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São Miguel, Azores Island

1st Announcement

FONDA
FOstering Nitrogen Deposition Assessment over Portugal
https://fonda.web.ua.pt

Summer School

Ecosystems at risk:
Improving nitrogen budgets by exploiting satellite data

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Funded by the European Union

UNESCO Chair Biodiversity and Sustainability in Atlantic Islands

This summer school aims at obtaining a comprehensive knowledge base on the potential applications of satellite based remote sensing to constrain the nitrogen deposition estimates across a region.

The school will explore in depth the various remote sensing measurements techniques, the retrieval process and how to handle and interpret the derived satellite products.

The course will introduce the various applications, i.e. monitoring spatial and temporal variability, emission inversions, model validation and data assimilation. Examples and illustrations will be provided from FONDA results for Portugal and southern Europe.

List of Topics:

Reactive nitrogen
- Oxidized nitrogen and reduced N cycle
- Nitrogen cascade
- Sources and emissions of reduced and oxidized nitrogen
- Impact on biodiversity and ecosystems

Atmospheric processes
- Emission
- Transport and mixing in the atmosphere - diffusion and advection
- Atmospheric chemistry
- Deposition processes

Atmospheric modelling and mapping
- Chemistry transport modelling
- Emission inventory compilation
- Land-use and vegetation
- Gas-phase and aerosol chemistry
- Critical load assessment

Remote sensing of NO_2 & NH_3
- Remote sensing measurements techniques (UV/IR)
- Retrieval process for nitrogen dioxide
- Retrieval process for ammonia
- Interpretation of derived satellite products
- Data assimilation techniques

Remote sensing applications
- Monitoring spatial and temporal variability model validation
- Emission inversions
- Data-Assimilation

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