



FORESTERRA

Enhancing FOrest RESearch in the MediTERRAnean through improved coordination and integration



INFORMATION ABOUT THE PERSON FILLING THE FORM

Name and family name	<i>Silvano Fares</i>
Research organization	<i>Agricultural Research Council</i>
Position in the organization	<i>Researcher</i>
Country	<i>Italy</i>
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EXPERIMENTAL SITE¹

Name of the site	<i>Castelporziano</i>
Location of the site	<i>Italy</i> <i>Via della Navicella 2-4, Rome</i> <i>41° 42' 15" N, 12° 21' 26" E</i>
Start date	<i>01/04/2012</i>
Characteristics of the forest ecosystem where it is located	<p><i>Most relevant features:</i></p> <ul style="list-style-type: none"> - <i>Mean annual temperature (°C) is 19.7.</i> - <i>Annual precipitation (mm) is 471.</i> - <i>Prevailing wind direction (°) is S/SW</i> - <i>Altitude is 13 m AMSL</i> - <i>Evergreen Mediterranean forest. Dominant species is Quercus ilex.</i>
Keywords	<i>Plant-atmosphere interactions, Net Ecosystem Exchange, Ozone fluxes, Evapotranspiration, Energy Balance</i>
Scientific characteristics	<p><i>Scientific objectives: Long-term monitoring of Greenhouse gas fluxes and reactive trace gases (VOC) exchanged by the vegetation with the goal to quantify mitigation capacity of a Mediterranean forest ecosystems versus climate changes, but also determine damages to vegetation.</i></p> <p><i>Interest for users: access to a rich database to parameterize existing or new mechanistic and empirical models to explain novel biosphere-atmosphere interactions.</i></p> <p><i>Particularities in comparison to others sites: our site is representative of a typical Mediterranean forests and one of the few sites in Europe where fluxes of a full suite of GHG gases (CO₂, H₂O, O₃, CH₄) are measured in continuous with Eddy Covariance technique.</i></p> <p><i>Research projects in the frame of which the experimental site is used (include web site address):</i></p> <ul style="list-style-type: none"> -<i>Marie Curie People Career Integration Grant for career development” EXPLO3RVOC: “Ecophysiological control by Mediterranean forest ecosystems on the exchange processes of ozone and reactive Volatile Organic Compounds with a polluted atmosphere”. Call identifier FP7-PEOPLE-2012-CIG, proposal n. 321711.</i> -<i>Research Infrastructures for Atmospheric Research ACTRIS “Aerosols, Clouds, and Trace gases Research InfraStructure Network”.</i> -<i>ENV.2011.1.1.2-1 “The impact of atmospheric pollution on European land ecosystems and soil in a changing climate” (ECLAIRE, Call identifier FP7-ENV-2011, proposal n. 282910).</i> -<i>LIFE+ (n. 10 ENV/FR/208) “Ozone and Climate Change Impacts on French and</i>

¹ Note: This information could be published in the webpage of FORESTERRA.

Italian Forests: Refinement of criteria and thresholds for forest protection". (FO3REST).

Technical characteristics

Detailed description (including instrumentation):
A tower is equipped with sensors measuring concentration along vertical gradient from the soil to above the canopy and above-canopy Eddy covariance fluxes of CO₂ (Licor 7200+Gill windmaster 3D sonic anemometer), water (Licor 7200), ozone (NOAA fast O₃ analyser and Thermo scientific 49i UV analyser), NO_x (Thermo scientific), CH₄ (Licor 7700). Fluxes of H₂O, CO₂ (Licor 7000), ozone (NOAA) are also measured below the canopy with the Eddy Covariance technique. All meteorological variables are recorded in the tower and stored in dataloggers (Campbell CR 3000), but also in 4 other meteorological stations (operating since 1996) located inside the Estate and supervised by the laboratory of biometeorology at CRA.

Measured parameters: concentration along vertical gradient from the soil to above the canopy of CO₂, water, ozone, NO_x, CH₄. Fluxes of the same gases are measured above the canopy with the Eddy Covariance technique. Fluxes of H₂O, CO₂, ozone are also measured below the canopy with the Eddy Covariance technique. All meteorological variables are recorded in the tower, but also in 4 other meteorological stations (operating since 1996) located inside the Estate.



SCIENTISTS AND/OR TECHNICIANS IN CHARGE OF THE INFRASTRUCTURE

Principal investigator *Silvano Fares silvano.fares@entecra.it*

One additional line per person *Name and e-mail address*

ADMINISTRATIVE INFORMATION

Availability for participating in mutual measurements *Yes*
Silvano Fares silvano.fares@entecra.it
Conditions or Policy of use: please refer to FLUXNET guidelines

Availability for accessing the data collected *Yes*
Silvano Fares silvano.fares@entecra.it
Conditions or Policy of use: please refer to FLUXNET guidelines

Continue

Institution that manages the site *Consiglio per la Ricerca e la sperimentazione in Agricoltura/Agricultural Research Council in collaboration with Consiglio Nazionale delle Ricerche/National Research Council.*

URL address: http://rps.entecra.it/staff_member_17



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	<i>URL address: http://rps.entecra.it/staff_member_17</i>
Is the site participating in a national or international Network?	<i>Name (Original language and English translation): the EU fluxes database Cluster initiative.</i>
	<i>URL address: http://www.europe-fluxdata.eu/</i>
Is the site open for transnational collaboration?	<i>Conditions: Yes, based on agreed activities between researchers involved.</i>