Concept Note for UNFCCC COP22 UNS Side Event

In support of Sustainable Development Goals (SDG) 17
Science based climate information

Title: Science for informed mitigation and adaptation choices

Date: 11 November, 13:15-14:45

Venue: Austral

Marrakesh, Morocco

Co-leads: WMO, IAEA, FAO, WFP

Contributors: IOC-UNESCO, UNEP

Why Science is important?

The Paris Agreement clearly articulates the need to the use best available science to support decision-making for both mitigation and adaptation. From a mitigation standpoint the emphasis is now on the urgent reduction of atmospheric concentrations of greenhouse gases as the primary driver of climate change and considering the effects of those concentrations on other natural processes, such as ocean chemistry. From an adaptation perspective science must now strengthen resilience to climate shocks through tailored climate services relevant to local decision-making, especially in the critical area of food security.

The Paris agreement is informed by science and it will now require scientific knowledge for successful implementation.

What will be presented?

This side event will present different examples of how science can support and provide essential data to inform choices on adaptation and mitigation at different levels (international, national and local), focusing also on the need for adequate interpretation of scientific notions and channels of communication if it is to be acted upon by policy makers and other actors (including communities). Most importantly, scientific information needs to

meet the need of different actors and therefore not be stand-alone, but rather as a service to empower decision-making.

These topics will be discussed through an interactive session where invited speakers will share their experiences in relation to:

- How the observation and analysis of atmospheric GHG concentration will support mitigation choices?
- How the reduction of greenhouse gasses in the atmosphere will be crucial to limited serious impacts on the environment, including the oceans?
- How climate services can help and support local communities and economies to strengthen their resilience to climate change and its impacts on ecosystem service (e.g. food security) at the level where decisions are needed?

Moderator: Martin Frick, NRC-Director@fao.org

1. **Presenter: Phil de Cola, Phil.Decola@sigmaspace.com**

   The first example looks at the **Integrated Global Greenhouse Gas Information System (IG3IS),** currently under development by WMO and its partners, including UNEP Coordinated long-term observations and analysis of greenhouse gases (GHGs) in the atmosphere were the basis of the science-based conclusions related to human role in climate change drawn by IPCC and will be the basis to track progress in limiting these changes in future. The atmosphere is where GHGs drive climate change through the radiative forcing resulting from their abundance. IG3IS will support the success of post-COP21 actions of nations, sub-national governments and the private sector to reduce GHG emissions through a sound scientific, comprehensive measurement-and -modelling-based approach that supports the reduction in the uncertainty of existing and ongoing national emission inventory reporting, locates, quantifies, and prioritizes previously unknown emission reduction opportunities, and provides nations with timely and quantified guidance on progress towards their emission reduction strategies and pledges (e.g., NDCs).

   For more information see:

   http://www.wmo.int/pages/prog/arep/gaw/ghg/IG3IS-info.html

   Contacts: Deon Terblanche, dterblanche@wmo.int

   Oksana Tarasova, otarasove@wmo.int

   Amir Delju, adelju@wmo.int

   Valentin Foltrescu, Valentin.Foltescu@unep.org

2. **Presenter: Libby Jewett, libby.jewett@noaa.gov**

The second example will look at role of **collaborative and coordinate science in understanding and addressing risks posed to the natural environment**, ranging from polar and mountain glaciers to subterranean aquifers to fragile coastal and marine ecosystems. The role of science in addressing multiple stressors, such as simultaneous changes in ocean temperature and ocean chemistry will be highlighted, as well as international efforts to identify and facilitate synergies among the scientific community, e.g. the Global Ocean Acidification Observation Network.
For more information see:

http://ioc.unesco.org

https://www.iaea.org/

Contacts: Vladimir Ryabinin, v.ryabinin@unesco.org

David Osborne, d.osborn@iaea.org

Pradeep Aggarwal, P.Aggarwal@iaea.org

Julian Barbiere, j.barbiere@unesco.org

Kirsten Isensee, k.isensee@unesco.org

3. **Presenter: Tania Osejo, tania.osejo@wfp.org**

The third example will specifically look at the role of **science in supporting improved decision making for food security and nutrition in a changing climate**, at different levels. The presentation will focus on:

- Support improved decision making and planning for adaptation at national and community level by collaborating with research institutes to better understand: (i) short-term climate variability and impacts on food security; (ii) impacts of climate change on food security and nutrition in the long term, including impacts of extreme weather events. (examples WFP/UK met food security map, HELIX and EUPORIAS research programmes)
- Enable food insecure communities to access relevant climate and weather information to empower them to make better decision about their livelihoods and to strengthen resilience to climate shocks (GFCS Adaptation Programme for Africa in Malawi and Tanzania, Senegal climate services initiative).

Drawing on these examples from different initiatives, the presentation will highlight lessons learnt and key factors that need to be taken into account when translating complex scientific information into concepts relevant to local communities and the need to understand and integrate also local and traditional knowledge.

http://www.wfp.org/

Contacts: Katiuscia Fara, katiuscia.fara@wfp.org

Kathryn Milliken, Kathryn.milliken@wfp.org

Jen Rubis, j.rubis@unesco.org