Contribution of NATAIR to the Atmospheric Emission Inventory Handbook

by

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A Contribution of the Agriculture and Nature Expert Panel
Outline

- Motivation
- The EC NatAir Project
- Contribution to the EMEP/CORINAIR Emission Inventory Guidebook SNAP11
- Emissions from Natural Sources
- Conclusion
Motivation

- The SNAP code 11 chapter „Other sources and sinks“ from 1999 needs an update as we recognised a substantial increase on

- data availability on natural sources as well as

- on understanding of emission processes of specific sources
How can NATAIR contribute?

by

- Improving methodologies
- Improving emission factors
- Updating source categories
The NatAir Project

Improving and applying methods for the calculation of natural and biogenic emissions and assessment of impacts to the air quality

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Where can NATAIR contribute?

- Forests
- Soils
- Forests and other vegetation fires
- Natural grassland and other vegetation
- Wetlands
- Animals and humans
- Volcanoes
- Gas seeps
- Lightning
# Sources and Pollutants

<table>
<thead>
<tr>
<th>Sources</th>
<th>Pollutants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vegetation, esp. Forests</td>
<td>VOC, N$_2$O</td>
</tr>
<tr>
<td>Biomass burning and forest fires</td>
<td>NO$_x$, PM, CO, VOC</td>
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<tr>
<td>NO from soils (natural)</td>
<td>NO</td>
</tr>
<tr>
<td>Pollen</td>
<td>PM</td>
</tr>
<tr>
<td>Wild animals</td>
<td>CH$_4$, NH$_3$</td>
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<tr>
<td>Anoxic soil processes (wetlands)</td>
<td>CH$_4$</td>
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<tr>
<td>Natural seepage of gas storage</td>
<td>CH$_4$</td>
</tr>
<tr>
<td>Wind blown dust (incl. Saharan)</td>
<td>PM</td>
</tr>
<tr>
<td>Volcanoes</td>
<td>SO$_x$, NO$_x$, PM</td>
</tr>
<tr>
<td>Lightning</td>
<td>NO$_x$</td>
</tr>
<tr>
<td>Sea, Coastal zones</td>
<td>PM, DMS</td>
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</tbody>
</table>
SO$_2$ Emissions from Natural vs. Anthropogenic Activities in Italy

- Anthropogenic: 27%
- Volcanoes: 73%
Schedule

- First Updates December 2005
- Circulate/improve the chapters (internal)
- Final draft updates May 2006
- Circulate/improve the chapters (internal)
- Final update July 2006
- Submit agreed text etc. to TFEIP lead panel September 2006 for approval
Conclusion

- The outcome NATAIR will significantly improve the Group 11 chapter “Other Sources and Sinks” in the EMEP/CORINAIR Emission Inventory Guidebook.
- Thus, the impact of nature on atmospheric pollution levels will better be understood in the near future.

- Thanks for your attention!