In 2014 there was an increase in the number of people suffering from allergic rhinitis (World Allergy Organization), the growth of which has been linked particularly to climatic variations. In fact the rise in temperature of approximately a half degree centigrade is very
significant for plants that tend to prolong the period of pollination, i.e., the production and release of pollen granules in the atmosphere. With some species having earlier flowering periods and others doubling the number of pollinations during the year, it has become a real health problem for the 18 million Italians who suffer from pollen allergies. The pollination period is a particularly difficult time for children as well. According to recent studies, allergies are also linked to a drop in academic performance because of poor sleep and trouble concentrating.

In Italy, allergic rhinitis has risen to 25.8% in the population. Allergic rhinitis and asthma have a significant economic impact on patients, their families, and society in general. The reasons for this increased susceptibility to developing allergies are still unclear, but life-style and environmental factors such as the exposure to both indoor and outdoor air pollutants and the now proven synergy between pollen and pollutants certainly play a major role in triggering and favoring the onset of allergies.

Coordinated by the University of Florence’s Department of Agri-food Production and Environmental Sciences (DISPAA) and partnered with Italy, France and Austria, the AIS LIFE Project–Aerobiological Information Systems and Allergic Respiratory Disease Management is working on an in-depth study of respiratory diseases caused by pollen allergies in the interest of health and environment policies (www.ais-life.eu). The project’s objectives include the creation of Aerobiological Information Systems in Pisa, Paris, Lyon and Vienna directed at improving the management of allergic respiratory diseases linked to pollen to improve quality of life and reduce symptoms, flare-ups, and the use of drugs. The project’s innovations include the creation of a personalized pollen calendar available online and integrated air pollution data following recent scientific advances showing an important synergy between pollen and air pollutants.

The project will carry out two study cases in Tuscany and in Parisian and Lyonnais parks. Activities related to the Italian study case have led to the production of territorial risk maps directed at the allergic population. Carried out in collaboration with the Tuscan Regional Environmental Protection Agency (ARPAT), the study has chosen the study areas, singling out the relevant aerobiological stations for collecting pollen data, analyzing soil use via the Corine Land Cover software, inventorying Tuscany’s forests, and identifying species of allergological interest and defining their distribution. The maps drawn up are for the allergic population and show the pollen concentration of the various species in Tuscany’s health and social services areas.

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