aerologic Station. The observatory continued its own activity until September 8th 1943, when it was busy from the German army. Normal activities took back in 1952 with the new denomination of "Central Observatory of Meteorology and Spatial Physics". Manifold activities have been developed by the Department during the years, among which the planning and the realization of meteorological devices and the ground and high level radioactivity measurements. From 1985 it has assumed the actual denomination of Department for Aeronautic Meteorological Experimentations (Re.S.M.A.) and since 1992 it depends from the General Office for Meteorology (UGM) and it belongs to the Command of Squares of Italian Military Aviation.



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### Disposition and expertises

The Department for Aeronautic Meteorological Experimentations (Re.S.M.A.) is placed in Vigna di Valle (surroundings of the lake of Bracciano) in an historic building where since 1902 it has been working as the first aerologic station in Italy.



HEADQUARTER

The Re.S.M.A. is covered by:

### EQUIPPED EMPLACEMENT



### METEOROLOGICAL STATION



The meteorological station works 24h, produces CLK, MET, METAR and CREX messages and makes ozone measurement and meteorological sounding.

Every emplacement are equipped of power supply, lighting, data transfer connector and real time control.

The Re.S.M.A. is responsible for instrumental tests in the field of meteorological observation. It assures the quality of measurements and observations coming from the net of the Service, by instrumentation management and testing, develops the methodologies for the control, sampling and verification of new instrumentations introduced in national area and manages the mobile support for national territory demands and out area operations.

A Meteorological Mobile Unit (uMM) is available to provide a meteorological technical support in every area of the nation. It is entirely equipped with the best portable meteorological and technical devices and it has an appropriate telecommunication system to receive and provide every kind of meteorological information. The uMM has a portable apparatus to launch sounding balloons.



### Activities and Instrumentations

Many instruments are tested and data comparison allows to know the performances of standard and experimental devices

#### Rain-gauges



#### Thermo-Hygrometers



The S.O.D.A.R. MFAS is one of the instruments operating at the Re.S.M.A. It's possible to study wind shear and turbulence and to have information about the wind profile up to 1000 m with resolution of 10m.



The ozone control in Vigna di Valle is one of the main activities among special meteorological observations and measurements. There are two special instruments used to analyse the atmosphere and to measure the

ozone quantity. The oldest is the DOBSON 947 and the newest is the BREWER making UV measures too.

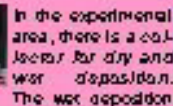


A calibration bench is used to set the pyranometer

Measures of sunshine duration, global and UV radiation are effected.



In the experimental area, there is a collector for dry and wet deposition. The wet deposition



one is opened automatically by using a precipitation detector. A modern chemical laboratory makes the analysis of precipitation coming from many sampling Italian stations



Radio - Ozone sounding



Scientific collaborations