



## **Convention on Biological Diversity COP 13 Cancun Mexico, 1-17 December 2016**

### **Future Earth community contribution to COP13**

#### **Science Forum (1-2 December)**

##### [Science Forum Agenda](#)

The forum aims to be a meeting place to share knowledge, approaches and solutions, among scientists, policy – makers, and the civil society for mainstreaming biodiversity especially focusing on agriculture, fisheries, forestry and tourism.

The Science Forum is organised by CONABIO, SEMARNAT, S-CBD, the Inter-American Institute for global change research (IAI), International Union on Biological Sciences (IUBS), and supported by Future Earth.

Sessions at the Science Forum comprising the Future Earth Community include:

##### ***Resilience & sustainability -economic, ecological, and social aspects.***

1 December @11h30–12h10

Biodiversity, resilience and sustainability, Rashid Sumaila, UBC

Biodiversity thresholds and resilience, Rodolfo Dirzo, Stanford U.

Operationalizing resilience and sustainability, Elena Bennett, McGill U (SSC-ecoSERVICES)

Power relations in mainstreaming biodiversity Unai Pascual, BC3 (SSC-ecoSERVICES)

##### ***Sustainable use and mainstreaming biodiversity in fisheries Strategies for fisheries to be sustainable and still generate economic benefits***

1 December @ 14h00-18h00

Impacts of human activities in the oceans, projections and alternatives for mainstreaming.  
Moderator: Cristiana Seixas, Campinhas U. Keynote Governance & fisheries conservation,  
Xavier Basurto, Duke U. Panelists: Mr. Nils Stenseth, IUBS/CEES, U Oslo; Mr. Rashid Sumaila,  
UBC; Mr. Enrique Montes, CONABIO

***Integrating approaches across the landscape Different approaches for landscape arrangements for mainstreaming biodiversity into the agriculture and forestall sectors***

1 December @ 14h00-18h00

Moderator: Unai Pascual, BC3 (SSC-ecoSERVICES) Keynote

Ecosystem and land cover change mapping in Mexico using satellite technology. Rainer Ressler, CONABIO *The impact of land-cover change on biodiversity*. Panelists: Peter Kevan, IUBS/ICPBR The role of pollinators; Ingolf Steffan-Dewenter, U. Würzburg Ecological intensification; *Land-sparing/land-sharing Panel discussion*: § Ralf Seppelt, UFZ § Luis Garcia Barrios, ECOSUR; Brij Mohan Singh, ICIMOD; Ivette Perfecto, U. Michigan

***Plenary Session: Biodiversity, ecosystem function & ecosystem services Keynote Assessing biodiversity, ecosystem services and well-being***

2 December @9h00-10h00

Sandra Díaz, UCordoba/IPBES (SSC-Future Earth)

Moderator: Ciara Raudsepp-Hearne, QCBS/BBi; Panelists: Elena Bennett McGill U (SSC-ecoSERVICES) Research gaps in ecosystem services; Patricia Balvanera CIECO, UNAM (SSC-PECS) Multiples values and benefits from nature; Jasmin Godbold Univ. of Southampton Marine biodiversity functioning

***Biodiversity valuation for biodiversity mainstreaming and better governance: a contribution from the Future Earth Natural Assets Knowledge-Action Network***

2 December @10h00-11h00

**Future Earth hosted session**

In this session, the panelists will address how approaches and tools on biodiversity valuation can contribute to mainstreaming biodiversity in different sectors, and how it can lead to better governance of natural assets. The session discussion will build on the plenary session on biodiversity, ecosystem functions, and ecosystem services and it will be an opportunity to launch the Future Earth Natural Assets Knowledge-Action Network (KAN).

Moderator: Patricia Balvanera, UNAM (SSC-PECS); Panelists: Brigitte Baptiste, Humboldt Institute; Rashid Sumaila, University of British Columbia; Sandra Diaz (SSC-Future Earth), University of Cordoba Alejandra Echeverri; University of British Columbia Unai Pascual, BC3 (SSC-ecoSERVICES).

***Modelling & scenarios: How can they inform and contribute to decision-making processes and policies for mainstreaming biodiversity***

2 December @14h30-15h30

D Rödder, ZFMK; R. Seppelt, UFZ ; W. Cramer, U. Montpellier (SSC-ecoSERVICES); K. Waylen, James Hutton Institute Moderator: Elena Bennet, McGill U (SSC-ecoSERVICES)

# Rio Pavilion (5-14 December)

[Rio Pavilion at COP13 CBD Schedule](#)

## **Biodiversity and Climate Change Day**

**Tuesday 6th December @9h00-20h00**

This day is co-organised by bioDISCOVERY in collaboration with ecoSERVICES, two Future Earth Global Research Projects.

Topics for the day include: (1) biodiversity and climate change scenarios and the role of global management strategies; (2) opportunities for promoting ecosystem-based approaches to climate mitigation and adaptation in light of the Paris Agreement and the Sustainable Development Goals; and (3) ecosystem-based approaches for climate change adaptation and disaster risk reduction. The format is a mix of presentations, roundtable discussions, panel debate, and keynote note addresses. The day will be concluded with a cocktail reception highlighting key publications, products and projects related to biodiversity and climate change. See detailed agenda [here](#).

## **Planetary Health: Strengthening the Science-Policy Interface for Sustainable Development**

**Wednesday 14 December 2016 @13h30-19h00**

This day is co-organised by ecoHEALTH, Future Earth Global Research Projects, and the Future Earth Health Knowledge-Action Network..

By most metrics, human health is better today than at any time in human history. These advances have occurred coincident with a vast degradation of nature's ecological systems, again on a scale never seen in human history. The continuous and rapid degradation of Earth's natural systems puts the health and well-being of present and future generations at risk. Planetary Health and the Sustainable Development Goals share the same premise: a healthy environment is the foundation for human health and sustainable development. The SDGs, founded on human well-being, are dependent on the SDGs that provide the enabling infrastructure for development and the SDGs that support natural systems. This afternoon session will convene a diverse and interdisciplinary group of policy practitioners, scholars, experts and other stakeholders to stimulate engagement and debate on the most pressing conservation issues of our time that threaten the environment, health and human security alike. From this workshop, pathways to pragmatic, scalable and interdisciplinary policy solutions fostering biodiversity-health synergies will emerge, spanning the local to the global levels.

These insights will concretely support the UN Sustainable Development Goals, and the broader post-2015 development agenda.

See detailed agenda [here](#).

## Side Events

### **#1721 Monday 2016.12.05 @ 18:15**

JUSCANZ Regional Group Meeting Room

Sunrise Building, Galactic Room, main floor

Mainstreaming biodiversity: contributions from Science to Policy

On 1 and 2 December, a Science Forum was held to exchange information, showcase successful developments and learn how scientific networks can contribute to mainstreaming biodiversity. Key messages, a research agenda and a roadmap from the Science Forum will be communicated to delegates to COP-13 at this side-event. Science Forum partners: Mexico, IUBS, CONABIO, IAI, Future Earth, CBD.

### **#1903 Friday 2016.12.16 @ 18:15**

Contact Group 8 Meeting Room

Universal Building, main floor

Health and Biodiversity Monitoring to Support Mainstreaming

While health and biodiversity links are broadly appreciated at global levels, and both are threatened by widescale landscape conversion and other environmental changes, greater understanding of the specific dynamics of health and biodiversity connections, the provisioning of health-benefitting ecosystem services, and the state of ecosystems to continue providing such benefits is needed to ensure action on national and local levels. Toward this end, the event will present a first-stage concept note developed by the Group on Earth Observations Biodiversity Observation Network (GEO-BON) and EcoHealth Alliance on a systematic approach to integrated human health and biodiversity monitoring. The initiative seeks to develop integrated metrics, indicators and tools to facilitate evaluation, analysis, monitoring and integration of biodiversity into health strategies, plans and programmes. The event will seek input from the biodiversity community on feasibility, priority information to be collected, synergies and collaboration with existing initiatives, and optimal design to inform policy making. Using a One Health approach we will promote wider mainstreaming where partners from beyond the direct health and biodiversity communities will also provide context on potential applications toward sustainable development. Partners: EcoHealth Alliance, GEO-BON, SCBD, Future Earth, IUCN, World Bank (invited)

### **#1857 Wednesday 2016.12.07 @ 18:15**

Contact Group 8 Meeting Room

Universal Building, main floor

### Strengthening and aligning policies and practices in health and biodiversity

The side event will highlight the experience of the partners of the Biodiversity and Community Health (BaCH) Initiative in making more visible the multiple contributions of biodiversity and ecosystems to the health and wellbeing of local communities, including indigenous peoples. Initiated in 2012, the BaCH initiative, through its partners, has been working closely with stakeholders at the community level, donor agencies and with policy bodies to raise awareness and identify opportunities that exist in the intersect between the various sectors (including food and nutrition, medicines, therapeutic landscapes, livelihood security, new product development), and their consequent implications for other cross cutting areas such as ABS. Focusing also on a novel approach to facilitate capacity development through peer learning exchanges of local community stakeholders, the event will highlight the need for greater reflexive capacity building activities involving field level actors.

### **#2236 Monday 2016.12.12 @ 18:15**

Side-event 1

Universal building, main floor

**Coral and marine biodiversity: a scientific eldorado, a common social good and a political challenge**

**Description** This side event aims at informing CBD Parties on the current state of knowledge on coral biodiversity and major conservation issues. It will focus on lessons learned from recent biodiversity census and current conservation practices. This side-event will highlight results from the ongoing 2-years unique expedition launched by Tara Foundation: 'TARA PACIFIC', covering a huge geographical area – the Pacific Ocean – where over 40% of the world's coral reefs are located. This will be followed by a discussion on the assessments on coral biodiversity and ecosystem services, providing input to political challenges for the CDB parties. **Context** Coral reefs cover less than 0.2% of the oceans' surface, yet they include nearly 30% of known marine biodiversity. Their health is crucial to the diversity of species, and also for humanity. Studying this fragile and endangered ecosystem is a priority since a large number of reefs have been disappearing in recent years. Coral regularly faces natural threats, including diseases like "white band disease" (which in the 1980s decimated Caribbean reefs), on top of usual predators. Since the beginning of the industrial age, about 20% of reefs have disappeared forever. And the phenomenon doesn't seem to be slowing down: 25% are in danger in the short term, and an additional 25% may be threatened by 2050 — a massacre that can be attributed to human impacts. Coral located near the coast in the vicinity of human activities suffers dramatically from population growth and its induced consequences: pollution, destructive fishing practices, destruction due to mass tourism, dumping of sediment, etc. These threats are all the more worrisome because coral tends to be increasingly sensitive to these disturbances, weakened by climate change. Indeed, a significant temperature increase of surface water causes the death of zooxanthellae, the symbiotic algae in corals. Without algae, the polyp loses all its pigments and by transparency its limestone skeleton shows through. This is called "coral bleaching". If conditions do not return to normal, the entire reef is threatened with death. Finally, another threat is ocean acidification. Massive release of CO<sub>2</sub> in the atmosphere causes an increase in the acidity of water, disrupting the calcification process necessary for creating the polyps'

external skeleton. However, the magnitude of the phenomenon and its precise impact on the world's reefs are still uncertain. It is imperative today to achieve a better understanding of the various threats confronting coral, in the hope of finding sustainable solutions that will ensure preservation of these teeming ecosystems. Preserving coral reefs is a critical issue for conservation biology and sustainable use of biological resources. Sound knowledge and sustainable practices for use and preservation would help tackle major challenges while promoting nature and human well-being. Given the urgency of the situation, and in order to get a real idea of the overall diversity of a coral reefs, a new expedition 'Tara Pacific' has been launched for 2 years by Tara Expeditions associated with the French National Research Institute (CNRS), in collaboration, Paris Sciences & Lettres University, the Monaco Scientific Centre and financial partners. This expedition is unique in that it will cover such a huge geographical area – the Pacific Ocean – where over 40% of the world's coral reefs are located. A study on such a scale has never before been accomplished. From east to west and from north to south, Tara will criss-cross the Pacific Ocean to explore the hidden diversity of coral reefs and gain a better understanding of their capacity to adapt to climate change. From the Panama Canal to the archipelago of Japan (2016-2017), from New Zealand to China (2017-2018), the schooner will navigate through 11 time zones of the world's largest ocean, and visit the most remote islands and reefs. Besides the health status of each reef and its biodiversity at different levels, the scientific team will focus on the capacities of resistance, adaptation and resilience of the reef ecosystems. A last aspect of the project is to focus on the potential applications of coral biology to medical research. This approach seeks new information concerning the still-unknown role of biological, chemical and physical parameters in the life of coral colonies and their ability to adapt to change. Objectives of the side-event To inform people in the political and business worlds, on coral reef diversity and the way this is connected to major challenges; To raise public awareness about the most pressing environmental challenges and problems faced by societies that depend on the ocean's good health; To inform public on coral reefs conservation practices and sustainable use; To promote scientific research and results on coral reefs biodiversity as an essential basis for understanding complex phenomena; To show the main scientific results of Tara expedition on coral reefs, TARA PACIFIC

<http://oceans.taraexpeditions.org/en/m/science/goals/tara-pacific/> Proposed actions (2h): Film screening (30') Extracts of some of the documentary films co-produced by CNRS Images: Polynésie, le corail fait de la résistance (2015), Film Tara Pacific (2016 – in prep), Film by National Geographic on the Pristine project (2015) 3-4 Conferences (15' each): Coral biodiversity and ecosystem services Threats on coral reefs : climate change impacts on coral reefs Coral reefs and human well-being and coral reefs rehabilitation Solutions and political challenge A round table on 'Coral and marine biodiversity: a scientific eldorado, a common social good and a political challenge (30 ' ) Live coverage of the side event by social networks (Twitter, instagram, Facebook Snapchat...) Contacted experts (still to be confirmed) Serge Planes (CNRS, Criobe, France) Denis Allemand (CSM, Monaco) Joachim Claudet (CNRS Criobe, France) David Mouillot (Montpellier University, France) Laurent Vigliola (IRD, France) Jesús Ernesto Arias González (CINVESTAV, Mexico) Johann Mourier (Sydney, Australie) Valeriano Parravicini (CNRS, Criobe, France) Emilie Boissin CNRS, Criobe, France) Sylvie DUFOUR (MHNHN, France) Olivier Thomas (National University of Ireland, Galway) Rebecca

Vegga (University of Oregon/Microbiome/Virome, US) Stéphane Pesant (PANGAEA (University of Bremen, Germany) Romain Troublé (Tara Foundation, France) Number of expected participants: About 100 people: Scientists, Operators of public and private projects, policy makers, development actors, experts in marine conservation.

**#2126 Tuesday 2016.12.13 @ 13.15**

***Side-event hosted by Concordia University (Future Earth Montreal Hub Consortium)***

The interlinkages between botanic gardens are helping to transform the conservation scene and are vital conduits for the dissemination of knowledge and planning of action. This panel will explore the past and potential development of regional and global agreements and organizations that are shaping this communicative science-policy interface network today, and look ahead at how we can improve their fluidity and interactivity. Attendees/speakers will include representatives from the Global Partnership for Plant Conservation, the International Plant Protection Convention, Botanic Gardens Conservation International, the Ecological Restoration Alliance of Botanic Gardens, the Southeast Asia Botanic Gardens Network, and others.

For more details please contact us at [peter.stoett@concordia.ca](mailto:peter.stoett@concordia.ca) and [katja.neves@concordia.ca](mailto:katja.neves@concordia.ca)

**#2164 Friday 2016.12.16 @ 13:15**

Side-event 2

Universal building

Climate, biodiversity and land use – benefits from a new integrative global land management strategy to achieve sustainable development

Objective Managing the planet's land surface affects its biodiversity as well as its climate in major ways. Land use changes directly affect biodiversity, ecosystem functioning, the provisioning of ecosystem goods and services, but also the water cycle, greenhouse gas fluxes, and therefore climate. Climate policies, such as those following the Paris Agreement, will have major implications on biodiversity, through lower or higher levels of climate change, but also through adaptation and mitigation policies, including possibly very large scale biofuel production. Integrated policies in support of sustainable development that are concerned with the state of ecosystems, agriculture and forestry, begin to recognize the broader implications of land use change, notably with regard to the interaction between global biodiversity conservation and climate change. Aiming to support such policies, the science of land change and its interactions with the Earth system is rapidly advancing. The primary goals of this side event are: Demonstrate current research progress in understanding the impact of the land system on both biodiversity and climate change Relay key messages from Rio Pavilion Side event, reflecting the needs of policy makers and civil society for future research and assessment Provide outlook what integrative science can deliver for IPBES and IPCC Side event format (13:15 – 14:45) 13:15 – 13:20 Welcome & Introduction (Wolfgang Cramer) 13:20 – 13:35 Land-based climate mitigation and impacts on ecosystem state and functioning (Almut Arneth) 13:35 – 13:50 Climate targets and their meaning for biodiversity – developing integrated scenarios for IBPES and IPCC (Paul Leadley) 13:50 – 14:05 Key messages from Rio Pavilion

Side Event (Mark Rounsevell) 14:05 – 14:35 Panel debate with presenters: untapped potential and gaps of knowledge in land science for policy and potential for integrating science for Rio Conventions, IPCC and IPBES assessments 14:35 – 14:45 Wrap-up & closure (Wolfgang Cramer)

**#1903 Friday 2016.12.16 @ 18:15**

Contact Group 8 Meeting Room

Universal Building, main floor

**Health and Biodiversity Monitoring to Support Mainstreaming**

While health and biodiversity links are broadly appreciated at global levels, and both are threatened by widescale landscape conversion and other environmental changes, greater understanding of the specific dynamics of health and biodiversity connections, the provisioning of health-benefitting ecosystem services, and the state of ecosystems to continue providing such benefits is needed to ensure action on national and local levels. Toward this end, the event will present a first-stage concept note developed by the Group on Earth Observations Biodiversity Observation Network (GEO-BON) and EcoHealth Alliance on a systematic approach to integrated human health and biodiversity monitoring. The initiative seeks to develop integrated metrics, indicators and tools to facilitate evaluation, analysis, monitoring and integration of biodiversity into health strategies, plans and programmes. The event will seek input from the biodiversity community on feasibility, priority information to be collected, synergies and collaboration with existing initiatives, and optimal design to inform policy making. Using a One Health approach we will promote wider mainstreaming where partners from beyond the direct health and biodiversity communities will also provide context on potential applications toward sustainable development. Partners: EcoHealth Alliance, GEO-BON, SCBD, Future Earth, IUCN, World Bank (invited)