



Effect of urban vegetation on city's environment of Bologna, Italy

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In the latest years urban vegetation became increasingly important not only for social reasons, but mostly for affecting local and regional air quality. This positive effect of vegetation in urbanized areas relies in its ability to reduce the negative impact of anthropogenic CO₂ emission by re-fixing it through photosynthesis, to remove air pollutants, to emit volatile organic compounds (VOCs) that contribute to the formation of ozone and photochemical smog on the air. Urban forest can also reduce the noise pollution and building energy use, and consequently emissions from power plants. A proper management of urban vegetation have a priority and is politically encouraged with the aim to improve a city's environment, leading to amelioration of of life in urban areas. This project proposes a series of activities aiming at monitoring and understanding the impact of vegetation in an Italian city, Bologna, characterized by urbanization, industrialization and low air quality (recurrent elevated ozone and photochemical smog episodes). In Bologna (about 500000 inhabitants), we choose as test-site the Margherita park (26 hectares), the prevalent urban green area of the city, located within the urban center and close to the main traffic. This park, that since one century has an important recreational and social role, could be the object of future city planning and environmental policy to improve life conditions of the inhabitants. Within this project the ability of the park vegetation to alter the air quality is evaluated in order to obtain information and knowledge for developing new strategies of sustainable and innovative management of this green area of Bologna.