

Greenhouse Gas Budget of Soils under Changing Climate and Land Use' (COST 639 BurnOut)

By Robert Jandl, BFW, Austria, Deputy Coordinator of IUFRO Division 8 and of the IUFRO Task Force on Forests and Carbon Sequestration

Greenhouse gas (GHG) emissions are a topical issue in the current discussion about climate change. The importance of forests and soils for the greenhouse gas budget cannot be ignored in this context. The Action [COST-639 \(BurnOut\)](#) focuses particularly on the role of soils and investigates how land-use changes may raise or reduce the release of GHG.

Carbon stored in soils represents the largest terrestrial organic C pool. The biogeochemical cycle of carbon is closely connected with that of nitrogen and as a result of mineralization processes, both elements are liberated from soil organic matter. Both C and N occur in terrestrial ecosystems in several chemical forms and are potentially emitted as GHG. Changing land use due to deforestation, biomass burning, conversion of natural ecosystems to agricultural use, drainage of wetlands and soil cultivation may increase these GHG emissions.

However, soils can also act as GHG sinks, although considerable uncertainty exists regarding the sink strength of soils under different forms of land use, especially under future climate conditions and under regional disturbance regimes. Recognizing that soil monitoring for a periodic assessment of soil C and N stocks is extremely expensive, the COST action focuses on the identification of sites where changes in C and N are most likely, because these are the areas where monitoring efforts can be concentrated. The focus will be placed on the interfaces of different land uses and ecosystem disturbances that are typical of specific regions.

In Northern and Western Europe, for instance, peatland currently retains large quantities of C and N, because the decomposition of soil organic matter is slow. Global warming and drainage of these wetlands releases GHG into the atmosphere. Drying of peatlands therefore is a slow, but extremely significant ecosystem disturbance and peatlands are therefore assumed to be hotspots of future GHG releases. Temperate region forests are presently GHG sinks, but the future development of disturbances is hard



'Drainage of peatland invokes an insufficiently understood release of greenhouse gases.'

Photo: Courtesy of Maurizio Mencuccini, School of GeoSciences, University of Edinburgh, UK

to predict. The GHG sink strength of Mediterranean ecosystems is currently under-exploited, because degraded landscapes are widely spread. Reversing the effect of past land disturbances is on the political agenda as a mitigation activity. This land-use change is believed to have a great potential for the sequestration of GHG. Principally, the maintenance of the current sink activity of forest soils, agricultural forms of management that turn arable soils into GHG sinks, and the protection of pristine landscapes such as wetlands and old forests are of crucial importance.

In the course of COST Action 639 (Dec 2006 - Dec 2010) several open-call workshops will be held. Contributions from colleagues in the IUFRO network are highly welcome as the topic fits into the scope of the Carbon Sequestration Task Force and of IUFRO Division 8.

Interested colleagues are invited to look up the current program of events at <http://www.cost639.net>.

COST is an inter-governmental framework for European Cooperation in the field of Scientific and Technical Research. For more information concerning COST, its member countries and the representation of countries refer to <http://www.cost.esf.org>.

What does it mean ?

CARBON SINK

FR puit de carbone – **ES** sumidero de carbono – **DE** Kohlenstoffsénke

A pool that absorbs or takes up released carbon from another pool of the global carbon cycle. Any process or mechanism which removes a greenhouse gas, an aerosol, or a precursor of a greenhouse gas from the atmosphere. For example, a given pool can be a sink for atmospheric carbon if, during a given time interval, more carbon is flowing into it than is flowing out.

[adapted from Earth Science glossary]

NOTE Opposite of -> source. Carbon sink is the condition in which take-in and storage rate are higher than the C release from the system.

CARBON SOURCE

FR source de carbone – **ES** fuente de carbono – **DE** Kohlenstoffquelle

A pool that releases carbon to another carbon pool. For example, a carbon reservoir can be a net source of carbon to the atmosphere if less carbon is flowing into it than is flowing out of it.

NOTE Opposite of -> sink. The definition of the Framework Convention on Climate Change is wider and more specific in the sense that it makes reference to the release of a greenhouse gas, an aerosol or a precursor of a greenhouse gas into the atmosphere.

GREENHOUSE GAS (GHG)

FR gaz à effet de serre (GES) – **ES** gas de efecto invernadero (GEI) – **DE** Treibhausgas (THG)

Atmospheric gases, such as water vapor, carbon dioxide, ozone, methane, nitrous oxide, and chlorofluorocarbons, which warm the lower atmosphere by absorbing thermal radiation emitted by the earth surface. This property causes the greenhouse effect.

NOTE Increases in concentrations of the latter four gases have been linked to emissions from human activity.

Contact: Renate Prüller, Coordinator [SilvaVoc](#) or Michèle Kaennel Dobbertin, Coordinator [IUFRO 6.03.02](#)

Successful First Iberoamerican Congress on Wood Protection

By *Oswaldo Encinas**, President of RIPMA

The First Iberoamerican Congress on Wood Protection was carried out in Mérida, Venezuela, from 4 – 7 December 2006, with the support of IUFRO, IRG (International Research Group on Wood Protection), FONACIT (National Foundation for Science and Technology, Venezuela) and the University of Los Andes (Venezuela). It was organized by RIPMA, the Iberoamerican Network For Wood Protection (Red Iberoamericana de Protección de la Madera).

Seventy-three scientists, researchers, professors, under- and postgraduate students, managers and technicians from the wood protection industry, all coming from the Iberoamerican region, discussed subjects related with wood protection in the region. The participants had the opportunity to exchange knowledge and information and established many agreements for mutual collaboration.

In addition to the wood protection topics dealt with in 44 papers, oral presentations and discussions, there were two main discussion panels: one about the consequences and future of the use of CCA salts in the wood protection industry in the region, and the other about the implementation of the ISPM 15 for solid wood packaging material.

All participants agreed on the importance of these types of specialized meetings in different regions of the world, such as in Iberoamerica with Spanish as the main language, as this offers an opportunity for all interested people to learn about and share the state-of-the-art in the wood protection field.



Congress participants
Photo by courtesy of Oswaldo Encinas

Results and the full papers presented in this congress can be accessed through: www.ripma.org.

In this First Iberoamerican Congress on Wood Protection, the network RIPMA (established in San Sebastian, Spain, with only a few members originally) was opened to all participants and has now more than 50 registered members. An invitation to join RIPMA was extended to all people in the region interested in the wood protection subjects.

Mar del Plata in Argentina was selected as the place for the Second Iberoamerican Congress on Wood Protection proposed for the end of 2009.

*Oswaldo Encinas, University of Los Andes, Mérida, Venezuela, member of IUFRO-RIFALC, <oencinas(at)ula.ve>

Walter Bitterlich Celebrates 99th Birthday

Em. o. Dipl. Ing. Dr. Walter Bitterlich celebrated his 99th birthday on February 19th. He was born in Reutte, the Tyrol, Austria, and returned there two years ago after having lived in and near Salzburg most of his life.



Walter Bitterlich invented the method of Basal Area Sampling (Winkelzählprobe) as well as many instruments for this method, especially the "Spiegel-Relaskop" known since the fifties of the last century and still state-of-the-art in forest inventory. From 1967 until 1978 he was Head of the Institute for Growth and Yield at the University of Natural Resources and Applied Life Sciences, BOKU, in Vienna. Until a few years ago he had always been actively developing new instruments for forest measurements, like the "Visiermesswinkel" (now Bitterlich Treemeter) and refining his theory.

Walter Bitterlich has received many awards from Austria and forestry associations all over the world. There are many of his friends and colleagues who think of him as the most genial and best known forester in the world.

We congratulate him on the occasion of his special birthday and on his extraordinary achievements for forest science.

*Gertrude Ruthner, Relaskop-Technik,
Salzburg, Austria*

SAF Fellowship for IUFRO Officeholders

Three IUFRO officeholders, to our knowledge, were recently accepted as Fellows by the American Society of Foresters for having provided outstanding contributions to the Society. We would like to congratulate them on this occasion!

Perry Brown, *Current IUFRO Division 6 Coordinator*
Dean, College of Forestry and Conservation; Director,
Montana Forest and Conservation Experiment Station
Professor, Forest Resources; University of Montana-Missoula

James E. Johnson, *Current Deputy Coordinator of Div 6*
Professor of Forestry; Associate Dean – Outreach; Virginia
Polytechnic Institute and State University

Robert Rogers, *Coordinator of IUFRO 1.06.00 "Improvement
and Silviculture of Oaks" from 2000-2005*
Associate Dean for Academic Affairs, Professor of Forestry,
College of Natural Resources, University of Wisconsin

IUFRO Headquarters Staff News

Brigitte Burger of the IUFRO Headquarters team gave birth to a baby girl named Ida Katharina on 16 January 2007. We wish her and her family all the best!

Online Communication Survey

Communicating research results is rapidly rising on the science priority list. This is why the **IUFRO Task Force on Communicating Forest Science** has developed a survey with the aim to discover and compare the communication and collaboration behaviour and activities of scientists working in forest research worldwide.

The IUFRO network of scientists provides an ideal platform to reach this aim. With your help and the help of all members we hope to collect information that will be of use for improving the communication of forest science.

The survey is available at:
[http://www.unipark.de/uc/
iufro_task_force_communicating/](http://www.unipark.de/uc/iufro_task_force_communicating/)

It is completely anonymous and will take approx. 25 minutes to complete. The survey will be **online until 31 March 2007**.

In order to reach as many forest scientists as possible we kindly ask you to help spread the word. If you have colleagues who might like to participate, please forward the survey link to them.

We highly appreciate your interest and cooperation!

For questions or comments on the survey, please **contact:**
Alejandra Real, <taskforce_comm(at)gmx.net>
Task Force Communicating Forest Science
Institute for Forest Policy
University of Goettingen, Germany

IUFRO Meetings

NOTE: The following list of meetings is not complete!

For a full list of IUFRO events, please visit our online [calendar](#). Find more details on the [homepages](#) of IUFRO Units involved.

Non-IUFRO meetings are also announced on the IUFRO [Noticeboard](#) on our web site.

April 1-6, 2007

International Mountain Logging and 13th Pacific Northwest Skyline Symposium

Corvallis, Oregon, United States

[IUFRO 3.00.00](#)

Contact: Loren Kellogg,

<loren.kellogg(at)oregonstate.edu>

<http://www.cof.orst.edu/cof/fe/skyline2007/>

21-23 May 2007

9th International Conference on Wood & Biofiber Plastic Composites

Madison, Wisconsin, United States

[IUFRO 5.05.00](#)

Contact: Jerry Winandy, <jwinandy(at)fs.fed.us>

<http://www.forestprod.org/confwoodfiber07.html>

21-23 June 2007

Promotion and Use of Results from the International Trials of Mediterranean Conifers

Arezzo and Rome, Italy

Joint technical meeting of FAO-Sylva Mediterranea and [IUFRO 2.02.13](#)

Contact: Fulvio Ducci, <fulvio.ducci(at)entecra.it>

<http://www.iufro.org/science/divisions/division-2/20000/20200/20213/>

5-9 August 2007

International Conference on "Wind and Trees"

Vancouver, British Columbia, Canada

[IUFRO 8.01.11](#)

Contact: Steve Mitchell, <iufro.wind(at)ubc.ca>

<http://www.iufro.org/science/divisions/division-8/80000/80100/80111/activities/>

28 August – 1 September 2007

VI Congreso Iberoamericano de Derecho Forestal y Ambiental

Quito, Ecuador

[IUFRO 6.13.01](#)

Contact: Carla Ximena Cardenas, <ccardenas(at)ambiente.gov.ec>

<http://www.iufro.org/science/divisions/division-6/60000/61300/61301/>

6-7 September, 2007

Forests and Forestry in the Context of Rural Development IUFRO European Congress

Warsaw, Poland

Organized in conjunction with the EFI Annual Conference

Contact: Piotr Paschalis-Jakubowicz, paschalis(at)delta.sggw.waw.pl

<http://conference2007.wl.sggw.pl/>

16-21 September 2007

Larix 2007: Integrated Research Activities for Supply of Improved Larch to Tree Planting : Tree Improvement, Floral Biology and Nursery Production

Québec, Canada

[IUFRO 2.02.07](#)

Contact: Martin Perron,

<Martin.Perron(at)mrfn.gouv.qc.ca>

<http://www.mrfn.gouv.qc.ca/carrefour/english/larix-eng.asp>

18-21 September, 2007

Plantation Certification Symposium 2007

Stellenbosch, South Africa

Involving [IUFRO 1.00.00](#) and [5.00.00](#)

Contact: Cori Ham, coriham(at)mweb.co.za

<http://www.sun.ac.za/forestry/Symposium2007/Symp2007.html>

29 October – 2 November 2007

All Division 5 Conference

Taipei, China-Taipei

Contact: Chris Risbrudt, <crisbrudt(at)fs.fed.us>

<http://www.iufro.org/science/divisions/division-5/50000/activities/>

Other Meetings

17-18 March 2007

FORMATH Kobe 2007

Forest Resource Management and Mathematical Modeling

Contact: <formath(at)ai.u-hyogo.ac.jp>

<http://fecsun.kankyo.tohoku.ac.jp/FORMATH/kobe2007/index.html>

19-21 March 2007

Forests, Society and Sustainable Development

Casablanca, Morocco

Contact: Mohammed Ellatifi, <m.ellatifi(at)yahoo.fr>

<http://www.geocities.com/sylva.world/home.htm>

26 – 30 March 2007

2nd Fire Behavior and Fuels Conference

Sandestin, Florida

Int'l Association of Wildland Fire, Joint Fire Science Program, National Wildfire Coordinating Group/Fire Environment Working Team, USDA Forest Service/Fire Sciences Laboratory, Washington State University, and others

<http://www.emmps.wsu.edu/fire.behavior/>

12 April 2007

Destination Wald - Touristische Aktivitäten im forstlichen Umfeld (Conference on forests and tourism; in German)

Vienna, Austria

Organized by BOKU University

Contact: Arne Arnberger,

<arne.arnberger(at)boku.ac.at>

[http://www.boku.ac.at/7757.html?&tx_bokuverkal_pi2\[id\]=1517](http://www.boku.ac.at/7757.html?&tx_bokuverkal_pi2[id]=1517)

16-27 April 2007

7th Session of the United Nations Forum on Forests (UNFF 7)

New York, USA

<http://www.un.org/esa/forests/session.html>

13-17 May 2007

Wildfire 2007

4th International Wildland Fire Conference

Sevilla, España

Contact: Ana Sebastián-López, Mariam Sánchez-Guisández, <programme(at>wildfire07.es>

<http://www.wildfire07.es>

17-19 May 2007

International Conference on Wood-based Bioenergy in conjunction with LIGNA+Hannover 2007

Hannover, Germany

Under the ITTO Biennial Work Programme for 2006-2007

<http://www.itto.or.jp>

18-22 June 2007

6th North American Forest Ecology Workshop

Vancouver, BC, Canada

Contact: NAFEW 2007 Coordinator,

<info(at)nafew2007.org>

<http://www.nafew2007.org/>