

Update on ICP Forests activities

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36th Task Force Meeting of ICP Modelling & Mapping, 21 – 22 Apr 2020



Outline

- **Important Meetings**
- **Publications and Output**
- **Highlights from the Technical Report 2019**
- **Cooperation Opportunity**

Important Meetings

- **8th Scientific Conference of ICP Forests on Trends and events – Drought, extreme climate and air pollution in European forests (11 – 13 June 2019 in Ankara, Turkey)**
- **XXV IUFRO World Congress 2019 (29 Sep – 05 Oct 2019 in Curitiba, Brazil)**
 - ICP Forests session on “Long-Term Forest Monitoring Networks for Evaluating Responses to Environmental Change” (Marcus Schaub, Lars Vesterdal, Hiroyuki Sase, Marco Ferretti)
 - 25 oral presentations & 5 poster presentations



Important Meetings

- **EANET-ICP Forests Workshop on regional impact assessment of atmospheric deposition and air pollution on forest ecosystems (21 –22 Nov 2019 in Niigata, Japan)**
- **Expert meeting on the review and revision of empirical Critical Loads (2 Dec 2019 in Dessau, Germany)**
- **ICP Forests Combined Meeting of the Expert Panels on Meteorology, Phenology and Leaf Area Index; Forest Growth; Ambient Air Quality; Biodiversity and Ground Vegetation (9 – 11 Mar 2020, online)**

Scientific Publications in 2019

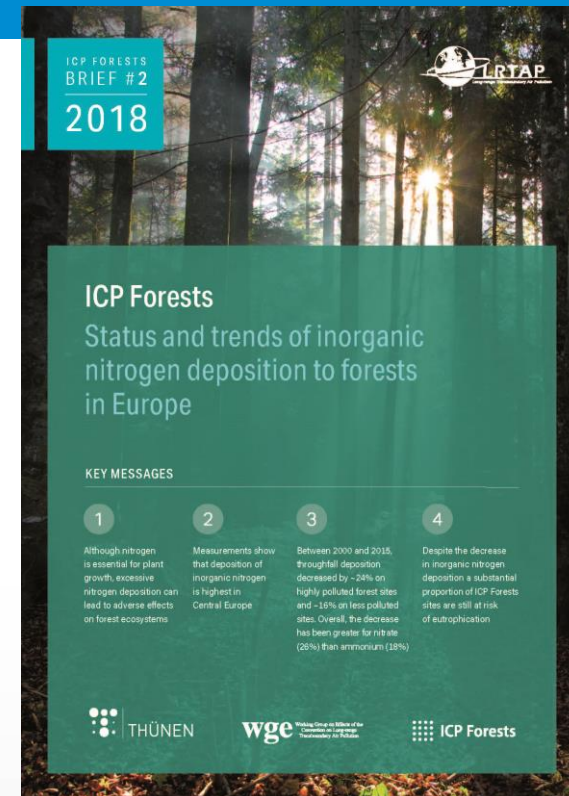
- 51 international, peer-reviewed publications with data that had either originated from the ICP Forests database or from ICP Forests plots
- Addressing WP Items: 8 publications on nitrogen, 3 on ozone, 1 on heavy metals
- Other, e.g. 4 on climate/weather effects, 6 on SOC, 9 on biodiversity/deadwood

Technical Reports & ICP Forests Briefs



Technical Report 2020 in preparation

- Deposition on Level II plots 2018
- Crown Condition on Level I plots 2019
- Questionnaire on future of Level II forest monitoring



ICP Forests Brief #4 *Tree nutrition is increasingly imbalanced in European forests* in print

<http://icp-forests.net/page/icp-forests-briefs>

Mayor Manual Revision 2020

- Every 5 years
- Revision of 14 out of 18 Manual Parts
- Expert Panels are responsible
- Mayor changes in Manual Part II on Basic Design Principles:
 - New chapter: Management operations and natural disturbances
 - New Annex : Should Level II plots entering the stand regeneration stage be maintained under monitoring or relocated?
- <http://icp-forests.net/page/icp-forests-manual>

United Nations Economic Commission for Europe (UNECE)
Convention on Long-range Transboundary Air Pollution (CLRTAP)

International Co-operative Programme on Assessment and
Monitoring of Air Pollution Effects on Forests (ICP Forests)

MANUAL

on

methods and criteria for harmonized sampling, assessment,
monitoring and analysis of the effects of air pollution on forests

Part II

**Basic Design Principles for the
ICP Forests Monitoring Networks**

Highlights from the Technical Report 2019

Deposition in 2017

- High throughfall deposition of **nitrate** was mainly found in **Central Europe**, while for **ammonium** high deposition was also found in **northern Italy, southwestern UK, southern Romania and western Poland**.
- The area of high deposition is smaller for **sulphate**, including **some plots** in Hungary, Greece, the Czech Republic, Slovakia, Bulgaria, and in Belgium-Flanders near the port of Antwerp.
- **Calcium, potassium and magnesium** deposition can buffer the acidifying effect of atmospheric deposition. High values of calcium throughfall deposition are reported in southern Europe, mainly related to the deposition of Saharan dust, and in Eastern Europe.
- **Total deposition** to the forest can be higher (typically for nitrate and ammonia) or lower (typically for buffering compounds) than the throughfall deposition, due to canopy exchange processes.

Highlights from the Technical Report 2019

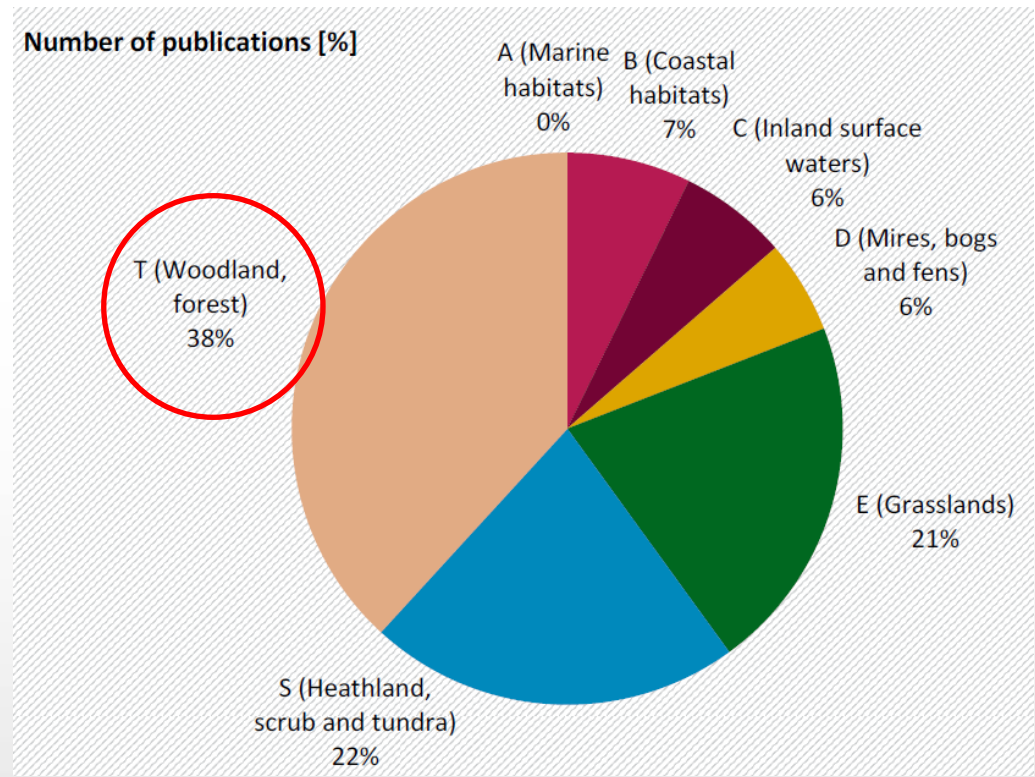
Tree crown condition in 2018

- The overall **mean defoliation** for all species was 22.6% in 2018, and there was a slight increase in defoliation for both conifers and broadleaves in comparison with 2017.
- **Damage cause assessments** were carried out on 103714 trees on 5505 plots in 26 countries. On 47327 trees (45.6%) at least one symptom of damage was found, and 711 trees (0.7%) were dead.
- **Insects** were the predominant cause of damage and responsible for 27.3% of all recorded damage symptoms. Abiotic agents were the second major causal agent group responsible for 16.4% of all damage symptoms whereas more than half of the symptoms (49.7%) were attributed to **drought**.

Critical Loads

ICP Forests **supports ICP Modelling & Mapping** to review and revise the empirical critical loads:

- Support in literature review
- Support in allocation of N effects to appropriate EUNIS forest habitat subtypes
- Expert Panel on Biodiversity and Ground Vegetation



Kind invitation

36th Task Force Meeting

online, 11 - 12 June 2020

9th Scientific Conference

"Forest Monitoring to assess Forest Functioning under Air Pollution and Climate Change"

Zurich, 7 - 9 June 2021

<http://sc2021.thuenen.de>

