Further Development and Implementation of an EU-level Forest Monitoring System

DATA SUBMISSION – D3

- Data Submission Module
- New Forms / adaptations
  - Linkage of Information
- Data Submission Periods

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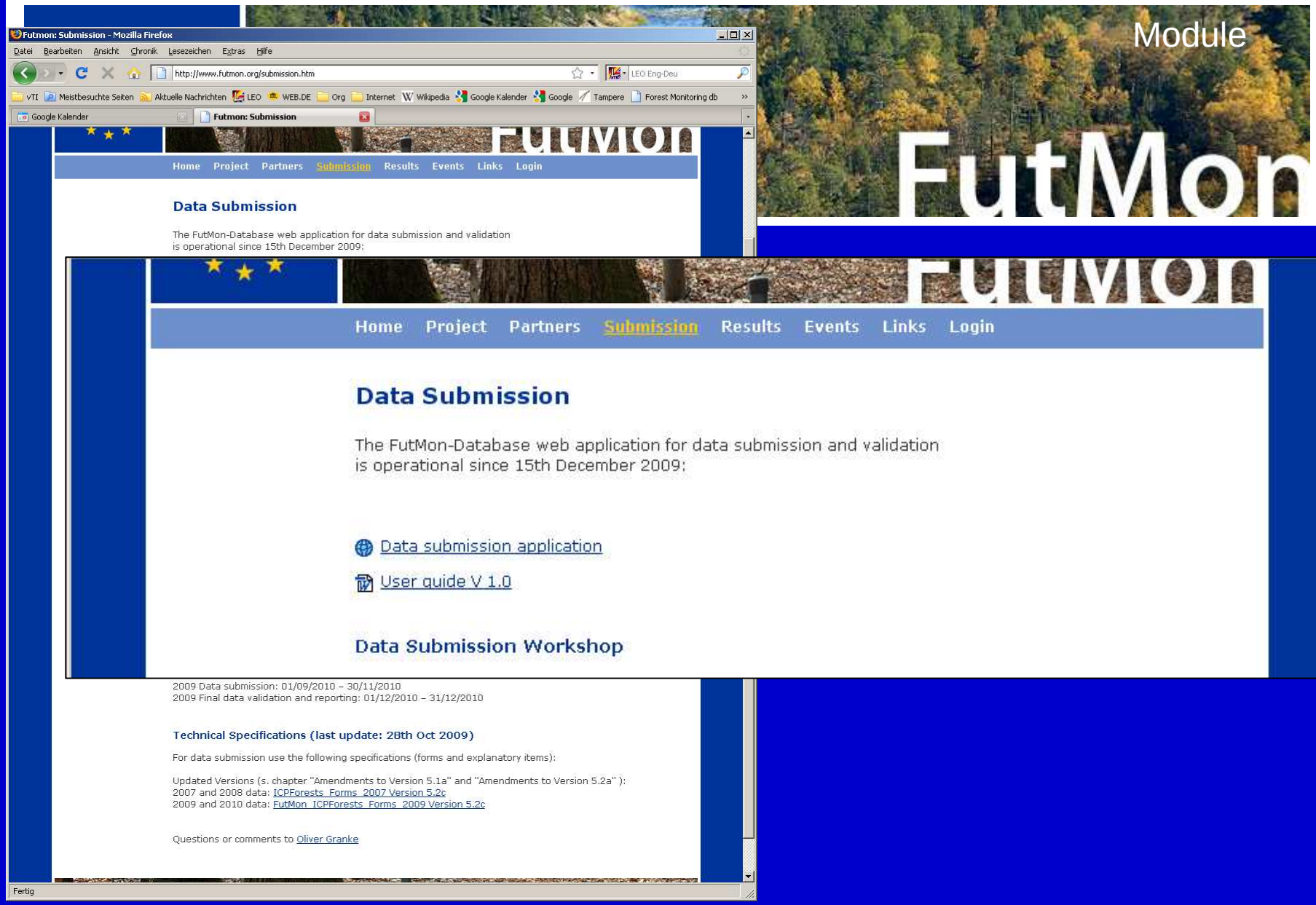

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FutMon
Forest Monitoring

HELP CONTACT LOGIN

Forest Monitoring Data Upload - Log In

Login

Name

Password

login

Not logged in. Last update of this page: 08.01.2010. System time: 12.02.10 17:21 Version V0.37 System: production system
Johann Heinrich von Thünen Institute, Federal Research Institute for Rural Areas, Forestry and Fisheries

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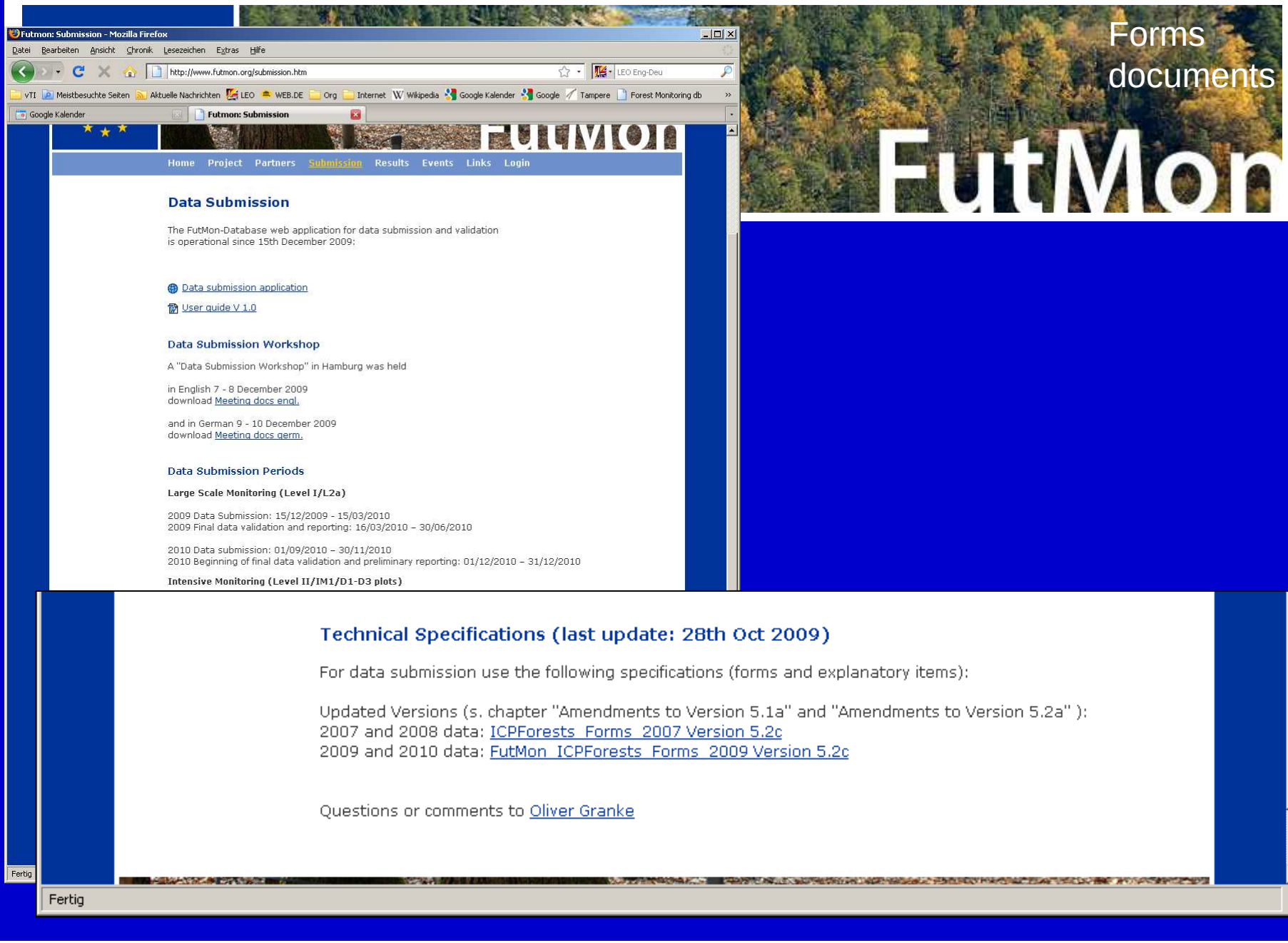

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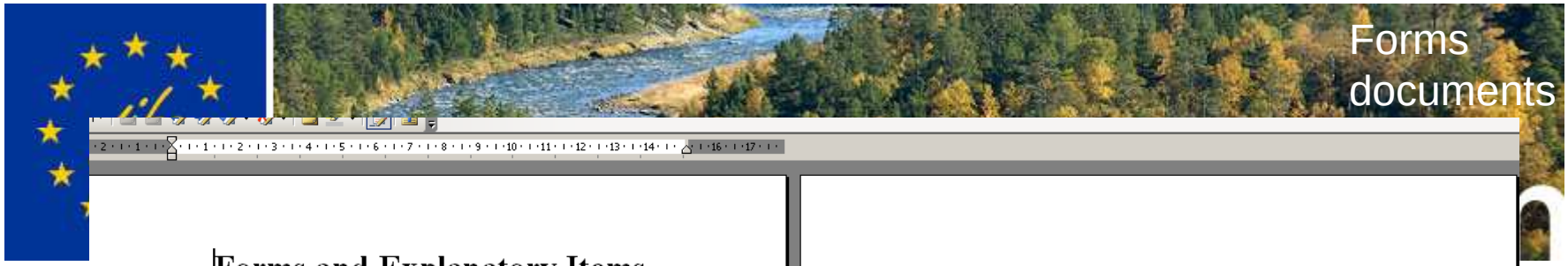

Forms and Explanatory Items

To be applied from
data submission 2009

Version 5.2c

Last update 29th Oct 2009

Contents

List of Abbreviations and Acronyms

AAS	Atomic Absorption Spectrometer
BD	Bulk Density
BS	Base Saturation
CEC	Cation Exchange Capacity
DAR-Q	Data Accompanying Report Questionnaire
E_c	Electrical conductivity
F	Fermentation horizon
FAO	Food and Agriculture Organization
FES	Flame Emission Spectrometer
GPS	Global Positioning System
H	Humus horizon
ICP	Inductivity Coupled Plasma Spectrometer
IRM	International Reference Material
ISO	International Organization for Standardization
JRC	Joint Research Centre, Ispra, European Commission
L	Litter horizon
LAI	Leaf Area Index
LRM	Local Reference Material
M	Mandatory parameter
MBD	Mineral Bulk Density
NFC	National Focal Centre of the Intensive Monitoring Programme
NRM	National Reference Material
O	Optional parameter
OM	Organic Matter
QA/QC	Quality Assurance and Quality Control
SA	Soil Analysis method
SAG	Scientific Advisory Group of the Intensive Monitoring Programme
SD	Standard Deviation
SFC	Standing Forestry Committee
WRB	World Reference Base for Soil Resources

Further Development and Implementation of an EU-level Forest Monitoring System

1 Introduction

This document concludes all forms which are used for data submission from the year 2009 onwards in the frame of the FutMon programm as well as of the ICP Forests programme. Changes which are made in comparison with the latest adopted version of the respective ICP Forests forms are highlighted by using bold font and blue colour. In addition all amendments and changes are summarized in the amendment index.

2 General Remarks

Some general remarks are made here in order to allow a high quality data submission:

- As the combination of parameters which are submitted with a specific form may vary over time due to manual changes it is necessary to document in the submission files which fields/parameters are submitted with this file. The submitting project partners will do so by including a first line into each submission file which starts with an exclamation mark followed by a comma separated list of the submitted fields/parameters.

  Example for first (comment) line submitted within the file XXGENER.PLT:
  !Sequence, country, plot_number, latitude, longitude, altitude, orientation, date_installation, plot_size, trees, sub_plot_size, mean_age, tree_species, yield_abs, yield_relative, other_observation
- Further comments may made before the data specification line but will not be tested automatically during the validation process. Each comment paragraph or line has to start with an exclamation mark. The last comment line before the first data record must be the data specification line which is specified on top of each form (s. below).
  Only in case of the last table fields which are named "other_observations" (or similar) please use left alignment.
- Data submission will be done using the submission module of the FutMon data base. The data will be submitted survey by survey and year by year. Thus, each project partner (FutMon partner or ICP Forests NFC) has to submit a complete set of a survey of a specific year to the submission module. This set includes in general a reduced plot file, data files, data accompanying reports (word documents) and in case of surveys with data from laboratory analyses a laboratory QA file (.LQA).
- The data will be submitted using fixed format ASCII files. The formats are described in this document including start and end column of each parameter. During a data submission workshop the FutMon data centre will introduce into methods for data preparation (e.g. EXPORT of fixed format file from an EXCEL sheet).
- For each parameter the number of digits is defined in the forms below. Metric values are not defined to have a specific number of decimal units but will be stored in the database as floating point values. Thus, a parameter with 4 digits could have values as:

  "3456" or "22.4" or "2.63" or "02.6" or " 2.6" or "2.6 "

  The parameter values are separated by blanks. A decimal point is used.

In case that not all digits are needed for data submission the data should be stored right-aligned. If e.g. a field with 5 digits is defined for a form and the three digit code "BHI" should be submitted in this specific field it is recommended to insert it in the data submission file in form of " BHI" instead of "BHI ".

- In case of values which are too high to be submitted with the specified number of digits (e.g. "10243.1" in case of a parameter with only 4 digits "9999" should be submitted instead and the true value ("10243.1") should be submitted in the text field "other observations". This should be done following the form "VALUE FOR <param> is <value>" where <param> is the name of the submitted parameter and <value> is the value of the parameter.
- If values are below the quantification limit a "-1" should be submitted. The quantification limit for the respective parameters has to be submitted in the accompanying data report. A "0" (zero) should be used only in case that this is the assessed or measured value, e.g. "0" for "precipitation" in case that no precipitation during the respective period. Other parameters could be "Weight of oranic layer", "Carbonates" (Soil), or alkalinity (Soil Solution, Depo).
- The format of the parameters to be submitted will be given using

I X	for Integer values with X digits,
F X	for floating point values with X digits,
C X	for character values with X digits, and
DATE/TIME	for date or time values (exact format will be specified in the respective explanatory item or in the form definition).
- In case that a specification of a parameter (e.g. F 4) is different from the numbers which are used in the columns specification (e.g. 15 – 17), please, immediately contact the FutMon data centre in order to allow for a clarification with the next update of this document and to get a valid decision on how to define the data submission form.
- The column "Ref_Tab" is an index (X) if the respective value of the parameter must be concluded in a reference table.
- The respective explanatory item where some details for the codifying of the parameter value is explained is specified in the column "Item #". If a reference table is indicated (s. point above; column "Ref_Tab") the reference table is included in this specific explanatory item.

3 Amendment Index

3.1 Amendments to Version 5.2a

a) Air quality: Sequence Number in form AQA was widened to 6 digits, all subsequent fields were shifted accordingly.

3.2 Amendments to Version 5.1

a) Foliage: sample ID consists of 5 digits first 3 digits is the code for tree species, digit 4 is a dot (".") and digit 5 is the leaves type Examples for valid entries are introduced in the respective forms.

b) Deposition; form DEO: columns for start_date and end_date were corrected

c) Soil solution, form PSS: Format and reference for "layer" corrected

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4.4 Soil water

4.4.1 XX2009.SWC
FutMon D3 Soil water content – sample definition and dry soil bulk density
one record/line/observation on each sample unit

Each data file has to start with a comment line. This line starts with an exclamation mark:

*!Sequence, **country, plot, date,** PFH_pit, horizon, **SW_pit, depth_layer,** ring_depth_upper, ring_depth_lower, **replicate,** bulk_density, date_analysis, other_observations*

columns	parameter	Format	Ref_Tab	Item#
1 - 4	Sequence number (1-9999)	I 4		
6 - 7	Country code	I 2	X	(1)
9 - 12	Plot Number	I 4		(2)
14 - 19	Sampling date	Date		(3)
21 - 24	PFH pit ID (maximum 4 characters, same as in BioSoil)	C 4		(69)
26 - 27	Horizon number	I 2		(143)
29 - 33	SW pit ID	C 5		(70)
35 - 37	Code depth layer	C 3	X	(71)
39 - 41	Sample ring depth (upper side of ring) in cm below the top of the mineral soil; negative values for sampling rings taken in organic layer.	I 3		
43 - 45	Sample ring depth (lower side of ring) in cm below the top of the mineral soil; so negative values for sampling rings taken in organic layer.	I 3		
47 - 47	Replicate (in case multiple samples are taken in one SW pit: 1, 2, 3…)	I 1		
49 – 52	Dry soil bulk density of the fine earth (kg m^{-3})	F 4		(130)
54 – 59	Date laboratory analysis (DDMMYY)	Date		(3)
61 - 100	Other observations (text)	C 40		(84)

4.4.2 XX2009.SWA
FutMon D3 Soil water content – sample analysis results on water retention

Each data file has to start with a comment line. This line starts with an exclamation mark:

*!Sequence, **country, plot, date, SW_pit, depth_layer, replicate,** water_content, matric_preasure, date_analysis, other_observations*

columns	parameter	Format	Ref_Tab	Item#
1 - 5	Sequence number (1-99999)	I 5		
7 - 8	Country code	I 2	X	(1)
10 - 13	Plot Number	I 4		(2)
15 - 20	Sampling date	Date		(3)
22 - 25	SW pit ID (maximum 4 characters)	C 4		(70)
27 - 29	Code depth layer	C 3	X	(71)
31 - 31	Replicate (in case multiple samples are taken in one SW pit: 1, 2, 3…)	I 1		
33 – 38	Volumetric water content in $m^3.m^{-3}$ at matric pressure specified in field "matric pressure"	F 6		(130)
40 – 47	Matric preasure [kPa]; e.g. **value** -5 **indicating** -5kPa; mandatory for new calculations under FutMon: 0kPa, -1kPa, -5kPa, -33kPa, -1500kPa	F 8		(130)
49 – 54	Date laboratory analysis (DDMMYY)	Date		(3)
56 – 95	Other observations (text)	C 40		(84)

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Part VII

4.11 Meteorological Measurements

4.11.1 XX2009.PLM
Contents of reduced plot file
to be used in combination with the meteorological measurements

Each data file has to start with a comment line. This line starts with an exclamation mark:

*!Sequence, **country**, **plot**, **location**, latitude, longitude, altitude, **variable**, **vertical_position**, instrument, scanning, storing, profile_pit, **date_monitoring_1st**, date_monitoring_last, measuring_days, instrument_description, other_observations*

Column	Description	Format	Ref_Tab	Item #
1 – 4	Sequence number of plots (1 to 9999)	I 4		
6 -				
41				
48				
51				
55				
60				
65				
72				
79 – 81	Number of (measuring) days	I 3		
83 – 94	Description of instrument	C 12		(63)
96 – 135	Other observations (text)	C 40		(84)

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(70) SW pit ID
(Soil Water)

In general, samples from at least 3 pits on each depth with replicates are taken for the soil water determination. The Pit ID of the actual Soil Water pit indicates where the soil water sample was taken. In case that this pit is the one on the plot for which the profile description was made (submitted with forms .PRF and .PFH) it is the same as the PFH pit ID (see (69)). In all other cases it is a new one.

Soil Water data from SWC and SWA forms are linked using the combination of the data fields <country code>, <plot number>, <SW pit ID> (70), <code depth layer> (71), and <replicate>.

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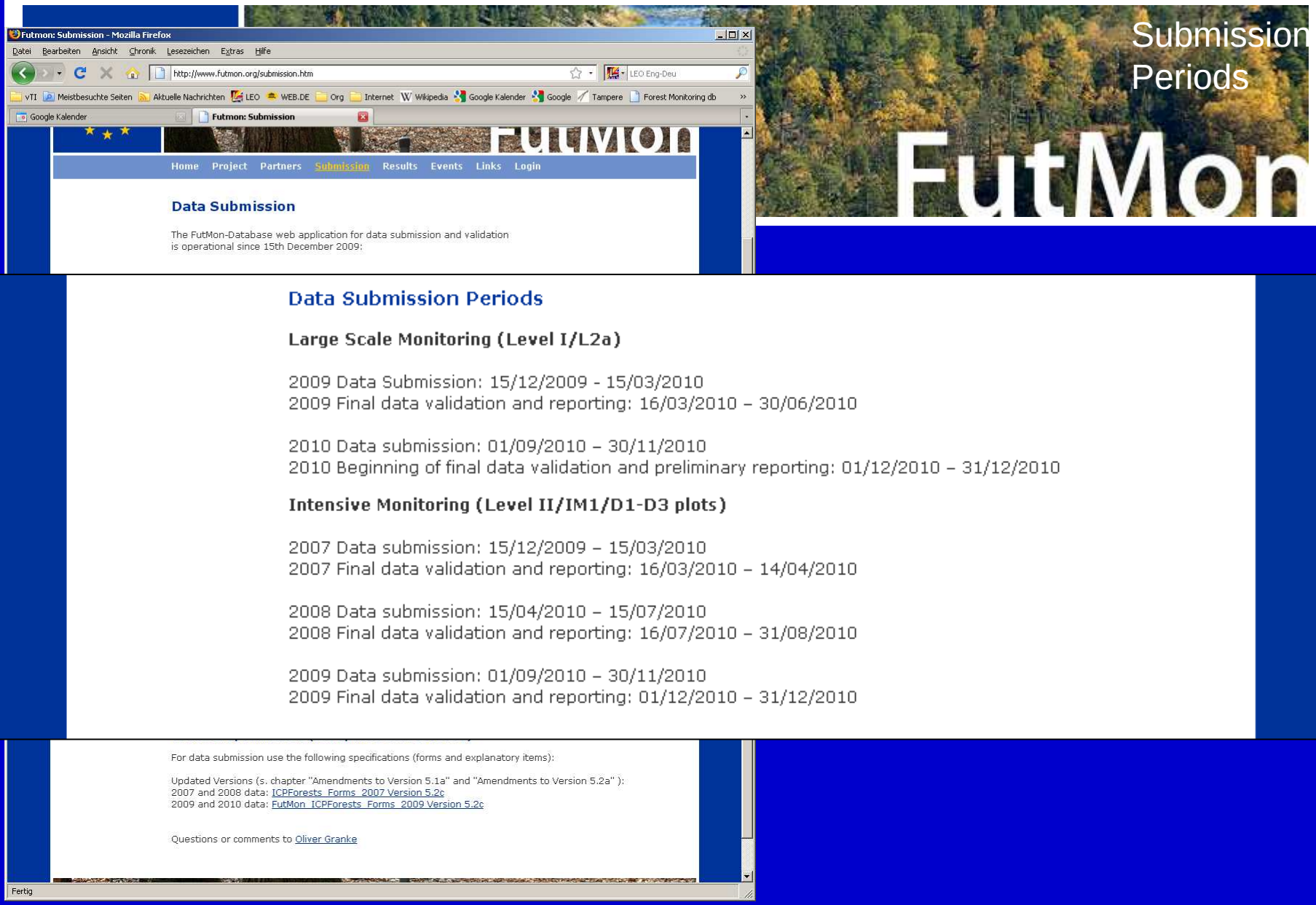

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	2009												2010											
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
Level I data transfer 2009																								
Level I data validation and reporting 2009																								
Level I data transfer 2010																								
Level I data validation and reporting 2010																								
Level II data transfer 2007																								
Level II data validation and reporting 2007																								
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Level II data validation and reporting 2009																								
Level II data transfer 2010																								
Level II data validation and reporting 2010																								

data transfer

Validation and Reporting

Intensive Monitoring (Level II/IM1/D1-D3 plots)

2007 Data submission: 15/12/2009 – 15/03/2010

2007 Final data validation and reporting: 16/03/2010 – 14/04/2010

2008 Data submission: 15/04/2010 – 15/07/2010

2008 Final data validation and reporting: 16/07/2010 – 31/08/2010

2009 Data submission: 01/09/2010 – 30/11/2010

2009 Final data validation and reporting: 01/12/2010 – 31/12/2010