

## **Pan-European Programme for the Intensive Monitoring of Forest Ecosystems (EU/ICP Forests)**

Workshop/Expert Meeting on Meteorology and Phenology on Intensive Monitoring Plots  
("Meteo-Pheno workshop 2003" ) Karpnisi, Greece, 11 to 13 May 2003

### **Minutes**

1. The combined "Meteo-Pheno workshop 2003" was held from 11 to 13 May 2003 in Karpnisi, 300 km northwest from Athens in Greece, and hosted by the Hellenic Republic Ministry of Agriculture, General Directorate for the Development and Protection of Forests and Natural Environment. It was attended by 16 experts for forest meteorology and for forest phenology from 10 European countries (Austria, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Italy and Spain), the chairman of ICP Forests, the representative of the Directorate of Forest Resources Development, Forest Section Extension, of the Greece Ministry of Agriculture, and the representative of the Greece National Agricultural Research Foundation.

2. The 17<sup>th</sup> Task Force meeting of ICP Forests mandated the Expert Panel on Meteorology and Phenology to update Parts VII (Meteorological Monitoring) and IX (Phenological Observations) of the ICP Forests Manual and to open the web page on Phenology.

The mandate is based on the results of the combined workshop of the Expert Panels on Meteorology and Phenology, held in October 2000 in Lousã, Portugal (see report on this meeting from 19 January 2001), and a test phase for the "Extensive" and the "Intensive" Phenological Programmes on Level II plots of several European countries. Further progress was achieved at the core group meeting of ICP Forests/EU - Expert Panels in February 2002 in Freising, Germany (see report on this meeting from 18 April 2002), mainly in sense of integrating phenology and meteorology with other assessments in Level II and of possibilities for co-operation with groups/networks outside ICP Forests

3. In **session 1** Mr. Preuhsler (chairman) welcomed the Expert Panels, introduced the co-chairman for Phenology, Mr. Beuker, and proposed Mrs. Bastrup-Birk as co-chairwoman for Meteorology for the workshop. Welcome addresses were also given by Mr. Economou, representing the host country Greece, by Mr. Petinarakis, representative of the Greece National Agricultural Research Foundation, which covers also the Forest Research Institutes in Greece, and by Mr. Haußmann, chairman of ICP Forests. Mr. Preuhsler introduced the agenda, which was adopted.

Mr. Efstathiadis, General Directorate for the Development and Protection of Forests and Natural Environment, welcomed the workshop at the second day; he underlined the importance of the Level II Program in Greece and the cooperation with the European countries and the importance of the particular work of the Expert Panels of Meteorology and of Phenology.

The chairman of ICP Forests, Mr. Haußmann, informed on the recent development at ICP Forests and EU Forest Focus. In specific he underlined the importance of the Expert Panel work.

Then Mr. Preuhsler explained the mandate of the Expert Panels on Meteorology and Phenology and reported on the progress since the last workshop in 2000, especially on the core group meeting in February 2002, and on his participation at the workshops of the EP Growth in Switzerland in October 2002, the WG Biotic Damage in France in October 2002, and the EP Crown Condition in Denmark in February 2003. Special importance was given to the integrated use of the monitoring data within and outside of the Level II Program and to the need for co-operative harmonisation of new sub-manuals with already existing guidelines.

Mr. Baloutsos gave an overview on the Greece Level II Program, which had been already impressively presented and discussed during the afternoon excursion to the Karpenisi Level II plot.

Mr. Economou reported on defoliation of fir trees in the level II plots in Greece and on the waves of mortality, initiated mainly by heavy drought periods and followed by secondary biotic damages.

4. **Session 2** focussed on reports concerning the Phenology part of the Level II program: Mr. Beuker explained the recent contribution for a Pheno-Information Box in the Executive Report and his impression during a workshop on “the use of Earth Observation data for phenological studies” at the JRC in Ispra in December 2002 to which he was invited to represent ICP Forests phenology. This workshop was organised by the European Phenological Network (EPN). He also participated at the workshop of EPN in Wageningen in April 2003. The main subject of this meeting was the preparation of a proposal for an Integrated Infrastructure Initiative (I3) under the 6<sup>th</sup> framework: “Timing of Life Cycle Events, a European monitoring, assessment and forecasting infrastructure”. ICP Forests is participating in this proposal, represented by the Finnish Forest Research Institute and Mr. Beuker will act as the contact person.

Mrs. Bastrup-Birk reported on the recent progress at the WG Litterfall by using the draft sub-manual for it; it was continued by the presentation of Mr. Mihopoulos on the contribution of litterfall to nutrient cycling in the fir stands of Karpenisi.

Mr. Preuhsler gave an overview on the progress of the WG Biotic Damage on the basis of a recent presentation of its chairman, Mr. Roskams, who unfortunately was not able to join the “Meteo-Pheno workshop 2003”. The need for a strongly harmonized coding as well as timing of the plot visits and probably the training of staff was pointed out.

Mrs. Bastrup-Birk reported on the meeting of the WG Biodiversity (Sabaudia, Italy, February 2003) and the influencing meteorological and phenological parameters.

In the following phenology status quo reports of the countries Finland, Italy, Greece, Spain, Hungary, France and Germany were presented and it became clear, that many countries are already some steps in front in time and methods of phenological observation and evaluation. On request Mr. Raspe gave a short repetition on his proposals for phenological modelling, which he presented at the Expert Panel meeting in Portugal in October 2000 and which are published in the report of this workshop. It was underlined that phenological observations will gain importance in the discussion of the effects of climate change on forest ecosystems. However, the countries present at the meeting stressed the need for longer time series and more European regions and invited countries not involved so far to join the common activities.

5. In the following **session 3** on basis of the previous circulated proposals of Mr. Beuker the revision of the Sub-manual Phenology were discussed. The draft was discussed in depth and several suggestions for improvements were made. In general this draft was regarded as a good improvement. On this basis Mr. Beuker will work out the proposal, in co-operation with the WG Biotic Damage and the WG Litterfall. A final proposal will be circulated to all Expert Panel members, the other EP's and the NFC's.

6. **Session 4** concentrated on the reports concerning Meteorology.

Mr. Preuhsler gave a short overview on recent cooperation and request inside the Level II program and pointed to the need for harmonised standard evaluation, e.g. for the estimation or the modelling of water availability.

Mr. Neumann presented methods and results of permanent increment measurement at Austrian Level II plots and showed the influence of meteorological and soil parameters on the change of the diameter/circumferences of trees during the course of days and years.

Mrs. Bastrup-Birk presented an example of the use of Level II meteorological data in the calculation of water balance and percolation in Denmark as a substantial issue within the quantification of water resources and leaching of nutrients from forests.

Mr. Raspe discussed the management and evaluation of Meteo data from Level II plots, including data base request and structure, methods of filling missing values at the various meteo parameter and the data quality management and proposals for standard evaluations.

The following meteorology status quo reports gave details of the meteorology program in the countries Denmark, Italy, Czech Republic, France and Hungary.

7. In **Session 5** the previous circulated proposal of Mrs. Bastrup-Birk for the revision of the Sub-manual Meteorology was discussed with the main topics: representativeness of the meteorological observations under the Level II program, meteorology and vegetation (phenology, litterfall), and data handling and validation (treatment of data, missing data). The group agreed that it has to be taken into account, that the meteorology program is running since many years and it is not opportune to ask any principle change in the instrumentation or placement of instruments at already existing meteorology stations; but it was common sense, that more detailed description and definitions are necessary within the submanual. This description should be based on the guidelines of the World Meteorological Organisation (WMO). On the basis of the discussion Mrs. Bastrup-Birk will finalise the first draft of a revised manual, to be circulated among the members of the Expert Panel, and later to the other EP's and the NFC's.

8. After some discussions on the strategy of the revision of the both manuals the participants agreed on the following steps:

- Submission of the workshop presentations to Mr. Preuhlsler until 30. May 2003 to be included in the meeting report (in general power point presentations).
- Mr. Beuker and Mrs. Bastrup-Birk will finalise the proposals for the revised Sub-manuals until 15 June 2003.
- Both draft Sub-manuals will be circulated to the participants of the workshop with the request to comment until end of July 2003.
- In Autumn Mr. Beeuker will discuss with the chairpersons of the WG Biotic Damage and WG Litterfall the intergrationm of their activities on the Manual for Phenological Obserbations.
- In September 2003, respectively after the harmonisation with the WG Biotic Damage and the WG Litterfall, adapted proposal for revision will be circulated to all members of the EP Meteo and Pheno; commentaries are requested within 4 weeks.
- A final proposal will be sent to the NFC'S and the other EP's in November /December 2003 with reply until February 2004.
- In April 2004 the final proposal for revision of both Sub-manuals should be submitted to ICP Forests for to be discussed/adopted at the 20<sup>th</sup> Task Force Meeting in May 2004.
- The wep page on Phenology got some progress since the 18<sup>th</sup> Task Force meeting. It will be continued in Winter 2004/2004 by Mr. Beuker.
- The countries present at the workshop will enforce the co-operative evaluation of the already existing phenological data of the Level II program, especially using the proposals of Mr. Raspe for calculating the physiological growing season (see report from 19 January 2001 on the combined workshop of the Expert Panels on Meteorology and Phenology, held in October 2000 in Lousã, Portugal).

- A standardised modelling of e.g. water availability as simple tool for the application through all participating countries in the Level II program does not seem to be useful, by reason of the big variety of models and of local conditions and available parameters for it. However, the need of in depth exchange of experience and co-operative work on such models was common sense.

9. The participants warmly thanked Mr. Efstathiadis and the Hellenic Republic Ministry of Agriculture for the generous hosting of the meeting and especially Ms. Panayiota Krentiri for her excellent and professional preparation and care, Mr. Petinarakis and the Greece National Agricultural Research Foundation for supporting the forest research work at the Level II program, and Mr. Balloutsos and his team from the Greece Forest Research Institute for the perfect organisation in all details and for the deep cordiality, which we could feel every minute.

Freising/Punkaharju/Hoersholm, 23 May 2003

Teja Preuhsler  
chairman

Egbert Beuker  
co-chairman Phenology

Annemarie Bastrup-Birk  
workshop co-chairwoman Meteorology

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Agenda

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Saturday, 10 May 2003

afternoon      Arrival in Athens  
evening        Registration, joint dinner in Athens

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**Sunday, 11 May 2003**

08:00 – 13:30    Bus travel from the hotel in Athens to Karpenisi, (about 300 km)  
                         during the travel forestry and cultural explanations

13:30 – 14:30    **Lunch** in Karpenisi

14:30 – 17:30    **Forest Excursion** to Level II plots in Karpenisi

18:00 – 20:30    **Session 1: Opening session**  
- Opening by the chairman of the EP on Meteorology and Phenology  
- Opening address by the representative of the host country Greece  
                         the representative of the Greece National Research Foundation  
                         the chairman of ICP Forests  
- Adoption of the agenda, technical instructions  
- Thomas Haußmann, chairman of ICP Forests  
                         Recent development at ICP Forests and EU Forest Focus  
- Teja Preuhsler, chairman of the EP Meteorology and Phenology  
                         Mandate of the Expert panel  
                         Report on the progress since the last EP Meeting 2000, Lousã, Portugal  
- Georgios Baloutsos, Greece  
The Level II program in Greece  
- Anastasios Ekonomou, Greece  
Defoliation of fir trees in the Level II plots in Greece

21:00            **Dinner** in Karpenisi

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Monday, 12 May 2003

08:00 - 12:45    **Address by the representative of the Greece Forest Service**

**Session 2: Reports on Phenology**

- Egbert Beuker, co-chairman Phenology
- Report on recent development and progress in Phenology: Level II and other networks
- Annemarie Bastrup-Birk
- Report on recent progress at the WG Litterfall
- Panagiotis Mihopoulos, Greece
- Contribution of litterfall to nutrient cycling in the fir stands of Karpenisi
- Teja Preuhsler
- Report on recent progress at the WG Damage
- Annemarie Bastrup-Birk
- Report on recent progress at the WG Biodiversity
- Status quo Phenology reports of countries / first experiences / first results
  - Egbert Beuker: Level II Phenology in Finland
  - Filippo Bussotti: First Results on Phenology in the Italian Network CONECOFOR
  - Georgios Baloutsos: Level II Phenology in Greece and first Results
  - Mayte Minaya Gallego: Poster presentation Level II Phenology in Spain
  - Miklós Manninger: Level II Phenology in Hungary
  - Erwin Ulrich: Level II Phenology in France

- 12:45 – 14:00
  - Teja Preuhsler: Level II Phenology in Germany resp. Bavaria**Lunch in Karpenisi**
- 14:00 – 16:30      **Excursion in the surroundings of Karpenisi**
- 16:30 – 20:30      **Session 3: Revision of the Sub-manual Phenology**  
 - Egbert Beuker:  
 Discussion on the basis of the circulated proposals for revision
- 21:00                **Dinner** (5 km from Karpenisi)

Thursday, 13 May 2003

- 09:00 – 10:45      **Continuing Session 3:**  
 - Preparing the proposal for a revised Sub-manual Phenology
- 10:45 - 12:30      **Session 4: Reports on Meteorology**  
 Annemarie Bastrup-Birk, meeting co-chairwoman Meteorology  
 - Teja Preuhsler  
 Cooperation/Request on Meteorology inside the Level II – Program  
 - Markus Neumann  
 Permanent Increment measurement on Level II  
 - Annemarie Bastrup-Birk  
 Water Balance studies in the Level II plots in Denmark  
 -Stephan Raspe:  
 Management and evaluation of Meteo data from Level II plots - aspects from Bavaria and Germany
- 12:30                **Visit of the Forest Service in Karpenisi**
- 13:30 – 14:45      **Lunch in Karpenisi**
- 14:45 – 16:30      **Continuing Session 4**  
 - Status quo Meteorology reports of countries / recent studies / open Questions
  - Annemarie Bastrup-Birk: Level II Meteorology in Denmark
  - Bruno Petriccione: Level II Meteorology in Italy
  - Vit Sramek: Poster presentation Level II Meteorology in Czech Republic
  - Erwin Ulrich: Level II Meteorology in France
  - Miklos Manninger: Level II Meteorology in Hungary
- 16:30 – 19:30      **Session 5: Revision of the Sub-manual Meteorology**  
 - Annemarie Bastrup-Birk  
 Strategy for the revision of the sub-manual Meteorology  
 Discussion on the basis of the circulated proposals for revision  
**Main topics:**
  - representativeness of the meteorological observations under the Level II program,
  - meteorology and vegetation (phenology, litterfall),
  - data handling and validation (treatment of data, missing data)
 Preparing the proposal for a revised Sub-manual Meteorology
- 19:30 - 19:45      **Closing session**, final statements
- 20:00                **Dinner** in Karpenisi

Wednesday, 14 May 2003

- 08:00 – 13:30      **Bus travel back to Athens airport**

Participants of the EP Meteo/Pheno workshop in Karpinisi/Greece, 11 to 13 May 2003

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