

Assessment of production, release, distribution and health impact of allergenic pollen in Europe (EUPOL)

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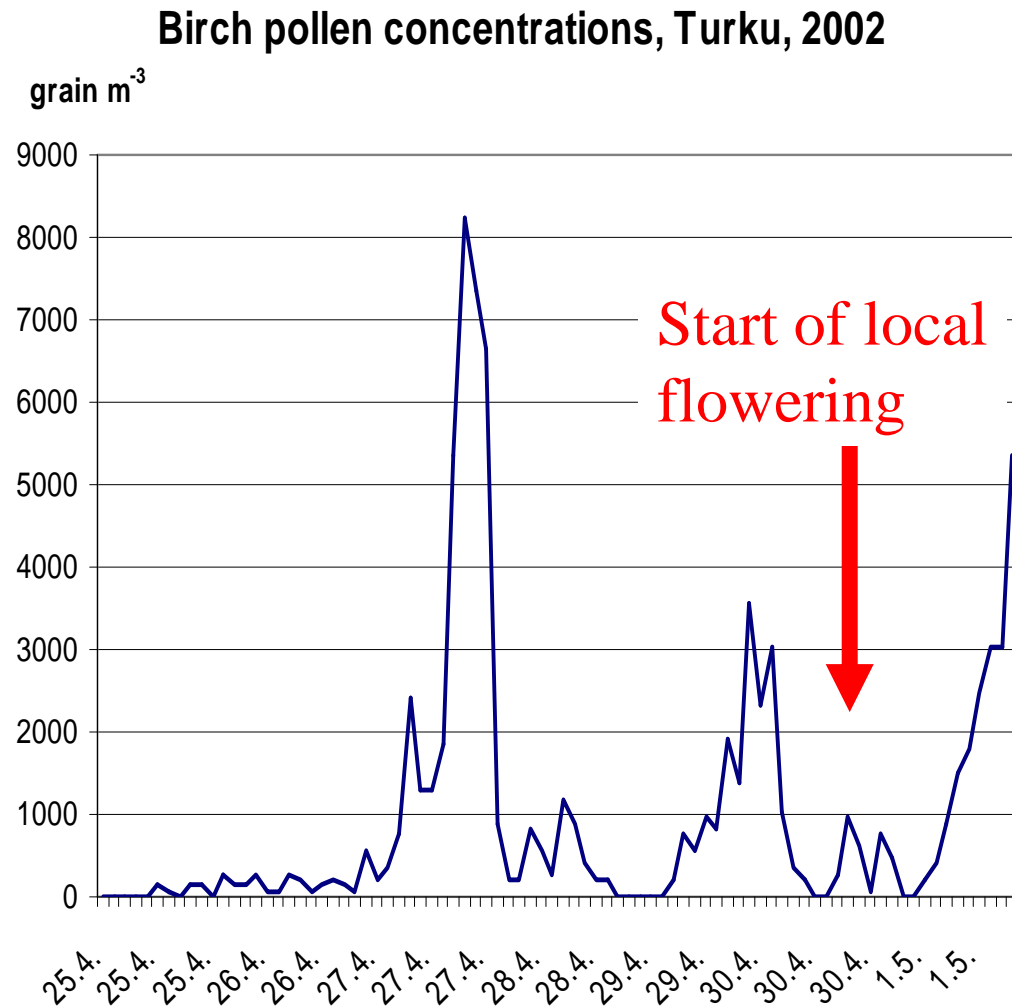
Motivation

- High burden to the society
 - The prevalence of seasonal allergic rhinitis in Europe is ~15% and increasing
- Limited mitigation possibilities: natural phenomenon
- Adaptation measures seem to be the most-efficient at the moment
 - pre-emptive medical measures, behavioural adaptation, etc.
- Measures must be taken prior to the exposure => forecasts are needed for proper planning
- Pollen monitoring stations observe high concentrations already before the local flowering season starts
 - These could be forecasted using long-range transport atmospheric dispersion models

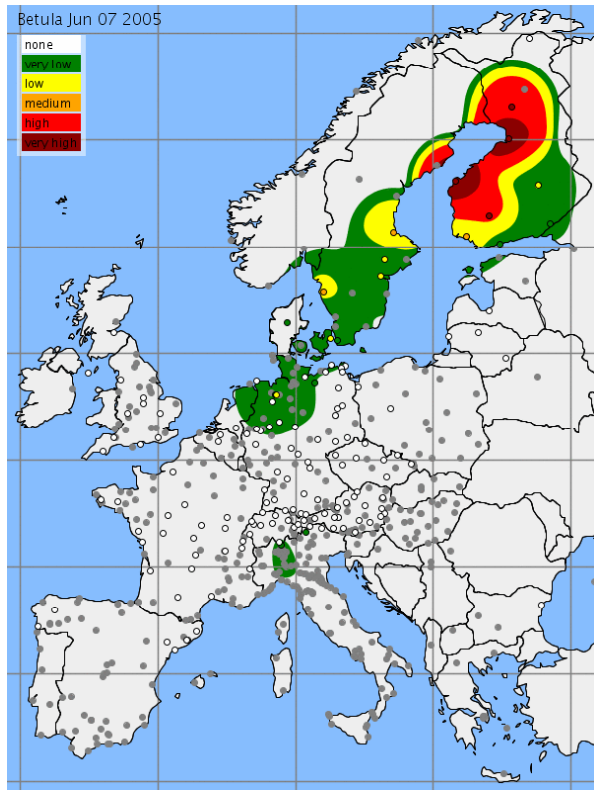
Long-range transport evidence (Finland, 2002)

Extremely high measured birch pollen concentrations before local flowering starts.

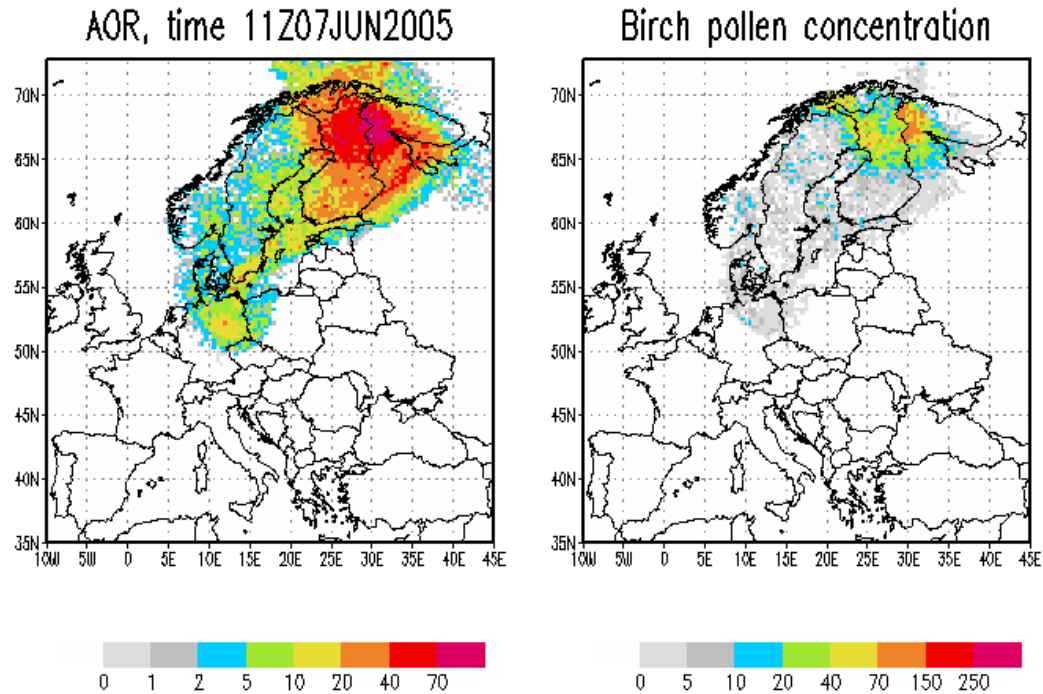
This was confirmed by several other aerobiological stations.



Long-range transport episode (2005)



Assessment of pollen concentrations based on observations, ref. European Aeroallergen Network



Predicted pollen concentrations using two modelling options (the SILAM model).

Objectives of the Action

- To critically review the existing information on allergenic pollen, identify the areas for improvements and facilitate the development of mid-term research agenda
- To facilitate the development of pollen assessment and forecasting systems
- The Action will also aim at:
 - better inter-disciplinary coordination of current research
 - improving the scientific understanding of basic processes driving the pollen production, release, distribution and impact
 - identification of the gaps in current knowledge
 - strengthening the interaction and collaboration with end users

Scientific programme

- **WP1. Pollen production and release (Arnold van Vliet, Netherlands)**
 - Biological processes and external forcing driving the phenological stages, means of observing, assessing and forecasting the pollen production.
- **WP2. The atmospheric distribution of pollen at various scales (tbd)**
 - Evaluation of pollen distribution using observations and models. Pollen as atmospheric pollutant, observational and modelling tools.
- **WP3. Impact assessment, applications, links with users (Jean Emberlin, UK)**
 - Health impact of pollen and possible damage-reducing measures. The needs and requirements of the user community, information dissemination.