

09:00	<p><b>Welcome note &amp; Opening</b></p> <p>Link Swiss activities to international GEO SBA biodiversity and ecosystem context</p> <p>Explain how biodiversity observations can help decision making; highlight importance to be close to users and improve communication between users communities and importance to access to data.</p>	<p>Sarah Pearson (FOEN)</p> <p>Michael Schaeppman (URPP GCB)</p>
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**Dear GEO-delegates,**  
**dear GEO BON (and GEO ecosystems?) chairs,**  
**dear invited speakers,**  
**dear colleagues,**

I would like to welcome you at the GEO-X Ministerial Special Event on Biodiversity, 14<sup>th</sup> Jan 2014, Geneva "From observation to decision".

The Swiss Government organised this Biodiversity Special Event in the frame of the GEO Plenary and Ministerial, in order to demonstrate the use of biodiversity and ecosystem related data and information to governments and a variety of sectors.

Many different stakeholders are here today, ranging from biodiversity and ecosystem researchers, data providers, experts from other fields in GEO, people from business and private sector, administrators and decision makers from the agricultural and environmental offices, from Switzerland or Europe, or other regions of the world.

The event covers two Societal Benefit Areas of GEO, on Biodiversity and on ecosystems, which both have a lot in common- some consider ecosystems as part of biodiversity and vice-versa. Biodiversity also has a big impact on most of the other Societal Benefit Areas and initiatives of GEO, such as Water, Climate, Disasters, Health, and Agriculture.

The development of adequate biodiversity observation systems, both on the ground and via remote sensing, for instance, is of key importance for our knowledge basis on which Governments are taking decisions upon. Our aim was to show many different user oriented projects, bringing data to useful knowledge for decision making.

I hope that this day will illustrate the value of open access data, and that it will demonstrate how monitoring of biodiversity and ecosystem and their threats can directly feed into strategic conservation planning. Governments are often facing resource and capacity constraints in attempting to develop national data products and indicators, and we hope that some examples (e.g. on how to utilize remotely sensed data) will help to overcome these.

We also should create or improve the dialogue between data providers and users, as it is key to realizing the potential of biodiversity and ecosystem data. A closer relationship between the earth observa-

tion community and potential users in the biodiversity policy and management communities will help to enhance understanding, align priorities, identify opportunities and overcome challenges, ensuring data products more effectively meet user needs.

A message going out of our day will be made available to the Plenary and GEO participants.

Switzerland will present several of its biodiversity and ecosystem services related activities in the poster exhibition over lunch, here in this room and also in the Swiss Pavillon just next to the registration. Each poster will have one or more experts presenting it, and you are welcome to join them for a discussion.

Let me briefly present on how we monitor biodiversity in Switzerland and the new Swiss Biodiversity Strategy and Action Plan, which will come into place this year...

With this, I wish you an interesting day with lots of diversity in discussions and opinions. Key to the success of this day will be your contribution to the round table and panel discussion. I therefore encourage you strongly to participate and contribute to these discussions. It is important that biodiversity information will be increasingly used for decision-making and it is today our chance to voice our opinion, helping to further contributing to establish a 'global system of harmonized observations' on biodiversity, in a more coherent fashion.

**Dear GEO delegates**  
**Dear GEO-BON director**  
**Dear colleagues**

It is with pleasure complementing the welcome of Sarah Pearson on behalf of the Swiss biodiversity community. We much appreciate you attending this special event.

We have recently passed a point, where more data is being collected than we can physically store. This gap will continue to widen, in particular in the data-intensive sciences, such as biodiversity has emerged into.

Further more, even if the data is accessible, it often remains too poorly organized to be efficiently used. On the other side, when looking at observational approaches such as pursued in GEO, and in particular in GEO-BON, we are left with a feeling of incomplete data sets or gaps in the observational approach, even though we have seen an exponential growth in space-borne imagers at high spatial resolution.

A key reason to this gap is certainly physics. If biodiversity were to be measured as coherently as temperature or carbon concentration, we would have already suggested a set of observational platforms to do so. But we are left with the challenge to combine the diversity of biodiversity measures in a coherent set of observations, products and services.

Let me therefore pick up three key challenges we currently advance in Switzerland, namely new science approaches, policy drivers and educational strategies for biodiversity.

*Science approaches.* Along the lines to establish Essential Climate Variables, a huge effort has been undertaken by GEO-BON to establish the concept of Essential Biodiversity Variables. We have taken on the challenge and have recently established a super-site allowing quantifying biodiversity measurements. It is a temperate forest system in Switzerland, where EBV classes ranging from genetic composition to species traits to ecosystem structure and function are assessed using state-of-the-art measurements. A complete set of technologies using microsatellite markers assessing allelic diversity, HPLC measuring pigment composition at leaf level to conventional gap fraction measurements to terrestrial and airborne laser as well as 3D radiative transfer modeling approaches have been initiated. We are pleased to announce that with the support of the European Space Agency's STSE program as well as the University of Zurich's research priority program on 'Global Change and Biodiversity', large parts of this data set will be made available to the user community and therefore to you in 2014. We wish to further propagate the use of this modeling ecosystem to you all!

*Policy drivers.* In Switzerland, we do have a very well established tradition of monitoring. It is not only that the World Glacier Monitoring Service (WGMS) is operating from within Switzerland under the auspices of GCOS, but several federal offices, national, regional and institutional entities have identified the need to structurally observe and monitor biodiversity. Examples of these are the 'Biodiversity Monitoring Switzerland' with its core indicators, but also the more specific agricultural species and habitats agri-environmental indicator, which not only focuses on biodiversity for subsidy payments but also on species and habitat diversity in the Swiss agricultural landscape. The wealth of these monitoring approaches is related to the traditionally well-established cross-sectorial collaboration, ranging from federal to institutional, research and private sectors, with emerging possibilities in public-private partnerships. We have taken on the challenge to combining those monitoring networks with the observational approaches as proposed in GEO-BON and beyond to further strengthen our policy drivers for biodiversity!

*Educational strategies for biodiversity.* Finally, there is an increasing demand in educating the next generation of science professionals in the domain of biodiversity in general and biodiversity observations in particular. With the advent of having an increasing number of Earth observation instruments in

space, we must be better prepared to efficiently make use of those data. The combination of our monitoring networks with the upcoming potential of the Copernicus program of the European Commission will allow us to serving as a nation-wide model system. Various initiatives ranging from within Universities activities, to between Universities activities are underway to further foster the education of biodiversity knowledge in the context of global change, its interactions and feedbacks as well as using observational approaches.

All these above activities demonstrate our capacity, willingness and potential to further contribute to the success of GEO-BON.

For a moment, I wish to encourage everyone to even more contribute to the success of GEO-BON with their own and collaborative works. Participate as much as you can to this community of practice! We have a unique chance to demonstrate that the diversity of arguments used in favor and against biodiversity being essential, is converted into a coherent set of observations for biodiversity, a set of Essential Biodiversity Variables, and finally a set of Ecosystem Services to the benefit and value of biodiversity.

Before concluding, I wish to particularly thank Bob Scholes for his continued involvement for GEO-BON. For being a voluntary partnership, substantial progress has been made under the leadership of Bob, in particular when looking at integration efforts achieved so far!

Thank you very much for your attention.