

Italian Education Project Enables Four Radiosoundings Daily from Antarctic Concordia Station for the First Time

About four hundred students are involved in the educational project which adds two more radiosondes daily for two weeks to the Italian Meteo observatory programme of the French-Italian Antarctic research station Concordia. As a contribution to the Year of Polar Prediction's Special Observing Period in the Southern Hemisphere, for the first time, four daily soundings at synoptic hours are performed from this station on the Antarctic Plateau which is considered one of the coldest places on Earth.

In addition to the two radiosoundings launched by the Italian meteorological observatory programme as a contribution to YOPP, two more weather balloons are currently deployed every day from the Italian-French station Concordia (also known as Dome C station), as part of the Italian education project CAPIRE-YOPP. CAPIRE is the acronym of the Italian title of the project (*Comprendere la Previsione meteoRologica in antartide sostenendo YOPP*) and means 'Understand Antarctic weather forecast sustaining YOPP'. At the same time CAPIRE translates to UNDERSTAND. From 1st to 14th January 2019, Concordia station for the first time performs four daily radiosoundings at synoptic hours 00, 06, 12 and 18 UTC. The unique data set that is produced during these two weeks in January adds to the meteorological activities performed at Terra Nova Bay on the Antarctic coast. It will allow modellers and operational forecasting centers to evaluate the effect of enhanced weather observations to their weather forecasts for the Ross Sea and Victoria land areas throughout to the East Antarctic Plateau.

Outstanding educational activity

The field activities within CAPIRE-YOPP are related to an outstanding educational activity involving 17 intermediate and high schools of the Milan metropolitan area and are promoted by the University of Milano-Bicocca and the Italian National Research Council CNR. Thanks to the fundamental contribution of the Italian National Agency of New Technologies, Energy and Sustainable Economic Development ENEA and of the Meteo Service of the Italian Air Force, about four hundred students are involved in the various activities connected to polar meteorology and climate such as in-depth events, seminars, lessons and a visit to one of the operational meteorological centres in Italy. High school class students will be also involved in performing data analysis and present their scientific results.

On 27 November 2018, the field campaign of CAPIRE-YOPP has been launched with a live connection to Concordia station when students and teachers were able to directly talk to scientists who are staying at the station to carry out meteorological observations during this ongoing austral summer. With closing of the field work on 14 January another live connection to the station will allow a delegation of students and professors to meet the researchers engaged with the extra-soundings activities during YOPP's Special Observing Period in Antarctica. Students will analyse the data, report their findings and be awarded at a final event in summer which also marks the end of the YOPP Core Phase. With this educational activity, students are provided with a unique opportunity to learn and apply scientific methodologies and techniques, but also become familiar early in their career with the language of scientific research, well as with topics related to polar meteorology.

Live connection events, together with movies and pictures showing balloon launches and field activities, can be visible on a dedicated youtube channel: volarebeyondyopp.blogspot.it .



Video conference on 27 November 2018 with Concordia station (photo: Luca Montani).



The team at the French-Italian Concordia station currently launches four weather balloons per day as a contribution to the education project CAPIRE-YOPP and the ongoing YOPP Special Observing Period in the Southern Hemisphere (photo: Giuseppe Camporeale).



Radiosondes are providing important atmosphere data that can be used to verify and improve currently available weather forecasts. The students involved in CAPIRE-YOPP work together with researches at the stations to learn how to carry out science projects in vast areas like the East Antarctic Plateau (photo: Giuseppe Camporeale).