DIVERSITAS
an international programme
of biodiversity science

Annual Report 2012-13

Integrating biodiversity science
for human well-being

ICSU IUBS SCOPE UNESCO

DIVERSITAS

is an international, non-governmental programme with a dual mission:

to promote an integrative biodiversity science, linking biological, ecological and social disciplines in an effort to produce socially relevant new knowledge; and

to provide the scientific basis for the conservation and sustainable use of biodiversity.

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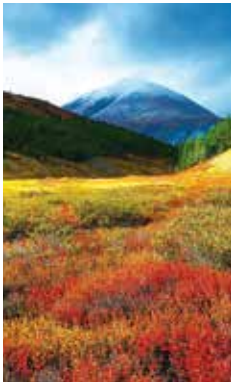
CONTENT



FOREWORD

From the Chair and the Executive Director

The 2012-13 period has again been a rich one for DIVERSITAS. It started with the success of our landmark event, the Planet under Pressure (PuP) Conference (26-29 March 2012, London), organised by IGBP, together with DIVERSITAS, IHDP and WCRP, which attracted 3,000 participants, and where DIVERSITAS launched its new strategic plan entitled "The DIVERSITAS vision for 2012-20: Biodiversity and ecosystem services for a sustainable planet". DIVERSITAS was active in many events and workshops at Planet under Pressure and, following the theme of the meeting, co-hosted a workshop examining potential metrics for a planetary boundary for biodiversity. On 14 June 2012, the launch of the new Future Earth initiative for global sustainability took place at the ICSU Forum on Science, Technology and Innovation for Sustainable Development, in Rio, in the margins of the Rio+20 Conference.

Future Earth becomes a reality

DIVERSITAS has continued to support the development of the Future Earth initiative in many different ways. It has become an urgent priority to take into account the fundamental role of biodiversity for sustainability. A wide recognition of the importance of ecosystems and their services has meant that biodiversity science needs to be integrated with other global change science programmes, and this was well reflected in the 2012 DIVERSITAS strategic plan. In addition, genetic diversity, along with evolutionary and ecological processes, provides the means whereby biotic components of ecosystems can adapt to the rapidly changing environment. Biodiversity therefore needs to be at the core of sustainability science, and of discussions around the Sustainable Development Goals, and this is now reflected in the vision for Future Earth.

During the course of 2012 and early 2013, Future Earth started to become a reality, with the recruitment of its *interim* Director, establishment of its first Scientific Committee, and release of its draft initial

design report. Two of the current SC-DIVERSITAS members, Belinda Reyers and Sandra Diaz, one former member of the SC-freshwaterBIODIVERSITY, Bradley Cardinale, and a member of the International Advisory Committee of DIVERSITAS, Jane Lubchenco, are members of this inaugural SC-Future Earth. DIVERSITAS feels well represented by these talented people, and is confident that biodiversity is in good hands within Future Earth.

At its 2013 annual meeting, the Scientific Committee of DIVERSITAS discussed in depth the transition of its core projects and cross cutting networks into Future Earth. This transition will occur starting late 2013 and should be completed by the end of 2014. Projects will move at their own pace, some transitioning as they are, while others will use this opportunity to close and merge with other projects to become more integrated and better reflect the priority areas within Future Earth.

IPBES becomes a reality

An important event occurred in January 2013 with the first Plenary of IPBES in Bonn (IPBES-1), following many years of international negotiations culminating with an agreement to establish IPBES in Panama in April 2012.

The DIVERSITAS community has been supporting and sometimes leading this process since January 2005, and there is great satisfaction that IPBES has finally become a reality. DIVERSITAS is very proud that three of its current SC-DIVERSITAS members (Sandra Diaz, Argentina; Mark Lonsdale, Australia; Carlos Joly, Brazil) and one of its core projects' Chair (Paul Leadley, France; Chair bioDISCOVERY) were elected by the Plenary as Members of the inaugural Multidisciplinary Expert Panel (MEP) of IPBES, in charge of advising the Plenary on scientific and technical functions, and that Carlos Joly and Mark Lonsdale were selected by MEP Members as co-Chairs of the MEP.

One important DIVERSITAS contribution to the work of this first Plenary was to be involved in the drafting of a conceptual framework for IPBES, which was presented at IPBES-1, and will form the basis for the final framework to be approved at IPBES-2 in December 2013. IPBES is now moving ahead, and should also adopt in December 2013 a programme of work, including a first set of requests. The role of DIVERSITAS, and of Future Earth, will be, from now on, to continue providing input to the IPBES process when needed, and to serve as a scientific arm for this mechanism, catalysing the generation of new knowledge necessary for the future assessments and other contributions of IPBES.

Looking ahead

Looking ahead we feel a mix of excitement for the new path forged by Future Earth, pride for what has been accomplished and for the DIVERSITAS legacy moving into Future Earth, and also a bit of nostalgia for what DIVERSITAS has represented for us and for our community: a place where scientists can come to freely discuss scientific issues, get help to start new projects, and team up to be heard as a community.

We are convinced that Future Earth will continue and intensify this work and place biodiversity science at the heart of sustainability science, where it belongs. We will certainly make every effort to help Future Earth achieve this vision.

Georgina Mace,
Chair Scientific Committee of DIVERSITAS

Anne Larigauderie,
Executive Director, DIVERSITAS

Future Earth: research for global sustainability

www.icsu.org/future-earth

Future Earth is a 10-year international research programme launched in Jun 2012, at the UN Conference on Sustainable Development (Rio+20) by the Alliance for Global Sustainability. Future Earth will develop the knowledge for responding effectively to the risks and opportunities of global environmental change and for supporting transformation towards global sustainability in the coming decades. Future Earth will mobilise thousands of scientists while strengthening partnerships with policy-makers and other stakeholders to provide sustainability options and solutions. It will build upon the successful legacy of the Global Environmental Change Programmes DIVERSITAS, IGBP, IHDP and WCRP, and their ESSP.

The "Science and Technology Alliance for Global Sustainability" is a consortium composed of the International Council for Science (ICSU), the International Social Science Council (ISSC), the Belmont Forum of research funding agencies, IGFA, UNEP, UNESCO and UNU. WMO is an observer.

I- Recent developments (2012-13)

Consultations

A series of regional consultative workshops were held in 2012-13 in Africa (Nov 2012, Cape Town), Asia (Nov 2012, Kuala Lumpur), Latin America (Dec 2012, Mexico City), Europe (May 2013, Paris), the Middle East/North Africa (Jun 2013, Cyprus) and North America (webinars; May-Jun 2013).

All projects of the four Global Environmental Change programmes (DIVERSITAS, IGBP, IHDP and WCRP) met to discuss: **i)** Future Earth's research framework; **ii)** Future Earth's organisational design; and **iii)** a timeline and practical arrangements for transition to a fully operational Future Earth programme (Nov 2012, UNESCO, Paris).

SC-Future Earth

The first Scientific Committee was appointed by ICSU and ISSC, on behalf of the Alliance for Global Sustainability in June 2013 **(see page 41)**.

Interim Director and Secretariat

Prof. Dr F Berkout, formerly Professor of Innovation and Sustainability, and Director of the Amsterdam Global Change Institute at the VU University Amsterdam, will serve as *interim* Director for Future Earth until the permanent secretariat is established (end 2014).

Release of the final Future Earth design (Mar 2013)

The Transition Team completed its mandate by delivering an initial design report for Future Earth. This report proposes a research framework **(Fig 1)** and governance structure **(Fig 2)**, as well as preliminary reflections on communication and engagement, capacity building, education strategies, and implementation guidelines.

II- Brushing the contours of the new Future Earth programme

Future Earth will address these fundamental questions:

- How and why is the global environment changing?
- What are likely future changes?
- What are the implications for human development and the diversity of life on Earth?
- What are the opportunities to reduce risks and vulnerabilities, enhance resilience, and create transformations to prosperous and equitable futures?

Future Earth will be organised around three research themes:

- **Dynamic Planet**
  Observing, explaining, understanding, and projecting earth, environmental, and societal system trends, drivers and processes and their interactions as well as anticipating global thresholds and risks.
- **Global Development**
  Developing knowledge to address the pressing needs of humanity for sustainable, secure and fair stewardship of food, water, biodiversity, energy, materials and other ecosystem functions and services.
- **Transformation towards Sustainability**
  Understanding transformation processes and options, assessing how these relate to human values and behaviour, emerging technologies and social and economic development pathways, and evaluating strategies for governing and managing the global environment across sectors and scales.

III- Next steps: Transitioning to Future Earth

Future Earth will be built with the projects of DIVERSITAS, IGBP and IHDP which are merging into Future Earth. New projects will be added as Future Earth develops. WCRP will collaborate while remaining a separate programme.

Important next steps in this process include:

- Merging of projects of DIVERSITAS, IHDP and IGBP into Future Earth;
- Establishment of the full governance structure of Future Earth (Governing Council, Scientific Committee and Engagement Committee);
- Launch of a call to host the permanent Future Earth Secretariat.

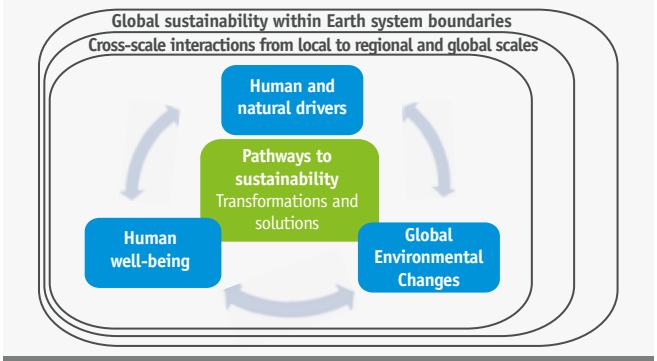


Fig 1. Proposed conceptual framework for Future Earth

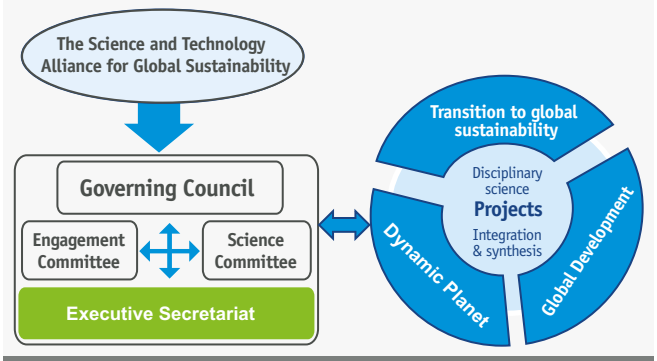


Fig 2. Proposed governance structure for Future Earth

DIVERSITAS transitions to Future Earth

futureearth

I- DIVERSITAS vision for Future Earth

DIVERSITAS fully supports the concept of Future Earth as a framework for integrated global environmental change science for sustainability and will assist Future Earth in ensuring that it fully addresses biodiversity related issues. Biodiversity plays a critical role in underpinning ecosystem functioning, the delivery of ecosystem services, and hence the human life support system. Genetic diversity, along with evolutionary and ecological processes, provide the only means whereby biotic components of ecosystems can adapt to the rapidly changing environment. The interplay between ecological systems and human behaviours, values, and institutions must also be better addressed in order to have an impact on the underlying drivers of biodiversity changes. It is therefore key to study biodiversity as part of an integrated social–ecological system as Future Earth proposes to do.

This vision is in full agreement with the DIVERSITAS vision 2012-2020 (Larigauderie *et al.* 2012) and with the 2050 vision of the CBD Strategic Plan for Biodiversity 2011-2020:

SC-DIVERSITAS (Paris, France, Mar 2013)

> “By 2050, biodiversity is valued, conserved, restored and wisely used, maintaining ecosystem services, sustaining a healthy planet and delivering benefits essential for all people.”

II- DIVERSITAS input into the Future Earth consultation process

The consultation process for Future Earth has offered a number of opportunities to provide advice over 2012-2013. DIVERSITAS has been involved in the following events:

Regional consultations

- Africa (Cape Town; SC-DIVERSITAS Members: B Reyers, A Mutumbi)
- Asia (Kuala Lumpur; SC-DIVERSITAS Members: H Nagendra, M Lonsdale)
- Latin America (Mexico City; SC-DIVERSITAS Members: C Joly, S Diaz)
- Europe (Paris; SC-DIVERSITAS Members: G Mace, W Cramer)

Implementation Management Project Board (IMPB)

A Larigauderie is a Member of the IMPB, co-chaired by S Wilson (ICSU) and J Rhyner (UNU), which oversees the implementation of Future Earth on behalf of the Alliance.

Future Earth Research Framework

Members of SC-DIVERSITAS and of SCs of projects and networks have coordinated a DIVERSITAS wide input into various versions of the Future Earth research framework and are currently engaged in developing a strategy to implement it. The IMPB has established a steering group including members of DIVERSITAS to oversee this process.

1st meeting of GEC projects (Nov 2012, UNESCO, Paris)

DIVERSITAS was represented by the following people: L Brussaard, B Cardinale, W Cramer, D Faith, M Donoghue, M Fischer, C Körner, C Krug, A Larigauderie, P Leadley, P Leprestre, G Mace, A-H Prieur-Richard, E Spehn.

SC-Future Earth

The SC-DIVERSITAS made nominations that were taken into consideration by the Alliance for nominations to the Scientific Committee of Future Earth **(see page 41)**.

III-Transitioning to Future Earth

The SC-DIVERSITAS will oversee the transition process of its projects and networks during the period mid 2013-2014.

All DIVERSITAS projects and networks have been invited to become part of Future Earth.

Some projects will use the opportunity of the transition to merge with other projects or networks, leading to new projects. Others will transition in their current stage.

Administration of DIVERSITAS projects will be transferred in a step wise manner to the *interim* secretariat of Future Earth.

The SC-DIVERSITAS is particularly eager to ensure that the two following functions, which have been fulfilled by the DIVERSITAS secretariat, will also be performed by Future Earth:

- Science Policy interface with key partners of DIVERSITAS and of the biodiversity scientific community (IPBES, CBD, in particular);
- Scientific integration among projects; community building; identification of emerging topics across biodiversity and ecosystem services science.

Rio+20 Follow-up: Developing Sustainable Development Goals (SDGs)

One of the main outcomes of the Rio+20 United Nations Conference on Sustainable Development ("Rio+20", Jun 2012), was an agreement among the world's governments to develop a set of Sustainable Development Goals (SDGs). The goals aim to address and incorporate the economic, social and environmental dimensions of sustainable development and their interlinkages in a balanced way. An intergovernmental UN Open Working Group (OWG) was set up on 22 Jan 2013 by the UN General Assembly. It is tasked with developing a set of proposed SDGs during 2013 and 2014, to be submitted to the UN General Assembly for approval in 2015.

Alongside governments, there are nine Stakeholder-Major Groups participating in this process. ICSU, ISSC and the World Federation of Engineering Organisations, WFEO, are co-organising partners for the Science and Technology Community Major Group.

DIVERSITAS has been contributing to this process, upon invitation by ICSU and ISSC, as part of the Science and Technology Community Major Group's input.

I- Planet under Pressure (March 2012)

The "State of the Planet Declaration" released from the Planet Under Pressure (PuP) Conference in Mar 2012, organised by IGBP, DIVERSITAS, IHDP, WCRP and ESSP expressed strong support from the scientific community to the proposal for SDGs, asserting that "The research community should be involved in the development of goals, targets and indicators…".

II- Expert Group Meetings on SDGs

The United Nations Department of Social and Economic Affairs (UN-DESA), ICSU and ISSC jointly organised an Expert Group Meeting on "Science and Sustainable Development Goals" at UN headquarters in New York on 20-21 March 2013. This provided the scientific community an entry point into the work of the intergovernmental Open Working Group on SDGs.

RIO+20
United Nations Conference on Sustainable Development

III- Open Working Group on SDGs

The OWG is hosting during 2013-14 a series of meetings on to collect input from governments and civil society on of eight thematic areas. DIVERSITAS is contributing to the themes of "Sustainable cities and human settlements, sustainable transport" (7th meeting, Jan 2014) and "Oceans, seas, forest and biodiversity" (8th meeting, Feb 2014).



CORE PROJECTS

Implementing the framework for integrated biodiversity science

DIVERSITAS Core Projects cover four important aspects of biodiversity science:

- bioGENESIS aims to facilitate the development of new strategies and tools for documenting biodiversity, to understand the dynamics of diversification, and to make use of evolutionary biology to understand anthropogenic impacts
- bioDISCOVERY focuses on developing a scientific framework to investigate the current extent of biodiversity, monitor its changes and predict its future changes
- ecoSERVICES explores the link between biodiversity and the ecosystem functions and services that support human well-being and seeks to determine human responses to changes in ecosystem services
- bioSUSTAINABILITY concerns itself with the science-policy interface, looking for ways to support the conservation and sustainable use of biological resources

Individually, these Core Projects assemble the expertise required – from both natural and social disciplines – to address specific aspects of biodiversity science. Collectively, they ensure the continued development of a truly international and integrated approach.

International Project Offices implement DIVERSITAS Science Plans

DIVERSITAS Core Projects and Cross-cutting Networks get implemented by International Project Offices (IPOs). IPOs represent an important mean of strengthening DIVERSITAS' presence throughout the world and building links to existing research institutes and programmes.

CO-CHAIRS AND PROGRAMME OFFICERS	CONTACT
bioGENESIS	**www.biogenesis-diversitas.org**
Co-chairs **Dan Faith** The Australian Museum, Australia **Tetsukazu Yahara**[1] Kyushu University, Japan **Andrew Hendry**[2] McGill University, Canada *Programme Officer* **Makiko Mimura**[3] Kyushu University, Japan	**bioGENESIS** Department of Biology Kyushu University 6-10-1 Hakozaki, Higashi-ku Fukuoka 812-8581 Japan Tel: +81 92 642 26 24 Email: mmimuscb@kyushu-u.org
bioDISCOVERY	**www.diversitas-international.org/biodiscovery**
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1. Until 31st Dec 2012
2. Since 1st Jan 2013
3. Until 31st Mar 2013

bioGENESIS

Providing an evolutionary framework for biodiversity science

Co-Chairs: **D Faith**, The Australian Museum, Australia and **T Yahara**, Kyushu University, Japan (until 31st Dec 2012); **A Hendry**, McGill University, Canada (Since 1st Jan 2013)

www.biogenesis-diversitas.org

The primary aim of bioGENESIS is to catalyse the international communication and integrated research that are necessary to bring evolutionary approaches to bear on pressing issues related to biodiversity and human well-being.

GEO Biodiversity Observation Network (GEO BON)

In 2012, new Members joined GEO BON Working Group 1 on "Genetic/phylogenetic diversity", co-chaired by D Faith and T Yahara (see **www.biogenesis-diversitas.org/observation**).

In Apr 2013, the initiative "Global Legume Diversity Assessment" (GLDA) that will review the changes in genetic diversity in the targeted species/taxonomic group of legumes published its conceptual framework (Yahara *et al.* 2013. Global legume diversity assessments: concepts, key indicators, and strategies. Taxon. 62(2):249-266). The goals of this initiative include capturing legume species distributions and their hotspots, modelling distribution of rare species, and assessing functional and phylogenetic diversity of targeted subgroups of legumes (e.g. *Darbegia*).

bioGENESIS through this Working Group is also strongly involved in the development of AP-BON, the regional node of GEO BON in the Asia-Pacific region. The current observation network and partners are extending widely in Southeast Asia with Cambodia, Malaysia, Indonesia, Thailand, and Vietnam as new members. The first book entitled "The Biodiversity Network in the Asia-Pacific Region: Towards Further Development of Monitoring" was published in Mar 2012. AP-BON also organised a side event at CBD COP11 (15 Oct 2012, Hyderabad, India) to promote AP BON activities on data sharing and integration, and to discuss future activities on integration of traditional knowledge and science for the conservation and sustainable use of biological diversity.

Training workshop on "Evolutionary Approaches to Biodiversity Science"

A second edition of this workshop was organised jointly with ATBC 2013 (Mar 2013, Banda Aceh, Indonesia) and attracted an audience of 23 students from Asian countries such as Indonesia, China, Malaysia, Singapore, Japan and Laos. It provided an outlook on some of the most relevant evolutionary approaches for the study of biodiversity.

Amazonian Biota

This project, led by L Lohman (Brazil) and J Cracraft (USA) was granted in 2012 jointly by US National Science Foundation (NSF) and the São Paulo Research Foundation (FAPESP). The goal of this project is to understand the history of the Amazonia by characterising the spatial structure of Amazonian biodiversity. This project currently includes biodiversity observation of primates, birds, some groups of butterflies, and two plant taxonomic groups. It held its first symposium (March 2013, São Paulo, Brazil) to address the main questions associated with the assembly and evolution of the Amazonian Biota: **a)** the need for an integrative approach to Amazonian environmental history and assembly, **b)** the phylogenetic and biogeographic assembly of Amazonian vertebrates and plants, **c)** Amazonian data collection and the quantitative analysis of areas of endemism, **d)** the Neogene paleogeographic and paleoclimatic history of Amazonia, **e)** phylogeographic populational structuring and environmental stability, and **f)** the integration of these data into global climate models of Plio-Pleistocene and future environmental change.

bioDISCOVERY

Assessing, monitoring and predicting biodiversity change

Chair: **P Leadley**, University of Paris-Sud 11, Orsay, France

www.diversitas-international.org/biodiscovery

The aim of bioDISCOVERY is to stimulate the basic research necessary to understand the mechanisms underlying biodiversity change and related ecosystem services change, and to provide input into policy to promote the conservation and sustainable use of biodiversity.

Contribution to the 4th Global Biodiversity Outlook (GBO-4)

bioDISCOVERY leads the assessments of scenarios of biodiversity change to determine the progress towards the 2020 Aichi Targets and 2050 Millennium Development Goals (see page 30).

Eco-evolutionary approaches to climate change

The goal of this initiative is to bridge the gap between evolutionary and functional ecology in order to improve models of species distribution and abundance change under environmental change. The third meeting of the initiative, held 17-20 Sept 2012 at Gault Nature Reserve, McGill University, Montreal, Canada, focussed on "Ecological interactions and range evolution under environmental change". Its aims were to identify **1)** the progress made to date in the understanding of how different classes of ecological interactions hinder or foster range adaptation, **2)** identify the likelihood that entire communities may or may not shift together, resulting in the assembly of entirely new communities with different functional characteristics, and **3)** the joint role evolution and species interactions might play in defining the future spatial distribution of biodiversity and ecosystem services at large spatial scales. A conceptual model of what components are necessary to link ecology and evolution and an overview table of different approaches to monitor species response were developed.

Harmonising Global Biodiversity Modelling (Harmbio)

The main aim of this initiative, EU COST Action ES1101, is the harmonisation of current models and datasets of terrestrial, freshwater and marine biodiversity to improve the reliability of future projections of biodiversity change under various policy options, thus informing environmental decision making. Four working groups focus on standardisation and harmonisation of biodiversity data sets, indicators of biodiversity change, model development and model inter comparison. The four working groups held their inaugural meetings between Sep 2012 and Feb 2013, and an all-WG meeting was held 14-15 May 2013, at Trinity College, Dublin, to foster interactions between working groups. Visit **www.harmbio.eu** for more information.

GEOBON

bioDISCOVERY is part of the newly established Working Group 9 on Indicators of GEO BON. The aim of the working group is to be a conduit between the work of the GEO BON working groups, policy and decision making bodies, and assessment mechanisms.

Transitioning into Future Earth

bioDISCOVERY will transition to Future Earth over the 2013-2014 period. The project will retain its focus on monitoring, modelling and assessment, and adapt to the recent changes in the GEC programme community and the science-policy landscape. A stronger focus will be placed on biodiversity modelling, ensuring that it is integrated within the earth system modelling capability of Future Earth. Strengthening modelling, and linking this to observation and scenario development, will also enable the project to better serve biodiversity assessments.

ecoSERVICES

Linking biodiversity to ecosystem functioning and services

Co-Chairs: **S Naeem,** Columbia University, USA (until 31st Dec 2012), **B Reyers**, CSIR, S-Africa (since 1st Jan 2013) and **W Cramer**, Université d'Aix-Marseille, France (since 1st Jan 2013)

www.diversitas-international.org/ecoservices

Building resilience with common capital – Managing shared resources: meeting the challenges of a rapidly modernising world under climate and ecosystems change

This project is a joint endeavour between IHDP, DIVERSITAS, the Asia-Pacific Network for global change research (APN), and the United Nations University (UNU-ISP).

This project aims at exploring ways and means of enhancing resilience of communities to climate and ecosystems change by establishing new shared governance and management systems – new commons – where various actors and stakeholders can participate in working towards a low carbon, resource circulating, and nature-harmonious society. The objective is to identify new governance systems overseeing the management of the New Commons, supply of ecosystem services and enhancement of socio-ecological resilience against climate and ecosystem changes in an efficient and equitable manner across a range of stakeholders. Following a final workshop, a paper presenting the outcomes of this project is under preparation (Dec 2013, Kobe, Japan).

GEO BON – Ecosystem services working group

Biodiversity, ecosystem functioning, ecosystem services and human well-being are intrinsically linked in various ways. The GEO BON working group on ecosystem services (see page 28) focuses on the linkages between ecosystem functioning and ecosystem services, as well as on some of the relationships between ecosystem services and human well-being. It aims at:

- tracking the capacity of an ecosystem to sustainably provide ecosystem services;
- mapping ecosystem service delivery over time at a scale relevant to users, from local to global.

As part of this work, a conceptual framework for a global system for monitoring ecosystem services change was published (Tallis *et al.* 2012. Bioscience 62(11):977-986). ecoSERVICES is also supporting the project Pursuit "Monitoring the direct links between ecosystems and people", which was granted by the US Socio-Environmental Synthesis Center (SESYNC) in 2012.

Transitioning into Future Earth

Following a first phase of implementation (2005-2012), and in the context of its transition to Future Earth, ecoSERVICES is dedicating efforts in 2013 to shape its second phase of implementation. The broad focus of ecoSERVICES is on understanding how biodiversity impacts ecosystem functions and services and benefits flows *i.e.* human well being. ecoSERVICES activities will embrace the three ecosystems types: freshwater, marine and terrestrial ecosystems. A strong emphasis will be placed on empirical evidence of linkages between biodiversity, ecosystem functioning, ecosystem services and human well-being.

bioSUSTAINABILITY

Science for the conservation and sustainable use of biodiversity

Chair: **T Elmqvist**, Stockholm Resilience Centre, Sweden

www.diversitas-international.org/biosustainability

bioSUSTAINABILITY develops new knowledge to guide policy and decision making that support sustainable use of biodiversity and ecosystem services. It studies the social, economic and political context of management and governance of biodiversity and ecosystem services.

The Cities and Biodiversity Outlook (CBO) project

bioSUSTAINABILITY conducted for the Convention on Biological Diversity (CBD) an assessment on how urbanisation and urban growth impact biodiversity and ecosystems.

The first publication, the "Cities and Biodiversity Outlook-Action and Policy" report, aimed at reaching decision-makers, was launched at the Cities for Life Summit, a side-event at CBD-COP11 (Hyderabad, India, Oct 2012).

A second publication, the book Urbanisation, Biodiversity, and Ecosystem Services – A Global Assessment, containing the extensive scientific foundation underpinning Action and Policy, is in preparation for publication by Springer in Oct 2013. The book will be an open access publication freely downloadable.

This book together with a CBO webportal will be launched in a series of events planned in key cities and case study cities around the world in Oct and Nov 2013, including New York, Brussels, Istanbul, Cape Town and Melbourne.

URBES: Research project "URban Biodiversity and Ecosystem Services"

This BiodivERsA funded project on urbanisation processes and the impact on biodiversity and ecosystem services launched in Jan 2012 will run through until the end of 2014.

URBES builds on four case studies of European cities, Stockholm, Berlin, Rotterdam and Salzburg, and will also include metropolitan New York. The project has a focus on urbanisation processes mainly in Europe, functional diversity, urban ecosystem services, institutions, monetary and non-monetary values, and resilience science. It strives to translate interdisciplinary research insights into principles, landscape designs and applications. The research consortium consists of ten top research institutes, plus ICLEI and IUCN as subcontracted partners for communications and training.

The kick-off took place in Stockholm in Jan 2012, and was followed by a science workshop for the entire consortium in Rotterdam in Nov 2012. A special issue of Ambio, focused on the URBES project and research scope, is in preparation, for publication in 2014.

The project has produced a significant proportion of its deliverables, including a review of methods, tools and techniques for valuing ecosystem services, papers on land use scenarios for the case studies, and the production of factsheets.

Additional contribution

B Reyers, R Biggs, GS Cumming, T Elmqvist, AP Hejnowicz, and S Polasky. 2013. Getting the measure of ecosystem services: a social-ecological approach. Frontiers in Ecology, in press.

CROSS-CUTTING NETWORKS

Tackling topical issues in an integrated way



DIVERSITAS Cross-cutting Networks embrace issues addressed in all four Core Projects, in the context of specific topics or ecosystems:

agroBIODIVERSITY

- Facilitating interdisciplinary research approaches for understanding the role of biodiversity in agricultural landscapes.
- Establishing the scientific basis for addressing the trade-offs and synergies between production, biodiversity conservation, ecosystem services and human well-being in agricultural landscapes.

freshwaterBIODIVERSITY

- Facilitating research on urgent challenges posed by critical threats on freshwater biodiversity.
- Establishing the scientific basis for addressing the trade-offs between management and conservation of freshwater ecosystems.

Global Mountain Biodiversity Assessment (GMBA)

- Exploring and explaining the great biological richness of the mountains of the world.
- Providing input to policy makers and stakeholders for the conservation and sustainable use of mountain biodiversity.

ecoHEALTH

- Providing a conceptual framework to carry out interdisciplinary research on the links between biodiversity and emerging infectious diseases.
- Providing accurate information to decision-makers to set up appropriate public health and environmental policies.

International Project Offices implement DIVERSITAS Cross-cutting Networks

CO-CHAIRS AND PROGRAMME OFFICERS	CONTACT
agroBIODIVERSITY	**www.agrobiodiversity-diversitas.org**
Co-chairs **Louise Jackson** University of California Davis, USA **Lijbert Brussaard** Wageningen University, The Netherlands *Project Officer* **Mirjam Pulleman**[1] Wageningen University, The Netherlands	**agroBIODIVERSITY Secretariat** Wageningen University PO BOX 8005 NL-6700 AA Wageningen The Netherlands Tel: +31 317 482151 Email: mirjam.pulleman@wur.nl
freshwaterBIODIVERSITY	**www.diversitas-international.org/freshwaterbiodiversity**
	freshwaterBIODIVERSITY Secretariat c/o DIVERSITAS c/o Muséum National d'Histoire Naturelle (MNHN) 57, Rue Cuvier– CP 41 75231 Paris Cedex 05 France
Contact **Anne-Hélène Prieur-Richard, DIVERSITAS**	Tel: +33 1 40 79 80 40 Email: anne-helene@diversitas-international.org
Global Mountain Biodiversity Assessment	**http://gmba.unibas.ch**
Chair **Christian Körner** University of Basel, Switzerland *Executive Director* **Eva Spehn** University of Basel, Switzerland	**GMBA Secretariat** Institute of Botany University of Basel Schönbeinstr. 6, CH-4056 Basel Switzerland Tel: +41 61 267 35 11 Email: gmba@unibas.ch
ecoHEALTH	**www.diversitas-international.org/ecohealth**
Chair **Peter Daszak** EcoHealth Alliance, New York, USA *Contact* **Luciana Mendiola** EcoHealth Alliance, New York, USA	**ecoHEALTH Secretariat** EcoHealth Alliance 460 West 34th Street, 17th Floor New York, NY 10001 USA Tel: +1 212 380 4473 Email: mendiola@ecohealthalliance.org

1. Until 31st Mar 2013

agroBIODIVERSITY

Biodiversity in support of sustainable agro-ecosystems

Co-Chairs: **L E Jackson**, University of California, Davis, USA and **L Brussaard**, Wageningen University, The Netherlands

www.agrobiodiversity-diversitas.org

agroBIODIVERSITY addresses the trade-offs and synergies between food production, biodiversity conservation and ecosystem services in agricultural landscapes, which can be described as mosaics of agricultural fields, natural/wild land, and urban areas.

Agrobiodiversity science for sustainable agricultural landscapes

The core project of the agroBIODIVERSITY network "Assessment and adaptive management of biodiversity in agricultural landscapes, a global perspective" aims at: **1)** synthesising literature and data on biodiversity utilisation and conservation in agricultural landscapes; **2)** cataloguing approaches for assessment of biophysical and socioeconomic trade-offs and synergies in biodiversity-friendly landscape management; and **3)** comparing these interactions along a global gradient of agricultural intensification.

Research focuses on eight benchmark sites (landscapes) in four continents. Those sites include examples of biodiversity-friendly management, aimed at simultaneously supporting sustainable agricultural production and biodiversity conservation. On-going research at the network sites is providing scientific data on the interconnections between biodiversity, ecosystem services and socioeconomic sustainability.

Key activities and outcomes in 2012-13

- Jul 2012, Ireland agroBIODIVERSITY contribution to the mapping meeting of the Agriculture, Food Security and Climate Change joint programming initiative (FACCE JPI; key note address by L Brussaard).
- Jul 2012, Maccarese, Italy agroBIODIVERSITY contribution to "Toward a CGIAR Consortium strategy on agrobiodiversity research" workshop (L Jackson).
- Aug 2012, Wageningen, The Netherlands SC-agroBIODIVERSITY annual meeting; focus on transitioning into Future Earth.
- Mar 2013, Davis, CA, USA agroBIODIVERSITY session on "Managing and conserving biodiversity to increase ecosystem services and resilience to climate change" at the Climate Smart Agriculture conference.
- Jun 2013, Copenhagen, Denmark agroBIODIVERSITY contribution to the FACCE-JPI broad-based concluding meeting WP2, Mapping and foresight for strategic collaboration (L Brussaard).
- agroBIODIVERSITY participation in The European Learning Network on Functional Agrobiodiversity (ELN-FAB, **www.eln-fab.eu**), led to 2 publications:

→ Bianchi *et al.* 2013. Opportunities and limitations for functional agrobiodiversity in the European context. Environmental Science and Policy 27: 223 – 231

→ Guidance book: "Functional agroBIODIVERSITY – Nature serving Europe's farmers"

- Peer-reviewed article on the agroBIODIVERSITY core research project: Jackson *et al.* 2012. Social-ecological and regional adaptation of agrobiodiversity management across a global set of research regions. Global Environmental Change 22: 623–639.
- Peer-reviewed article: Tscharntke *et al.* 2012. Global food security, biodiversity conservation and the future of agricultural intensification. Biological Conservation 151: 53–59.
- Participation of agroBIODIVERSITY Scientific Committee Members to numerous scientific workshops, science and policy advisory committees, policy debates and outreach programmes on agrobiodiversity conservation at national and regional levels.

freshwaterBIODIVERSITY

Biodiversity in support of sustainable freshwater ecosystems

www.diversitas-international.org/freshwaterbiodiversity

freshwaterBIODIVERSITY aims at establishing the scientific basis for effective conservation measures and actions, thereby ensuring a sustainable use of freshwater resources and of the ecosystem goods and services they provide.

Freshwater biodiversity and ecosystem services

The main goal of this activity is to bring, in a joint framework, the following projects:

- **EU-Biofresh project (Leader: K Tockner): www.freshwaterbiodiversity.eu/**
  This project involves 19 research institutes from 15 European countries and the Philippines. Its goals are to build a freshwater biodiversity information platform to bring together, and make publicly available, the vast amount of information on freshwater biodiversity currently scattered among a wide range of databases. Some key activities in 2012-2013 included:

  - Improvement of the BioFresh portal;
  - Development of a metadatabase holding meta information from more than 120 background databases;
  - Based on the previous products, BioFresh studies contemporary and past patterns in freshwater biodiversity and the impacts on and the responses of freshwater biodiversity to multiple stressors including climate change;
  - Science-policy activity exploring stakeholders' attitudes towards freshwater biodiversity assessed through an online survey.

- **AquaBase – Biophysical basis of freshwater ecosystem services (Leader: M Palmer):**
  Restoring freshwater ecosystems on a global scale is limited by the lack of scientific data on ecosystem responses to management and science-based tools to assist managers in their decision-making. AquaBase is a collaborative project, with partners from the US, Australia, Germany and South Africa, that focuses on developing quantitative relationships (called ecological production functions) that link management options to underlying biophysical processes and ecosystem service provisioning. This is accomplished using a combination of literature reviews, expert and stakeholder workshops, hydro-ecological modelling and empirical research. The project takes a case study approach in the USA, Kenya and Tanzania, and South Africa. Preliminary results were presented by each team at the 4th International EcoSummit (30 Sep-5 Oct 2012, Ohio, USA).

Rivers in Crisis study – DIVERSITAS/GWSP project

Three main activities were developed in 2012-13:

- Prediction of future global threats to freshwater services in response to climate change, population change, landuse change, global flows such as water consumption, agro-industrial uses, fisheries (Leaders: C Vorosmarty and P McIntyre);
- Global freshwater biodiversity hotspots analysis, aiming at refining and increasing freshwater biodiversity data used in a previous study (Vorosmarty *et al.* 2010. Nature 467(7315):555-561) to strengthen modelling capacity (Leaders: P McIntyre, M Gessner, D Dudgeon);
- Global mapping of freshwater fisheries as a key service: comparison of data from fisheries catches with those of fish species richness to assess the diversity-productivity and diversity-stability relationships (Leaders: P McIntyre, C Reidy-Liermann, C Revenga).

GEO BON – Freshwater ecosystems working group (WG4)

freshwaterBIODIVERSITY continued to develop, as part of the GEO BON working group on freshwater ecosystems, and in collaboration with the Ramsar Convention on Wetlands, a Global Wetlands Observation System (GWOS).

Global Mountain Biodiversity Assessment (GMBA)

Exploring and understanding mountain biodiversity

Chair: **C Körner**, Institute of Botany, University of Basel, Switzerland

http://gmba.unibas.ch and **www.mountainbiodiversity.org**

The Global Mountain Biodiversity Assessment (GMBA) is a Cross-cutting Network of DIVERSITAS. It actively explores and explains the great biological richness of the mountains of the world. GMBA seeks to provide input to policy makers and stakeholders for the conservation and sustainable use of biodiversity in mountain regions.

Partnership with Map of Life (MoL), Yale University, USA

MoL is a biodiversity portal project, which aims to integrate disparate distribution data worldwide and enable up- and download of a variety of distribution data types (points, surveys, range maps). GMBA cooperates with MoL to add the mountain layers defined by Körner *et al* (2011) and a set of polygons of mountain areas of the world. MoL is implementing these layers and performs specific queries for mountains. For the first time it will be possible to assess mountain biodiversity in more than 1000 defined mountain regions of the globe in a bioclimatic context, rooted in a novel treeline algorithm.

Capacity development activities

- **Regional workshop on "Biodiversity data publishing in the Hindu Kush Himalayan (HKH) region: Platform, progress, and prospect"** (23-24 Aug 2012, Kathmandu, Nepal), with ICIMOD and GBIF. Making biodiversity data more accessible to a wider audience through global publishing, and incentivising data discovery, data mining, and data publishing by developing a scholarly data paper.

- **Workshop "Distribution, prediction and conservation of alpine species in the Central Greater Caucasus"** (21-24 Jun 2012, Stephantsminda, Georgia): Presenting results of a GMBA joint research project on biodiversity, land use and erosion in Snow Valley, and on data mining of alpine species diversity assessments of the Central Greater Caucasus region, niche modelling and projections of future trends.

Additional activities in 2012-13

- **Hotspot-Furka event: biodiversity baseline data collection** (23-27 Jul 2012, alpine LTER site Furka pass, Switzerland). Co-organising a field week to collect data for various organismic groups with >40 taxonomic experts. Presentation of results in a final public event. Special issue of the journal 'HOTSPOT' to be published with GBIF.

- **Key Contact Workshop for mountain researchers** (4 Aug 2012, Portland, USA), with the Mountain Research Initiative. Facilitating and fostering dialogue between researchers of global change in mountain regions.

- **MIREN** (Mountain Invasion Research Network, **www.miren.ethz.ch**) and **GLORIA** (Global Observation Research Initiative in Alpine Environments, **www.gloria.ac.at**) are initiatives associated to GMBA.

ecoHEALTH

Building bridges between biodiversity science and health

Chair: **P Daszak**, EcoHealth Alliance, USA

www.diversitas-international.org/ecohealth

The goal of ecoHEALTH is to study the relationships between plant and animal biodiversity and the emergence or re-emergence of infectious diseases, and the consequences, including economical, for wild biodiversity and human societies.

The DIVERSITAS ecoHEALTH Economics of Emerging Diseases project (DEEED)

The objective of DEEED is to provide a bio-economic modelling framework to evaluate the risk posed by Emerging Infectious Diseases (EIDs) from wildlife in trade. This includes formulation of the underlying model describing the transport of infected wildlife to new destinations, deriving the distribution of the net present value for evaluating the underlying economics, and providing a risk management strategy for making decisions. DEEED developed bio-economic models evaluating the risk of EIDs from wildlife in trade, and collected data to test it. In 2012, DEEED activities focused on publication of their results and working towards a second phase with the project MASpread (Modeling Anthropogenic effects in the Spread of infectious diseases). This newly funded project aims at extending existing epidemiological models by incorporating decisions that people make and which affect the introduction and spread of infectious diseases.

The DIVERSITAS ecoHEALTH on Biodiversity and Emerging Diseases project (DEBED)

This project is based on studies showing that the properties of local species-rich communities would protect against invaders and pathogens. The so-called "dilution effect" theory may represent a "flag" for research on biodiversity and ecosystem services. Alternatively, papers have shown that at large spatial scales, increased biodiversity is linked to increasing risk of zoonotic diseases in people (disease from wildlife). The objective of DEBED is to develop causal inference in emerging disease ecology looking at what are the main ecological drivers of emerging infectious diseases.

DEBED received a 3-year-grant from the French Centre for Synthesis and Analysis (CESAB) funded by the French Foundation for Biodiversity Research (FRB), for the new BIODIS initiative "Disentangling the linkages between biodiversity and emerging infectious diseases". The first BIODIS workshop was held in Aix-en-Provence, France, in May 2013.

Science – Policy activities

As part of the collaboration initiated in 2010 with the Convention on Biological Diversity (CBD), ecoHEALTH, in collaboration with EcoHealth Alliance and the S-CBD, hosted the following side events at CBD meetings:

- Biodiversity & Health: Linkages and Benefits (CBD-SBSTTA-16; Montreal, Canada; Apr-May 2012)
- Biodiversity and Health: Strengthening Synergies and Collaboration (CBD COP 11; Hyderabad, India, Oct 2012).

Capacity building activities

- **Ecology, Environmental Science and Health Research Network (RCN EcoHealthNet):** This NSF-funded project aims at providing graduate training on ecoHEALTH activities. The second workshop was organised in June 2012 at the University of Wisconsin-Madison and USGS National Wildlife Health Centre (Madison, USA) on two major themes: epidemiology and outbreak investigation.
- **EcoHealthNet WriteShop:** The second WriteShop, co-organised with International Development Research Centre (IDRC), was held in Feb 2012 at New York University (NYU) on writing and submitting manuscripts to international academic journals.

EARTH SYSTEM SCIENCE PARTNERSHIP (2001-2012)

Transitioning integrated joint projects into Future Earth

www.essp.org

The Earth System Science Partnership (ESSP), initiated in 2001, following the "Challenges of a Changing Earth" Conference and its Amsterdam Declaration, closed on 31 Dec 2012. It leaves a family of active projects which have all been invited to join the new Future Earth programme. Considerable ESSP scientific accomplishments include the design and implementation of: an annual carbon budget trend and analysis (GCP); a digital global water atlas (GWSP); a global analysis on human water security and biodiversity conservation (GWSP); the establishment of a joint project on global environmental change and human health (GECHH); and an innovative food systems conceptual framework (GECAFS). One of the lasting legacies of GECAFS has been the creation of a 10-year Consultative Group on International Agricultural Research (CGIAR) collaborative research program with the ESSP (now replaced by ICSU) on Climate Change, Agriculture and Food Security (CCAFS). Understanding regional environmental change and its implications for local sustainability have been a critical area for the ESSP, as illustrated by the establishment of the Monsoon Asia Integrated Regional Study (MAIRS). The ESSP has also nurtured a progressive outreach portfolio, including annual research dialogues with the Parties at the UNFCCC SBSTA (**see page 32)**. The ESSP also pioneered a peer-reviewed journal, Current Opinion in Environmental Sustainability (COSUST), which will continue to be published by Elsevier, with contributions from the GEC research programmes and then 'Future Earth' as it becomes operational.

THE EARTH SYSTEM SCIENCE PARTNERSHIP (ESSP)

The ESSP, which ended in December 2012, was a partnership between the following programmes:

- DIVERSITAS
- International Geosphere-Biosphere Programme (IGBP)
- International Human Dimensions Programme on global environmental change (IHDP)
- World Climate Research Programme (WCRP)

To ensure there is no discontinuity during the transition phase into 'Future Earth', each programme has taken responsibility for one or more of the activities of the former ESSP, since 1st Jan 2013, on behalf of all four programmes. DIVERSITAS is in charge of fostering the GWSP on behalf of all four parent programmes.

The ESSP is grateful for financial support of IGFA member countries in 2012: Austria (Ministry for Education, Science and Culture), Germany (DFG), Norway (Research Council), The Netherlands (NWO), UK (NERC), and the USA (NSF).

ESSP Joint Projects include:

- GWSP – Global Water System Project
- GECAFS – Global Environmental Change and Food Systems (completed)
- GCP – Global Carbon Project
- GECHH – Global Environmental Change and Human Health

ESSP Regional Projects include:

- MAIRS – Monsoon Asia Integrated Regional Study
- CCAFS – Climate Change Agriculture and Food Security

International Project Offices implement ESSP Joint Projects

CO-CHAIRS AND PROGRAMME OFFICERS	CONTACT
Global Water System Project	**www.gwsp.org**
Co-chairs **Claudia Pahl-Wostl** University of Osnabrueck, Germany **Charles Vörösmarty** CUNY Environmental CrossRoads Initiative, USA *Executive Officer* **Anik Bhaduri**, University of Bonn, Germany	**Global Water System Project** c/o Center for Development Research (ZEF) Walter-Flex-Str. 3 53113 Bonn Germany Tel: +49 228 73 6188 Email: gwsp.ipo@uni-bonn.de
Global Environmental Change and Human Health	**www.gechh.unu.edu**
Co-chairs **Mark Rosenberg** Queen's University, Kingston, Canada **Ulisses Confalonieri** National School of Public Health, Brazil	**Global Environmental Change and Human Health** c/o United Nations University Institute for Water, Environment and Health 175 Longwood Road South, Suite 204 Hamilton, ON L8P 0A1 Canada Tel: +1 905 667 5887 Email: mark.rosenberg@queensu.ca
Global Carbon Project	**www.globalcarbonproject.org**
Co-chairs **Philippe Ciais** Commissariat à l'Energie Atomique (CEA), France **Corinne Le Quéré** University of East Anglia/British Antarctic Survey, UK *Executive Directors* **Pep Canadell,** CSIRO Marine and Atmospheric Research, Australia **Shobhakar Dhakal,** NIES, Japan	**Global Carbon Project** CSIRO Marine and Atmospheric Research GPO Box 3023 Canberra, ACT 2601 Australia Tel: +61 2 6246 5631 Emails: pep.canadell@csiro.au shobhakar.dhakal@nies.go.jp
Climate Change, Agriculture and Food Security	**http://ccafs.cgiar.org/**
Chair **Thomas Rosswall**, France *Program Director* **Bruce Campbell** CCAFS Coordinating Unit, University of Copenhagen, Denmark	**Climate Change, Agriculture and Food Security** Coordinating Unit – University of Copenhagen Faculty of Science Department of Plant and Environmental Sciences Rolighedsvej 21 DK-1958 Frederiksberg C Denmark Tel: +45 35331046 Email: ccafs@cgiar.org

Global Water System Project (GWSP)

Co-chairs: **C Pahl-Wostl**, University of Osnabrueck, Germany, and **C Vörösmarty**, The City University of New York, USA

www.gwsp.org

The central research question of the GWSP is: "How are humans changing the global water cycle, the associated biogeochemical cycles, and the biological components of the global water system; and what are the social feedbacks arising from these changes?".

GWSP's findings in 2012 highlighted that water must be a priority on all political agendas given its global scope and interconnectedness in a world that is facing the possibility of pushing planet Earth beyond its carrying capacities. A sustainable water world must reflect political and societal dynamics, aspirations, beliefs, values, and their impact on our own behaviour as well as physical, chemical, and biological components of the global water system at a range of spatial and temporal scales.

A landmark event for GWSP in May 2013 was its open science conference: "Water in the Anthropocene", and the release of the "Bonn Declaration on Global Water Security".

Global Carbon Project (GCP)

Co-chairs: **P Ciais**, Commissariat à l'Energie Atomique, France, and **C Le Quéré**, University of East Anglia and British Antarctic Survey, UK

www.globalcarbonproject.org

The main added value of the GCP is integration of multiple components of the carbon cycle into a coherent picture, which includes both natural and human components. This integration is implemented at the global and regional scales to understand **i)** the drivers of atmospheric CO_2 accumulation, **ii)** the magnitude of the carbon-climate feedback, and **iii)** points of intervention in managing future carbon trajectories.

Special emphasis is placed on the integration of independent observations and model output to establish global and regional carbon budgets, the size and vulnerability of carbon stocks, as well as carbon cycle opportunities and constraints for climate stabilisation. In the annual analysis of global carbon emissions from fossil fuel combustion published in the journal Nature Climate Change in Nov 2012, GCP found that unprecedented global mitigation is required to avoid dangerous climate change. According to the study, carbon dioxide emissions rose 3 per cent in 2011 to 34.7 billion tons of carbon dioxide and are expected to increase a further 2.6 per cent to 35.6 billion tons by the end of 2012. From 2000 to 2011, emissions have grown at an average of 3.1 per cent per year. If this emission growth continues, the global mean temperature could exceed 5°C in 2100.

Global Environmental Change and Human Health (GECHH)

Co-chairs: **M Rosenberg**, Queen's University, Canada and **U Confalonieri,** National School of Public Health, Brazil
www.gechh.unu.edu

The main research objectives of the project are to:

1) Identify and quantify health risks posed by Global Environmental Change, now and in the reasonably foreseeable (scenario) future;
2) Describe spatial (geographic, inter-population) and temporal differences in health risks, to better understand vulnerabilities and, therefore, intervention priorities;
3) Develop adaptation strategies to reduce health risks, assess their cost-effectiveness, and communicate results;
4) Foster research training, to boost networked international research capacity in Global Environmental Change and Human Health.

Climate Change, Agriculture and Food Security (CCAFS)

Chair: **T Rosswall**
http://ccafs.cgiar.org/

CCAFS, a joint initiative between the CGIAR and the global change research community, completed its second year of operation in 2012.

Activities in 2012 included the further development of models to examine climate change impacts and future likely climate constraints, and genotypic adaptation of food crops. Work on this is complete for two dozen major crop species. Results were also published in 2012 on the use of plant genetic resources for climate change adaptation. A climate analogue tool has been produced which allows the user to identify analogues: places which represent the future climate of the site of interest. Potentially useful germplasm from analogues will now be identified.

CCAFS worked with partners in eight countries on the use of plant genetic resource diversity to adapt to climate changes, and examined policies needed to support those uses. A consultation with about 70 stakeholders from nine countries was convened to formulate a Strategic Action Plan to strengthen the conservation of plant genetic resources and their enhanced use in adapting to climate change in Mesoamerica.

CCAFS not only works on adaptation, but mitigation research is also undertaken. Work in 2012 included analysis of agriculture as a driver of deforestation. Through case studies in four countries, CCAFS is exploring how different governance models impact agriculture's role as the primary driver of deforestation. While the work is largely being conducted in the context of reducing GHG emissions, there are major biodiversity co-benefits to strategies that achieve emission reductions. CCAFS expanded its work to Latin America and South East Asia in 2012. There are now five focus regions, the others being West Africa, East Africa and South Asia.

The Intergovernmental Platform on Biodiversity and Ecosystem Services, IPBES

www.ipbes.net

www.diversitas-international.org/activities/assessment/ipbes/

IPBES was formally established by **representatives of more than 90 Governments in Panama City on Saturday 21 Apr 2012**, following several years of international negotiations.
DIVERSITAS has actively promoted IPBES over the past years and looks forward to help generate scientific knowledge relevant to future IPBES assessments.

I- First Plenary (IPBES-1), 21-26 Jan 2013, Bonn, Germany

Over 500 participants attended this historic IPBES first Plenary, which focused on the following issues:

A] Nomination and selection of the Members of the Bureau and of the MEP:
The Plenary elected Prof. AH Zakri (Malaysia) as Chair of the Platform for a period of 3 years. The Plenary also elected its Bureau, in charge of administrative functions and its *interim* (2 years) Multidisciplinary Expert Panel (MEP), in charge of scientific and technical functions.

B] Rules and Procedure:
1- Rules and Procedure for the operation of the Plenary:
The plenary adopted a set of Rules of Procedure for the Plenary.
2- Admission of observers:
No decision was reached on the policy for admission of observers, which will be re-discussed at IPBES-2.

C] Initial Work programme of IPBES:
1- Important decisions on next steps included:

- A request to the MEP and the Bureau to develop a **draft work programme for 2014-2018**;
- A request to all Member countries and MEAs to submit requests to IPBES;
- A request to the MEP to recommend a **conceptual framework** for adoption by IPBES-2, based on the initial conceptual framework proposed, input received on-line from all stakeholders, and outcome of an international workshop to be organised by the MEP;
- An invitation to IUCN and ICSU to work with relevant stakeholders to prepare in consultation with the Bureau and the MEP a draft **stakeholder engagement strategy** for consideration at IPBES-2;
- A request to the Bureau to prepare guidance on the development of **strategic partnerships** with different categories of partners such as with multilateral environmental agreements, academic, scientific, and United Nations system organisations;

2- Procedure for receiving and prioritising requests put to the Platform:
The Plenary adopted a procedure for receiving and prioritising requests to IPBES on scientific and technical matters that require the Platform's work.

D] Initial Budget:
The Plenary approved the proposed budget for 2013, which amounts to approximately US$3.1 M.

M Lonsdale, A-H Prieur-Richard, A Larigauderie, P Leadley, D Beard

A Oteng-Yeboah, I Thiaw, AH Zakri

II- Contribution of DIVERSITAS to the IPBES

IPBES-1 (JAN 2013)

1- DIVERSITAS provided comments on some of the key papers prepared for IPBES-1, including: Rules of procedure; Procedures for the preparation, review, acceptance, approval and publication of assessment reports and other deliverables; Admission of observers; Receiving and prioritising requests; Scoping process.

2- DIVERSITAS contributed funding and expertise to the informal expert workshop convened by UNESCO, 27-29 Oct 2012, to produce a draft Conceptual Framework for IPBES. This workshop was co-chaired by G Mace and E Brondizio; A Larigauderie and A Duraiappah served as co-chairs of the drafting group that produced the **draft Conceptual Framework** presented at IPBES-1 as **IPBES/1/INF/9**. This draft Conceptual framework was presented at a side event held on 22 Jan 2013, during IPBES-1.

3- The ICSU Delegation at IPBES-1 included A Larigauderie (Head of delegation), E Brondizio, M Lonsdale, G Mace, H Mooney, U Pascual and A-H Prieur-Richard.

4- ICSU (A Larigauderie) and IUCN (C Sendashonga) co-chaired the multistakeholder day (20 Jan 2013).

PREPARING FOR IPBES-2 (DEC 2013)

1- DIVERSITAS provided comments on the draft Conceptual Framework and the proposed scoping process for assessments and other IPBES deliverables.

2- DIVERSITAS submitted names of experts for the two intersessional workshops on:

- Working with different knowledge systems (Jun 2013, Tokyo, Japan);
- Finalising the conceptual framework (Aug 2013, Cape Town, S-Africa).

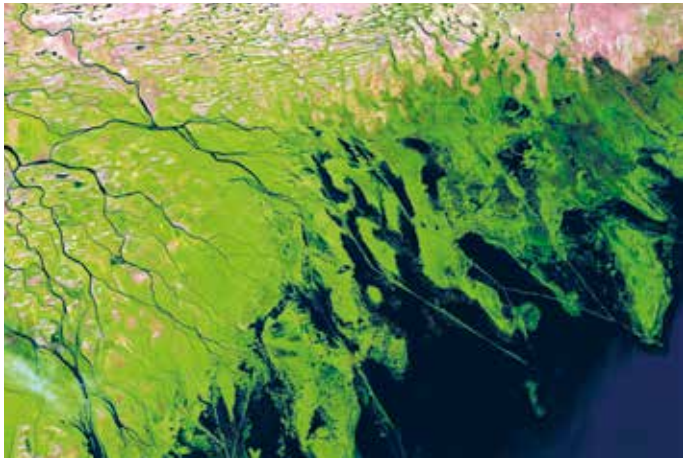
3- DIVERSITAS submitted several requests for scientific and technical matters that require IPBES attention.

4- DIVERSITAS, on behalf of ICSU, and IUCN have been co-leading activities toward a **draft stakeholder engagement strategy** for the implementation of the IPBES programme of work, following up on the request of IPBES-1 which invited IUCN and ICSU "to work with relevant stakeholders, including indigenous peoples and local communities and the private sector, and with the secretariat, to prepare in consultation with the Bureau and the Multidisciplinary Expert Panel a draft stakeholder engagement strategy for supporting the implementation of the work programme" (Decision IPBES/1/2 of Annex III; IPBES/1/12). The process in place towards the delivery of this draft strategy is:

- Online survey of a large diversity of potential stakeholders (1500 organisations contacted; 15 Mar-17 Apr 2013);
- Expert drafting workshop (29-30 Apr 2013, ICSU, Paris);
- Revision by a larger group of experts (May 2013);
- Submission of the draft to the IPBES Bureau and MEP (Jun 2013);
- Online consultation organised by the IPBES Interim Secretariat (Jul 2013);
- Submission of a revised draft to the IPBES Bureau and MEP (Aug 2013).

Building a global biodiversity observation system: GEO BON

www.diversitas-international.org/geo-bon



Background: the Global Earth Observation System of Systems (GEOSS)

The Group of Earth Observations (GEO; **http://earthobservations.org**/) is leading a process to build a Global Earth Observation System of Systems (GEOSS), designed around nine Societal Benefit Areas (SBAs): disasters, health, energy, water, weather, ecosystems, agriculture and biodiversity. The initiative to build a global observing system for biodiversity is called "GEO BON", which stands for "Group on Earth Observations – Biodiversity Observation Network". DIVERSITAS has played a role of founding organisation, and, then, of catalyser for many of the activities of GEO BON. GEO BON is being built by some 100 governmental and non-governmental organisations.

The vision of GEO BON

The vision of GEO BON is for a coordinated, global network that gathers and shares information on biodiversity, provides tools for data integration and analysis, and contributes to improving environmental management and human well-being.

The GEO BON implementation plan

The vision of GEO BON has been translated into an implementation plan, first published in May 2010, which proposes to the global observing community, activities and deliverables at the genetic, species and ecosystem levels, including ecosystem services, in terrestrial, freshwater and marine ecosystems.

The 2012 "GEO BON All Hands meeting" produced a set of deliverables for 2015 with templates and development schedules for all 9 Working Groups of GEO BON.

GEO BON contributes to the implementation of the Strategic Plan for Biodiversity 2011-2020

In response to a request made by CBD-COP10, the GEO BON community produced the **GEO BON Adequacy report** of Biodiversity Observations Systems to support the CBD 2020 Targets. This report constitutes the first attempt to assess the adequacy of global observation systems for the monitoring of biodiversity, specifically in relation to the information needs of the twenty 'Aichi targets' defined by the Convention on Biological Diversity (CBD) for the period 2011-2020.

CBD-COP11 invited GEO BON to continue its work on the identification of Essential Biodiversity Variables (EBVs) and the development of associated data sets, as presented in the GEO BON Adequacy report and to report to a meeting of SBSTTA prior to COP12 (2014).

Essential Biodiversity Variables

A key obstacle for the implementation of the Strategic Plan for Biodiversity 2011-2020 is the lack of consensus about what to monitor. GEO BON partners have engaged in a process to identify the most essential variables that would fulfil criteria related

GEO BON 2nd All hands meeting, Asilomar, California, USA, Dec 2012

to scalability, temporal sensitivity, feasibility, and relevance, and could form a core set for monitoring programmes worldwide. This initiative is presented in Pereira *et al.* 2013.

Key developments in 2012-13

July 2012

→ 4th SC-GEO BON meeting (Copenhagen, Denmark)

November 2012

→ CBD-COP11 (Hyderabad, India) Presentation of GEO BON (G Sarantakos, GEO Secretariat) in the session "Novel science-based approaches to assessing and responding to the biodiversity crisis", Rio Pavilion

December 2012

→ GEO BON All hands meeting (Asilomar, CA, USA)

January 2013

→ Pereira *et al.* Essential Biodiversity Variables, Science 339: 277-8, 18 Jan 2013
→ Side event on GEO BON (EBVs) at IPBES-1, Bonn

Next steps

GEO BON intends to move in the following directions:

- Further engage countries: Intensify collaboration with countries in developing national monitoring capacity using the concept of EBVs (what type of sampling is needed? What should countries be measuring to assess progress against the 20 Aichi targets?), particularly in the context of the CBD;
- Organise the delivery of an initial set of deliverables for 2015.

Role of DIVERSITAS

The initial role of DIVERSITAS has been to coordinate the development of the GEO BON concept and implementation plan, and to ensure, in particular, that GEO BON develops within a robust scientific framework.

1) Science-policy work: Represent GEO BON at CBD (COP and SBSTTA) and IPBES, and position GEO BON within the science-policy interface as the global observing system for biodiversity;

2) Funding: Provide funding to two GEO BON working groups:
a) the genetic diversity working group,
b) the ecosystem services working group;

3) Core support: DIVERSITAS, for example, organised the logistics of the Asilomar All Hands meeting (Dec 2012, 100 participants).

DIVERSITAS at the interface between science and policy making: Contribution to the work of Conventions

DIVERSITAS actively contributed to the implementation of the Strategic Plan for Biodiversity 2011-2020 led by the Convention on Biological Diversity (CBD), over 2012-13. This plan, which includes the 20 Aichi Targets, provides an overarching framework for biodiversity, not only for the biodiversity-related conventions, but for the entire United Nations system. DIVERSITAS also made a contribution to the work of the SBSTA of the UN Framework Convention on Climate Change (UNFCCC).

A-H Prieur-Richard, A Larigauderie

Convention on Biological Diversity

I- Contributing to CBD work on indicators and monitoring

DIVERSITAS currently contributes to the work on the 2020 targets, via its contribution to GEO BON (see page 28):

- GEO BON contribution to the work of the Ad Hoc Technical Expert Group (AHTEG) of the CBD on indicators for the Strategic Plan 2011-2020 (Adequacy report);
- GEO BON work on Essential Biodiversity Variables.

II- Contributing to the 4th Global Biodiversity Outlook (GBO-4)

www.cbd.int/en/gbo4

CBD-COP10 requested to prepare a 4th report of the Global Biodiversity Outlook (GBO-4). The CBD secretariat issued a call for proposals to carry out this work. The proposal submitted by DIVERSITAS and partners to contribute to the work of GBO-4 on scenarios was selected.

Under this agreement DIVERSITAS is, in collaboration with the UNEP World Conservation Monitoring Centre (UNEP-WCMC), the Netherlands Environmental Assessment Agency (PBL), the Fisheries Centre of University of British Columbia (UBC-FC) and the Centre of Environmental Biology of the University of Lisbon, carrying out a scenarios assessment. This work is led by P Leadley and H Pereira (bioDISCOVERY), and supported by the bioDISCOVERY IPO, C Krug.

The contribution builds on the scenario analyses performed for GBO-3 (Pereira, Leadley *et al.* 2010; Leadley *et al.* 2010) and is aimed at informing policy decisions, in particular with regard to progress towards meeting the 2020 Aichi targets and the 2050 Millennium Development Goals. The approach to the scenario assessments for GBO-4 is much broader than in the previous assessments, complementing "storyline" approaches to socio-economic scenarios (e.g., IPCC SRES scenarios, MA scenarios) with other types of scenarios and extrapolations of current trends. It examines shorter time frames, addresses specific policy targets (CBD "Aichi 2020 Targets", "2050 Vision"), and makes links between indicators used in scenarios with those used for status and trends. The scenario assessment, which is benefiting from the on-going scenario analysis within the institutes of the consortium, consists of reviewing existing scenarios, of

comparing scenarios with observations and of developing new scenarios. In particular, it focuses on **1)** examining which actions need to be taken to achieve the 20 Aichi Biodiversity Targets; **2)** how the Aichi Targets and progress towards them help to reach the 2050 Vision; and **3)** how the implementation of the Strategic Plan and progress towards the Aichi Target contribute to achieving the Millennium Development Goals.

III- Contributing to the work on Access and Benefit-Sharing (ABS)

The Nagoya Protocol on access to genetic resources and the fair and equitable sharing of benefits arising from their utilisation of the Convention on Biological Diversity (in short, Access and Benefit-Sharing, ABS) aims at regulating the access to genetic resources and the fair and equitable sharing of benefits derived from their utilisation.

Biodiversity scientists currently face many barriers when conducting research with material (e.g. biological samples) from abroad often because there is a lack of understanding of the respective concerns and needs of researchers and policy-makers.

DIVERSITAS, thanks to a grant from ICSU, is supporting the implementation of Article 8 (a) of the Nagoya Protocol that calls for facilitated access for non-commercial biodiversity research. DIVERSITAS' project "Access and Benefit-Sharing in Latin America and the Caribbean: A science-policy dialogue for academic research" aims at bringing together researchers and policy-makers from Latin America and the Caribbean to discuss current obstacles regarding access to biological material, clarify the needs of academia and government agencies, and build mutual trust. The project is a continuation of the work undertaken by the Swiss Academy of Sciences and is a partnership between DIVERSITAS, ICSU Regional Office for Latin America and the Caribbean (ICSU ROLAC), International Union of Biological Sciences (IUBS), and Swiss Academy of Sciences (SCNAT). It is supported by the CBD and collaborates with two other ABS projects in the region: the UNEP/GEF Regional project coordinated by IUCN-Sur and the project of the University of Bonn-DFG.

Major events in 2012-13 included an ABS expert meeting (Montevideo, Uruguay, Jun 2013) to draft a background document on ABS and academic research in Latin America and the Caribbean.

IV- Identifying social sciences contributions to achieve the 2020 Aichi Targets

DIVERSITAS was involved in the drafting of the paper "Managing biodiversity is about people", which proposes a research framework to address contributions of social sciences to achieve the 2020 Aichi Targets. The paper, led by UNU-IHDP, proposes to focus on values, behaviour and institutions. It was commissioned by the CBD, and first presented at the Trondheim Conference on Biodiversity (May 2013). It is co-authored by A Duraiappah, S Asah, E Brondizio, L Hunter, N Kosoy, AH Prieur-Richard, and S Subramaniam.

V- Contributing to CBD-COP10 (Hyderabad, India, Oct 2012)

DIVERSITAS organised/participated in the following side events:

- "Biodiversity and Health: strengthening synergies and collaboration" (DIVERSITAS, S-CBD, EcoHealth Alliance), 8 Oct 2012;
- "How integrated science can support the goals of the Rio Conventions" (DIVERSITAS, Future Earth, S-CBD, UNEP-WCMC), 9 Oct 2012; Rio Pavilion;
- "IPBES – from establishment to operationalisation" (UNEP, UNESCO, FAO, UNDP, Government of Germany), 11 Oct 2012;
- "Community wellbeing: a flexible approach to measure progress from the ground up" (UNU-IAS), 11 Oct 2012;
- "Sustainable use of biodiversity and food security" (ATREE, DIVERSITAS, IUCN, World Agroforestry Centre), 17 Oct 2012;
- Release of the "Cities and Biodiversity Outlook (CBO): Action and Policy" by T Elmqvist, Chair bioSUSTAINABILITY, at the Cities for Life, City and Subnational Biodiversity Summit, 15 Oct 2012.

UN Framework Convention on Climate Change (UNFCCC)

DIVERSITAS has been invited over the past five years by the SBSTA of the UNFCCC to participate in annual "Research Dialogues" between Parties to UNFCCC and Global Environmental Change programmes on emergent scientific findings relevant to the needs of this convention.

In June 2013 (Bonn, Germany), S Seitzinger, IGBP, reported at UNFCCC-SBSTA 38 Research Dialogue on behalf of DIVERSITAS, IGBP, IHDP and WCRP. Presentations were made on the following themes:

- Recent developments in global climate information
  IGBP/WCRP presentation: "Global science updates from international research programmes and organisations";
- Emerging scientific findings: Ecosystems and GHG emissions and removals from sources, sinks and reservoirs, including from terrestrial ecosystems;
- Needs for climate change research and developments in research-related capacity building
  IGBP/ DIVERSITAS/IHDP presentation: "Overview of findings and results from international research programmes and organisations, including on terrestrial, coastal and marine ecosystems".

The contributions were made available to Parties as Document FCCC/SBSTA/2013/MISC.5 and Add.1, and uploaded on the UNFCCC website at: **http://unfccc.int/7663.php**

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EVENTS

Below is a summary of all events directly organised or co-organised by DIVERSITAS between January 2012 and June 2013.

JANUARY 2012	
1st Workshop on New Commons: Building Resilience with Common Capital: Managing Shared Resources (IHDP, DIVERSITAS, UNU, APN)	Tokyo, Japan
Scientific expert workshop: Considering the knowledge generation function of IPBES (DIVERSITAS, ICSU, USGS, SESYNC)	Annapolis, USA
FEBRUARY 2012	
Second Scientific Workshop on IPBES Assessment (Ministry of the Environment of Japan, UNU, IHDP, DIVERSITAS)	Tokyo, Japan
GEO BON Workshop: Essential Biodiversity Variables	Frascati, Italy
MARCH 2012	
Workshop: Tipping Points in Ecological Systems (NeFo, DIVERSITAS)	Berlin, Germany
SC-DIVERSITAS annual meeting	London, UK
Planet Under Pressure Open Science Conference (IGBP, DIVERSITAS, IHDP, WCRP, ESSP, ICSU)	London, UK
Workshop on the Biodiversity Planetary Boundary (NERC, SRC, DIVERSITAS)	London, UK
Workshop of BESTNet, the Biodiversity and Ecosystem Services Training Network (ecoSERVICES)	London, UK
MAY 2012	
Biodiversity and health: Linkages and benefits. Side event at CBD-SBSTTA 16 (DIVERSITAS ecoHEALTH project, EcoHealth Alliance, S-CBD)	Montreal, Canada
Workshop: A Global Standard for Payments for Ecosystem Services (ecoSERVICES)	New York, USA
2nd Workshop on New Commons (IHDP, APN, UNU-ISP, DIVERSITAS)	Colombo, Sri Lanka
JUNE 2012	
SC-bioGENESIS annual meeting	Bonito, Brazil
bioGENESIS Capacity Building Workshop (ATBC2012, bioGENESIS, CNPq, Society of Systematic Biologists, University of Sao Paulo, University of Michigan, and UNAM)	Bonito, Brazil
Session on biodiversity at the Forum on Science, Technology and Innovation for Sustainable Development (ICSU, UNESCO, DIVERSITAS)	Rio, Brazil
JULY 2012	
SC-GEO BON annual meeting	Copenhagen, Denmark
AUGUST 2012	
SC-agroBIODIVERSITY annual meeting	Wageningen, NL
SEPTEMBER 2012	
Eco-Evol Workshop: Impacts of species interactions on range evolution (McGill University, bioGENESIS, bioDISCOVERY)	Montreal, Canada
OCTOBER 2012	
Side event at CBD-COP11: "Biodiversity and Health: strengthening synergies and collaboration" (ecoHEALTH-DIVERSITAS, S-CBD, EcoHealth Alliance)	Hyderabad, India

OCTOBER 2012	
Side event at CBD-COP11: "How integrated science can support the goals of the Rio Conventions" (DIVERSITAS, Future Earth, S-CBD, UNEP-WCMC), Rio Pavilion	Hyderabad, India
Side event at CBD-COP11: "Sustainable use of biodiversity and food security" (ATREE, DIVERSITAS, IUCN, World Agroforestry Centre)	Hyderabad, India
Release of the "Cities and Biodiversity Outlook (CBO): Action and Policy" at the Cities for Life, City and Subnational Biodiversity Summit (bioSUSTAINABILITY)	Hyderabad, India
Expert workshop on IPBES Conceptual Framework (UNESCO, Ministry of Environment of Japan, IUCN, UNU-IHDP, DIVERSITAS)	Paris, France
DECEMBER 2012	
3rd Workshop on New Commons (APN, IHDP, UNU-ISP, DIVERSITAS)	Kobe, Japan
2nd All-Hands meeting GEO BON	Asilomar, USA
2nd ecoHEALTH DEBED meeting	New York, USA
JANUARY 2013	
Side event at IPBES-1: a Draft Conceptual Framework for IPBES (UNESCO, Ministry of Environment of Japan, IUCN, UNU-IHDP, DIVERSITAS)	Bonn, Germany
FEBRUARY 2013	
GMBA workshop on Mountain LTER sites	Forte di Bard, Italy
First HarmBIO WG4 meeting (EU-COST, BiK-F – Institute for Biodiversity and Climate Research in Frankfurt, bioDISCOVERY)	Frankfurt, Germany
MARCH 2013	
bioGENESIS Training Workshop 2013	Banda Aceh, Indonesia
SC-bioGENESIS annual meeting	Banda Aceh, Indonesia
SC-DIVERSITAS annual meeting	Paris, France
ecoSERVICES meeting	Paris, France
APRIL 2013	
GBO-4 CLA meeting (DIVERSITAS, CBD, PBL, UBC, UNEP-WCMC, University of Lisbon)	Paris, France
SC-bioDISCOVERY annual meeting	Paris, France
SC-GMBA annual meeting	Rigi-Kulm, Switzerland
IPBES Stakeholder Engagement Strategy (ICSU, IUCN)	Paris, France
MAY 2013	
HarmBIO All-WG meeting (EU-COST, Trinity College, bioDISCOVERY)	Dublin, Ireland
Side event on "Biodiversity of Freshwater Ecosystem" at GWSP Conference "Water in the Anthropocene" (DIVERSITAS, GWSP)	Bonn, Germany
1st BIODIS workshop "Disentangling the linkages between biodiversity and emerging infectious diseases" (CESAB, FRB, DIVERSITAS)	Aix-en-Provence, France

DIVERSITAS COMMITTEES

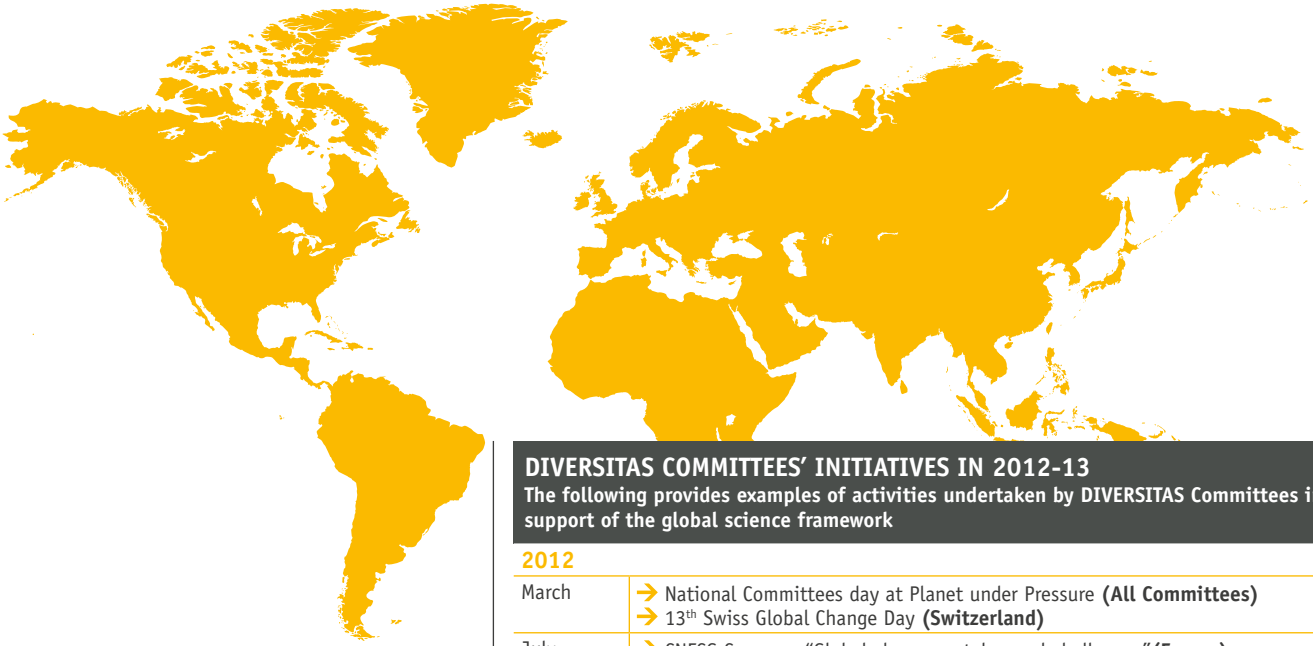
Expanding network strengthens international framework



DIVERSITAS Committees enlarge DIVERSITAS' scientific and policy networks, thereby helping to establish crucial links between national biodiversity programmes and international framework activities. They also make it possible to implement the DIVERSITAS science plan, adapting where necessary to local and regional concerns. To this end, each DIVERSITAS Committee is encouraged to include representatives from three key groups: active scientists, policy makers and managers of national biodiversity programmes.

The DIVERSITAS National Committees include:

- Full members, who provide an annual financial contribution to DIVERSITAS;
- Affiliated members who have identified a contact point or assembled a national committee, but who do not contribute financially to the programme.



DIVERSITAS NATIONAL COMMITTEES IN 2012/13

(Established committee**)

Full Members	Affiliated Members
Argentina	Australia**
Austria**	Belarus**
Belgium**	Brazil
China – Taipei**	Chile
France**	China**
Germany**	Estonia
Mexico**	Hungary
Norway**	Indonesia**
Slovak Republic**	Ireland**
South Africa	Japan**
Spain**	Kenya
Sweden**	Malawi
Switzerland**	Morocco
The Netherlands**	Philippines**
United Kingdom**	Portugal**
USA**	Russia
	Vietnam

DIVERSITAS REGIONAL COMMITTEES IN 2012/2013

DIWPA: DIVERSITAS in the Western Pacific and Asia

DIVERSITAS COMMITTEES' INITIATIVES IN 2012-13

The following provides examples of activities undertaken by DIVERSITAS Committees in support of the global science framework

2012	
March	→ National Committees day at Planet under Pressure **(All Committees)** → 13th Swiss Global Change Day **(Switzerland)**
July	→ CNFCG Congress "Global changes: stakes and challenges"**(France)**
August	→ 10th National Conference on the Conservation and Sustainable Use of Biodiversity **(China)** → US National Committee (USNC) session on IPBES at the 97th Ecological Society of America Conference **(USA)** → **DIWPA** International Field Biology Course: Summer monitoring programme for young scientists in Kiso River **(Japan)**
September	→ WWViews on Biodiversity-China Event **(China)** → Inaugural meeting of the UK Biodiversity Science Committee (UK BSC, **UK**)
November	→ IPBES Kick-off meeting for Switzerland (Swiss Biodiversity Forum, FOEN; **Switzerland**)
December	→ International Forum for Ecosystem Adaptability Science IV **(Japan)**
2013	
January	→ SWIFCOB 13: Biodiversity, understand to better act (Swiss Biodiversity Forum, **Switzerland**)
February	→ Congreso Nacional de Biodiversidad IV **(Spain)**
March	→ Workshop on Biodiversity Data Sharing Environment in Asia **(China)** → "Scénarios de la biodiversité africaine", Libreville, Gabon; organised by FRB **(France)** → National Biodiversity Network Celebratory Event, Natural History Museum, London (UK BSC, **UK**)
April	→ Establishment of German National Committee for Future Earth **(Germany)** → Conference on "Global Change and Society: the scientific community in Future Earth" **(France)**
May	→ Future Earth kick-off symposium of trans-disciplinary science for society in harmony with nature **(Japan)** → Future Earth Regional Workshop for Europe **(France)**
June	→ Royal Society/ British Academy Town Hall meeting on Future Earth (UK BSC, **UK**)

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Maria-Elisa Biotti
Administrative Assistant and Webmaster

Béatrice Perceval
Administrative Assistant

Financial Summary

Statement of income and expenditure

1st January to 31st December 2012

INCOME	EUROS
National contributions USA (NSF) France (Ministère de la Recherche) Germany (DFG, BMBF) United Kingdom (NERC) The Netherlands (NWO, KNAW) South Africa (NRF) Norway (RCN) Sweden (SSEESS) Switzerland (SNSF) Argentina (CONICET) Austria (BMWF) China-Taipei Mexico (CONACYT) Slovak Republic	578 764
Grants (CBD, GEO, NASA, UNEP)	417 583
Other income	143 918
TOTAL INCOME	1 140 265
EXPENSES	
Scientific activities	954 767
Communication and publications	13 845
Operating costs	144 700
Provision for 2013	26 953
TOTAL EXPENSES	1 140 265
Mandatory reserve	266 045

In kind contribution from France

From CNRS-INEE (Centre National de la Recherche Scientifique – Institut d'Ecologie et Environnement): bioDISCOVERY Science Officer

From MNHN (Muséum National d'Histoire Naturelle): Host of International Secretariat

DIVERSITAS hosted and provided in-kind contribution to the Earth System Science Partnership (ESSP) office until 31st December 2012.

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The Scientific Committee of bioDISCOVERY and its community would like to thank the Centre National de la Recherche Scientifique – Institut Ecologie et Environnement **(CNRS-INEE)** for the sponsorship of the bioDISCOVERY Science Officer position.

Acronyms

ABS	Access and Benefit-Sharing
AHTEG	Ad Hoc Technical Expert Group
AP BON	Asia Pacific Biodiversity Observation Network
APN	Asia Pacific Network for global change research
ATBC	Association of Tropical Biodiversity Conservation
ATREE	Ashoka Trust for Research in Ecology and the Environment (India)
BESTnet	Biodiversity and Ecosystem Services Training Network
BMBF	Federal Ministry of Education and Research (Germany)
BMWF	Bundesministerium für Wissenschaft und Forschung (Austria)
CAST	Chinese Academy of Space Technology
CBD	Convention on Biological Diversity
CBO	Cities and Biodiversity Outlook
CCAFS	Climate Change, Agriculture and Food Security
CESAB	Centre de Synthèse et d'Analyse sur la Biodiversité (France)
CGIAR	Consultative Group on International Agriculture Research
CNFCG	Comité National Français des Changements Globaux (France)
CNPq	Conselho Nacional de Desenvolvimento Científico e Tecnológico (Brazil)
CNRS	Centre National de la Recherche Scientifique
CONACYT	National Council on Science and Technology (Mexico)
CONICET	Consejo Nacional de Investigaciones Científicas y Técnicas (Argentina)
COP	Conference Of the Parties
COSUST	Current Opinion in Environmental Sustainability
CSIR	Council for Scientific and Industrial Research (South Africa)
CSIRO	Commonwealth Scientific and Industrial Research Organisation (Australia)
DEBED	DIVERSITAS ecoHEALTH on Biodiversity and Emerging Diseases
DEEED	DIVERSITAS ecoHEALTH Economics of Emerging Diseases project
DFG	Deutsche Forschungsgemeinschaft (Germany)
DIWPA	DIVERSITAS In Western Pacific and Asia
EBVs	Essential Biodiversity Variables
EcoEvol	Eco-evolutionary approaches to understanding and predicting the response of species and ecosystems to climate change Project
EID	Emerging Infectious Disease
ESSP	Earth System Science Partnership
EU-COST	European Cooperation in Science and Technology
FAO	Food and Agriculture Organization
FAPESP	São Paulo Research Foundation (Brazil)
FRB	Fondation pour la Recherche sur la Biodiversité (France)
GBIF	Global Biodiversity Information Facility
GBO-4	Global Biodiversity Outlook 4
GCP	Global Carbon Project
GEC	Global Environmental Change
GECAFS	Global Environmental Change and Food Systems
GECHH	Global Environmental Change and Human Health
GEO	Group on Earth Observation
GEO-BON	Group on Earth Observations-Biodiversity Observing Network
GEOSS	Global Earth Observation System of Systems
GLORIA	Global Observation Research Initiative in Alpine Environments
GLDA	Global Legume Diversity Assessment
GMBA	Global Mountain Biodiversity Assessment
GWOS	Global Wetlands Observation System
GWSP	Global Water System Project
HarmBIO	Harmonizing Global Biodiversity Models Project
ICIMOD	International Centre for Integrated Mountain Development
ICSU	International Council for Science
ICSU ROLAC	ICSU Regional Office for Latin America and the Caribbean
IDRC	International Development Research Centre (Canada)
IGBP	International Geosphere-Biosphere Programme
IGFA	International Group of Funding Agencies for global change research
IHDP	International Human Dimensions Programme on global environment change
INEE	CNRS – Institut Ecologie et Environnement (France)
IPBES	Intergovernmental Platform on Biodiversity and Ecosystem Services
IPCC	Intergovernmental Panel on Climate Change
IPO	International Project Office
ISSC	International Social Science Council
IUBS	International Union of Biological Sciences
IUCN	International Union for Conservation of Nature
KNAW	Royal Netherlands Society of Arts and Sciences
LTER	Long Term Ecological Research
MA	Millennium Ecosystem Assessment
MAIRS	Monsoon Asia Integrated Regional Study
MEA	Multilateral Environmental Agreement
MEP	Multidisciplinary Expert Panel (IPBES)
MIREN	Mountain Invasion Research Network
MNHN	Muséum National d'Histoire Naturelle
MoL	Map of Life
NASA	National Air and Space Administration (USA)
NERC	Natural Environment Research Council (UK)
NIES	National Institute for Environmental Studies (Japan)
NRF	National Research Foundation (S-Africa)
NSF	National Science Foundation (USA)
NSF RCN	NSF Research Coordination Network
NWO	Organisation for Scientific Research (The Netherlands)
PuP	Planet under Pressure
RCN	Research Council of Norway
SBAs	Societal Benefit Areas (GEOSS)
SBSTA	Subsidiary Body for Scientific and Technological Advice
SBSTTA	Subsidiary Body for Scientific, Technical and Technological Advice
SC	Scientific Committee
S-CBD	Secretariat of the Convention on Biological Diversity
SCNAT	Swiss Academy of Sciences
SCOPE	Scientific Committee on Problems of the Environment
SESYNC	Socio-Environmental Synthesis Center (USA)
SDGs	Sustainable Development Goals
SNSF	Swiss National Science Foundation
SRC	Stockholm Resilience Center (Sweden)
SSEESS	Swedish Secretariat for Environmental Earth System Sciences
UBC	University of British Columbia (Canada)
UN	United Nations
UNAM	Universidad Nacional Autónoma de México (Mexico)
UN-DESA	United Nations Department of Social and Economic Affairs
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNEP-WCMC	UNEP World Conservation Monitoring Centre
GEF	Global Environment Facility
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNFCCC	United Nations Framework Convention on Climate Change
UNU	United Nations University
UNU-IAS	United Nations University – Institute of Advanced Studies
UNU-ISP	United Nations University – Institute for Sustainability and Peace
UN OWG	United Nations Open Working Group on Sustainable Development Goals
URBES	Urban Biodiversity and Ecosystem Services
USGS	United States Geological Survey
WCRP	World Climate Research Programme
WFEO	World Federation of Engineering Organisations
WMO	World Meteorological Organisation

Getting involved...

The success of DIVERSITAS is directly related to the voluntary involvement of scientists and organisations from around the world. The following paragraphs briefly describe the primary means of contributing to DIVERSITAS.

as a Scientist

In order for you to automatically be registered to receive our electronic newsletter, and regular information about DIVERSITAS, please register on the web site and complete the DIVERSITAS Personal Profile. Feel free to contact directly any of the Chairs and Science Officers of DIVERSITAS Projects to get more information on how to participate yourself or to propose participants in specific activities.

as a National Committee

DIVERSITAS encourages the establishment of National Committees as a mean of building a truly international network to support integrated biodiversity science. These Committees play an important role in linking national and international programmes, as well as interacting with policy makers and other stakeholders in their home countries. Please visit the National Committees section of the web site for a full description of their role, and find out how to establish a National Committee.

as a Funder

DIVERSITAS is a non-profit, non-governmental organisation, funded by regular contributions from its National Members, and by grants from various organisations. In order to achieve its objectives, the Programme is actively seeking additional support for the following:

- Scientific activities
- Core activities
- Capacity building activities

Funding DIVERSITAS initiatives provides an excellent opportunity for individuals and organisations to demonstrate a strong commitment to conservation and sustainable use of biodiversity. DIVERSITAS welcomes the opportunity to collaborate with private industries, non-governmental/inter-governmental organisations, foundations and associations.

If you would like to support our activities please contact the DIVERSITAS Secretariat.

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