The most important biological component of ambient air is pollen, and its allergen is the main cause of airborne allergic respiratory diseases. Reasons for the increase in allergic responses to pollen allergen exposure are elusive, but environmental and lifestyle factors appear to drive the trend. In Europe, emissions of many air pollutants have decreased over past decades, resulting in some improved air quality. Nevertheless, this does not always produce a corresponding drop in atmospheric concentrations; especially for particulate matter (PM) and ozone (O3), which have significant impact on human health. A growing body of evidence shows that chemical air pollutants and anthropogenic aerosols can alter the impact of allergenic pollen and that pollen production rises in higher atmospheric CO2 concentrations. Changes in the plant flowering season due to climate change will probably mean an increase in the duration and severity of the pollen season, alongside a higher frequency of episodes of urban air pollution. These elements indicate that environmental factors involved in exacerbations of allergic respiratory diseases will have a more pronounced effect in coming decades.

Objectives

The overall objective of the AIS LIFE project is to develop an information base, in order to enable policy-makers dealing with environment and health issues to better manage pollen-related allergic respiratory diseases. The project’s specific objectives are:

- To improve pollen-related allergic respiratory disease management in the general population, through the permanent implementation of AIS in three European countries, contributing to disease control, improved quality of life
and direct/indirect reductions in health system costs;

- To assess exposure to pollen at the general population level, by considering pollen and allergen quantities and their interaction with PM pollution;
- To provide a comprehensive evaluation of the use and effectiveness of AIS in different contexts, in terms of environmental, social and economic impact (including potential reduction of socio-economic costs of respiratory allergies in Europe);
- To increase awareness among target groups identified across Europe to the importance of integrated information on aerobiological, chemical and clinical forecasts for health improvement among people suffering from pollen allergies; and
- To increase awareness of possible changes in lifestyle and preventative measures among sufferers of pollen-related allergic respiratory diseases, through the use of AIS and related educational initiatives.

Expected results:
- Establishment and consolidation of a multidisciplinary, transnational network of experts in medicine, epidemiology, biology, environmental chemistry and computer information systems, working in the field of environment and health, with particular attention to allergic respiratory health;
- Implementation and dissemination of three Integrated Information Systems (IIS) and three enhanced Personalised Information Systems (PPI) in Italy, France and Austria;
- The widening of the Tuscan monitoring network for aerobiological components, by activating a sampling station in Pisa (Italy);
- Development of a centralised database with Aerobiological Information Systems (AIS) data from the three countries, to obtain baseline measures for the assessment of future trends in pollen exposure and pollen-related diseases;
- Three educational campaigns (Italy, France and Austria) on the use of the AIS, promotion of improved lifestyles, and prevention of respiratory allergic diseases;
- Three assessment reports on the effectiveness of user-friendly access to IIS and PPI in improving allergic respiratory disease management;
- Preparation of a map of urban and rural environments showing land use and allergic plant pollen data and agro-climatic indices in Tuscany;
- A report with recommendations for plants for cultivation in public green areas in France (Paris and Lyon), through an assessment of the potential danger of exposure to different types of pollen; and
- Raised awareness concerning the effects of interactions between pollens and chemicals on allergic symptoms across Europe, in order to guide environmental and health policy decisions.

Results
Environmental issues addressed:

Themes

Air & Noise - Air quality monitoring
Information - Governance - Awareness raising - Information
Information - Governance - Public and Stakeholders participation
Risk management - Human health protection
Services & Commerce - Healthcare - Social work

Keywords

public awareness campaign, atmospheric pollution, risk management, information system

Natura 2000 sites

Not applicable

Beneficiaries:

Coordinator
Universit degli Studi di Firenze - Dipartimento di Scienze delle Produzioni Agroalimentari e dell'Ambiente (DISPAA)

Type of organisation
University

Description
The University of Florence is one of the largest organisations for research and higher education in Italy, with 24 departments. Research structures comprise inter-departmental and inter-university centres, as well as some specialised research units and laboratories.

Partners
MUW(Medizinische Universitaet Wien), Austria
UNIPI(University of Pisa – Department of Biology), Italy
RNSA(Reseau National de Surveillance Aerobiologique), France
UPMC(Université Pierre et Marie Curie), France
IFC-CNR(Consiglio Nazionale delle Ricerche), Italy
Administrative data:

<table>
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<tr>
<th>Project reference</th>
<th>LIFE13 ENV/IT/001107</th>
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<td>Duration</td>
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<tr>
<td>Total budget</td>
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<td>EU contribution</td>
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Project location

Burgenland(Österreich)  
Niederösterreich(Österreich)  
Wien(Österreich)  
Kärnten(Österreich)  
Steiermark(Österreich)  
Oberösterreich(Österreich)  
Salzburg(Österreich)  
Tirol(Österreich)  
Vorarlberg(Österreich)  
Île-de-France(France)  
Champagne-Ardennes(France)  
Picardie(France)  
Haute-Normandie(France)  
Centre(France)  
Basse-Normandie(France)  
Bourgogne(France)  
Nord-Pas-de-Calais(France)  
Lorraine(France)  
Alsace(France)  
Franche-Comté(France)  
Pays de la Loire(France)  
Bretagne(France)  
Poitou-Charentes(France)  
Aquitaine(France)  
Midi-Pyrénées(France)  
Limousin(France)  
Rhône-Alpes(France)  
Auvergne(France)  
Languedoc-Roussillon(France)  
Provence-Alpes-Côte d'Azur(France)  
Corse(France)  
Guadeloupe(France)  
Martinique(France)  
Guyane(France)  
Réunion(France)  
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Valle d'Aosta(Italia)  
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Lombardia(Italia)  
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Read more:

Newsletter  
Title: "AIS LIFE Newsletter : Number 1, May 2015" (136 KB) Year: 2015 Editor: AIS No of pages: 1

Newsletter  
Title: "AIS LIFE Newsletter : Number 2, September 2015" (105 KB) Year: 2015 Editor: AIS No of pages: 1

Project web site  
Project's website

Project web site - 2  
Project's Twitter page