

## ECOSYSTEM STATION

<b>Name:</b>	Capodimonte (IT-PCm)
<b>Location (lat-long):</b>	Real Bosco di Capodimonte (Capodimonte park), 40.8741 - 14.2504
<b>Environment:</b>	Urban park
<b>Operational history:</b>	December 2014 – present.
<b>Scientific purpose:</b>	The goal is the implementation of an integrated climatic-environmental monitoring stations to measure, simultaneously, fluxes of several trace gases and pollutants, most of them are harmful for plants and humans. The goal is to define if the green area is a sink or a source of carbon and if the other pollutants concentrations reach alarming values. This case of study represents an interesting and rare opportunity to investigate the interactions between urban vegetation, anthropogenic pollutants and secondary photochemical compounds, in one of the most densely populated Italian cities, with about one million inhabitants.
<b>Station description:</b>	The urban park, 134 hectares wide, stands on a breezy hill that overlooks the entire gulf of Naples, it has a great historical, cultural and ecological importance. The study area is characterized by a Mediterranean climate and a vegetation belonging to the Mediterranean macchia and forests but enriched with many exotic species. Capodimonte Eddy Covariance station is located on the roof of San Gennaro church, at a total height of 26 m.
<b>Measured ICOS core parameters:</b>	<p>Wind components, 3-Axis sonic anemometer (WindmasterPro, Gill Instruments, UK);</p> <p>CO<sub>2</sub>/H<sub>2</sub>O, closed path infrared gas analyzer (LI-7200, LI-COR, Lincoln, NE, USA);</p> <p>CH<sub>4</sub>, open path analyzer (LI-7700, LI-COR, Lincoln, NE, USA);</p> <p>O<sub>3</sub>, Fast Ozone Analyzer (FOA, Sextant technology, NZ);</p> <p>O<sub>3</sub>, Photometric ozone analyzer (Dasibi 1008 HC U.V., Dasibi environmental, CA);</p> <p>Particulate matter, (OPC Multichannel Monitor, FAI Instruments s.r.l., Rome, Italy);</p> <p>NO, (EcoPhysics CLD 88 Y, Duernten, Switzerland);</p> <p>Global radiation, (SP-110 Pyranometer, Apogee Instruments, Inc., Logan, UT, USA)</p> <p>Precipitation, (RG100, Environmental Measurements Ltd, UK)</p> <p>Air Temperature and Relative Humidity, (MP103A Probe, Rotronic, Switzerland));</p> <p>Barometric Air Pressure, (278 Model Barometric Pressure Transducer, Setra Systems, Boxborough, MA, USA);</p>

All raw data are recorded and synchronized on dataloggers (LI-7550, LI-COR, Lincoln, NE, USA - CR1000 and CR6, Campbell Scientific Inc., Logan, UT, USA), connected to the local area network.

**Measured ICOS desirable parameters:** Proton Transfer Reaction – Mass Spectrometry BVOC (PTR-TOF 8000, Ionicon Analytik Ges.m.b.H., Innsbruck, Austria) - under installation.

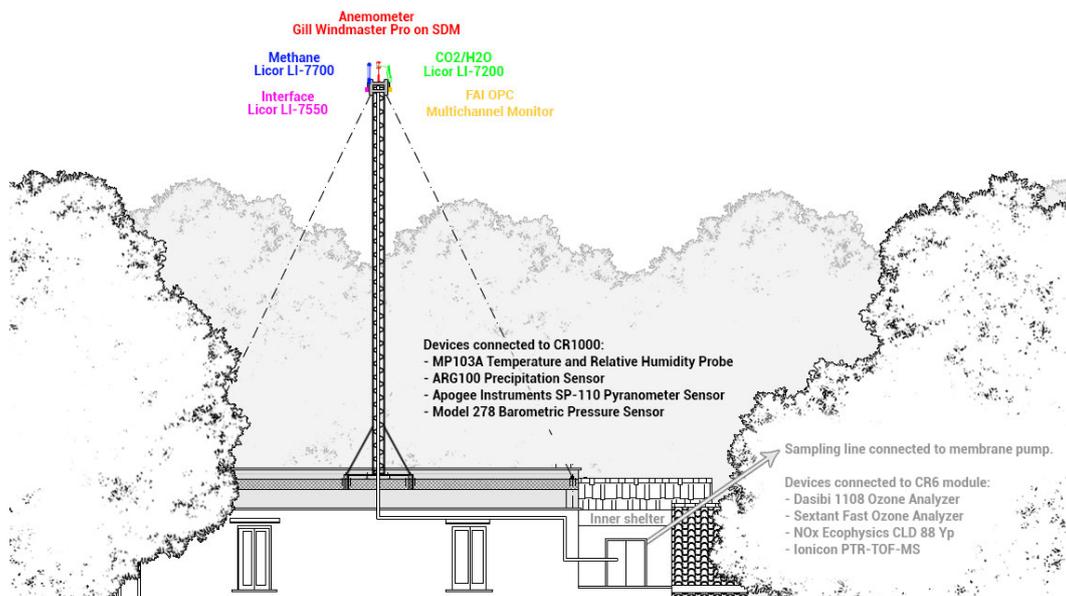
**Website/data portal:** [http://www.i-amica.it/i-amica/?page\\_id=884&lang=en](http://www.i-amica.it/i-amica/?page_id=884&lang=en)

**Responsible organization:** National Research Council - Institute of Agro-Environmental & Forest Biology (IBAF).

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**Graphical representation of the Capodimonte EC tower with sensor location drawn to scale. In the scheme are clearly visible the Eddy covariance sensors on top of the tower and the sensors situated in a room under the roof, finally, on the roof base is described a meteorological station.**



The EC tower was installed above the San Gennaro Church

