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The Climate Services Partnership (CSP) is a platform for knowledge sharing and collaboration to advance climate service capabilities worldwide. CSP members are climate information users, providers, donors, and researchers; though they represent diverse interests, all are actively engaged with climate services through their own programs and activities. Partners collaborate to develop and improve climate services; they also learn from each other by sharing resources and experiences. The CSP creates a venue to generate new knowledge, establish best practices, and promote a resilient, sustainable, and climate-smart future. More information is also available on our website: www.climate-services.org.

The CSP newsletter is a quarterly publication meant to keep all informed of the latest updates of the partnership community. We rely on you for news of your activities, upcoming events, and recent publications.

Editorial board: April Humble, Daniela Jacob, María Máñez Costa, Irene Fischer-Bruns (all GERICS)

the role of climate services in shaping climate dialogues

letter from the CSP Secretariat

The year 2015 is one of the most important years so far in terms of climate dialogues, and climate services are playing a leading role in providing the groundwork for the discourse.

Along with the translation, transfer, and use of climate knowledge, intrinsic to the fundamental purpose of climate services is the production of climate information. This raw but sophisticated knowledge forms the basis for understanding predictions, needs and actions required regarding climate change and adaptation, and so provides the discussion-basis of all decision-makers and stakeholders who address climate policies and adaptation strategies.

In July 2015, The International Scientific Conference *Our Common Future under Climate Change*, held in Paris, looked to build on the findings of the last IPCC report (AR5) and shared the most up-to-date climate information available with a broad range of target audiences. With over 2,200 people gathering at the meeting, most of those both speaking and attending were somehow connected to the climate services community. The topics comprehensively covered the key aspects of climate change, its relation with, and impacts on, society, as well as mitigation and risk management. This conference was a last chance for climate knowledge producers to showcase their world leading science in anticipation for the next big climate talks, COP21 (Conference of Parties) at the end of the year in December.

The recent World Symposium on Climate Change Adaptation (WSCCA-2015) passed 2nd-4th September 2015. Climate knowledge is instrumental for effective climate adaptation, which members of the climate service community strongly made clear at the Symposium. Filipe Lúcio, Director of the Global Framework for Climate Services (GFCS), succinctly highlighted this in a presentation titled: *Climate Service: an essential tool for Adaptation*, where he argued that due to the innate difficulties of adaptation, we must enable better management of climate variability and adaptation risks, which must be done through the inclusion of climate information in policy and practice, from a national to global scale.

The COP 21 is set to possibly be the most crucial meeting of leaders so far in achieving a global climate agreement. The science reports that country leaders will use as the foundation for such crucial political decision-making come from our community. Climate science and climate services are responsible for the content of large climate reports- from climate science reports such as the IPCC to impact reports, such as Turn Down the Heat (World Bank). It is this great pool of knowledge that leaders look for guidance on decisions, and climate mitigation stakeholders use as the foundation for their arguments for action.

A lot of invaluable work has been carried out by climate science and climate services over the years, especially in terms of creating the science foundation and thus discussion base for which all vital climate meetings start from. The accumulation of this year's climate talks reminds us of the importance of our role and doing it to the best of our ability and with integrity.

This of course is only the beginning as we continue down the climate change narrative, so let's expand and further solidify our community efforts and improve on our exceptional work in order to contribute as much as possible to dialogues and decisions concerning climate change and our future.

Daniela Jacob



Walter Leal is Professor of Environment, Health and Climate and Head of the Research and Transfer Centre 'Applications of Life Sciences' at the Hamburg University of Applied Sciences (HAW), Germany

What do you think are the roles of adaptation and practice based knowledge in climate services?

They are both very closely related. In order to succeed, adaptation practices need to be based on knowledge. This, in turn, can be provided by climate services. Making climate-related information available to different groups, bearing in mind their information needs, can be very useful in supporting adaptation efforts on the one hand, and to prevent mal adaptation on the other.

Tell me how you think where climate services and adaptation practices converge and diverge?

I think the convergence outweighs the divergent elements. This is so for two main reasons. Firstly, climate services can steer adaptation practices in the right direction. In Africa for instance, it may mean that the documented increases in temperature and forecasts which shows that such a trend is likely to continue, may mean that African rural communities need to seek other types of crops, preferably those which are more drought resistant. Secondly, climate services can also increase the likelihood of adaptation efforts actually working, since it provides information that allows decision-making on long timescales and show –for instance- how best to invest in infrastructure projects (especially the large ones), given the calculated or expected changes in climate conditions over this century and perhaps beyond it.

Tell me a bit about what your organisations does, and the ways in which it is involved with the wider climate services community?

Our organisation, the Research and Transfer Centre "Applications of Life Sciences" at HAW Hamburg, hosts the International Climate Change Information Programme. Our focus is on information, communication and training on climate change adaptation. We work with various climate services centres –right now we are cooperating with the Headley Centre at the UK Met Office on a symposium on climate change adaptation to be held in Ethiopia in February 2016. Our ability to facilitate the documentation, dissemination and use of climate information, and the various technical books we have been producing, are recognised around the world.

What do you see as the largest challenges in developing effective climate services?

Perhaps the ability to address specific information needs. Decision-makers have a completely different mind-setting than businesses. Yet, both use the same science. So, I think we need to make the attractiveness of climate services clearer, to show they are very useful and that instead of being complicated, climate services can be a seamless service, such as banking, insurance or any other services sectors are.

What do you like most about your work?

The thing what I like the most, is to work on projects leading to results. Since we are handling one of the most important issues of modern times, there is a need to build up cooperative links, share or transfer technologies and to interact with different stakeholders in various parts of the world. I am happy that my work is related with projects, which allow me to do that. Working with different partners around the world is sometimes challenging at times (I had a flight of about 20 hours to get here to Zimbabwe), but can also be fun when things work the way they should.

Optimism expressed for air capture technologies to achieve negative carbon emissions

Kelli Armstrong, on Climate Week

Convened by the Climate Group (@ClimateGroup) annually since 2007, Climate Week New York City (#CWNYC) features all sorts of events, practitioners, researchers and public figures making various contributions to raising awareness of the important role carbon emission reductions play in global sustainability.

On Tuesday, 22 September 2015, a panel discussion on “The Case for Removing CO₂ from the Atmosphere: Connecting Problem to Solution” took place at the MetroTech Auditorium in Brooklyn. The event, hosted by the National Grid (@NationalGridUS), was sponsored by Arizona State University’s Center for Negative Carbon Emissions (@ASU_CNCE).

The panel discussion was moderated by Christophe Jospe* (Chief Strategist at Center for Negative Carbon Emissions). Other panellists included Don Chahbazpour* (National Strategy Director at National Grid), Sissi Liu (Director Head of North America Business Development at Joule Unlimited), Frank O’Keefe* (CEO of Infinitree, LLC), and Peter Eisenberger* (CTO at Global Thermostat).

Chahbazpour began the panel discussion reiterating that “most CO₂ in the atmosphere comes from fossil fuels, followed by deforestation”. Because the regeneration rate of fossil fuels and forests is so much slower than our consumption rate, the “only way we can achieve negative carbon emissions is through air capture”, says Chahbazpour.

Fossil fuels and forests are both burned by humans to satisfy their energy demands, but these consumption methods emit unsustainable amounts of CO₂ and other greenhouse gases in our atmosphere. It is because of these excess gases that the Earth is now experiencing global climate change.

The panellists support not only the removal of excess CO₂ from the atmosphere but also increased implementation of renewable energy sources, and more sustainable management of our fossil fuels and forests. A great example of a product that can facilitate this is a carbon neutral fuel. Liu says, Joule Unlimited “produces carbon neutral fuel with the aid of air capture technologies”.

Air capture technologies immobilize CO₂, making it available for reuse so it can be consumed instead of re-emitted into the atmosphere. The process through which air capture is used to achieve negative carbon emissions is called carbon capture and utilisation.

“Immobilizing carbon through sequestration [in] soil and air capture are both important for achieving negative emissions”, says Jospe. But although “CO₂ doesn’t mineralize [in rocks and soils] for tens of thousands of years [...], there are tons of applications for CO₂ from air capture, such as the carbonated solutions used in the production of soft drinks and nutrient-enriched desalinated water”, says Eisenberger.

Another great example of a successful application using air capture technologies, comes from Infinitree. O’Keefe says, “[Infinitree’s air capture technologies involve] a resin made of polymers that CO₂ binds to. When the resin is placed in greenhouses and wetted, it releases CO₂”, making it available for plants to photosynthesise with, “resulting in increased yields”.

Though panellists admit that government support is lacking, some of them believe that policy attention to financial mechanisms such as carbon taxes and cap and trade could accelerate technology innovation and exploitation.

Nonetheless, all of the panellists express their optimism for a growing variety of market opportunities for air capture technologies to substantially reduce carbon emissions and foster climate-smart development.

* Columbia University alumni, faculty or research partner.

climate services spotlight

conversation with James Smith, Climate Knowledge Brokers



James Smith is a community facilitator of the Climate Knowledge Brokers Coordination Hub.

Can you tell me a little about the Climate Knowledge Brokers (CKB) group?

CKB is a community of practice for climate knowledge brokers, meeting regularly since 2011. Participants include many leading climate information players such as the Climate Technology Centre and Network, NREL's Open EI, GIZ, ClimateTechWiki, UNFCCC, Eldis, World Bank Climate Smart Planning Platform, and many more. We learn together how to be more effective as climate knowledge brokers.

Who exactly is a climate knowledge broker? Well, we're all knowledge brokers – as social beings we naturally pass around information, filtering it and combining it with other bits of information that we think are relevant or interesting, then communicating that to others. In this way knowledge moves from one person to another, whether it's the latest football scores, what candidates said during an election campaign, or how a changing climate is likely to impact on the frequency of flooding in a particular place. Some people take on this knowledge brokering role explicitly in their jobs. Climate knowledge brokers are those who do so for information about, or relating to the climate. They work in all types of organisations – governments, academic institutions, international organisations, development banks, NGOs, the private sector, and so on. Not many will have the job title 'climate knowledge broker,' but they will have an explicit role in moving information from knowledge producers towards knowledge users, and vice versa in many cases.

What do you mean by "information relating to the climate?" Climate knowledge brokers don't just deal with information from climate science or climate data per se. Many do, but some are also acting as brokers for information on how people respond to a changing climate, mitigation or adaptation projects, or clean technology, for example.

What is the Climate Knowledge Brokers Manifesto? A statement of our understanding about the role and its importance, and a set of principles for how climate knowledge brokers can become more effective.

What are some key messages coming out of the Manifesto and what does it mean for how the community should engage with these issues? I'd say there are three key messages. The first is the scale of the

information challenge. Climate change used to be a niche topic for scientists, activists and a few policy-makers. Nowadays, it affects almost everyone – we're all becoming climate decision-makers in one way or another. Second is the importance of tailoring what information is presented, and how it is presented, to the particular user. A 'one size fits all' approach doesn't work. A government policy-maker doesn't need the same information as a farmer; a city-planner doesn't have the same requirements as an individual householder. And that's before you even begin to think about different languages, different levels of access to information, differing ability to understand and interpret the information. There's a huge job of intelligent filtering, translation, and repackaging – all of them knowledge broker roles.

The third big message is that we'll only crack this if we work together. This means adopting open data standards, constructing information systems so content can be easily shared, and creating peer networks to exchange learning on what's working and what's not, to avoid reinventing the wheel. Collaboration is ultimately what the Manifesto, and CKB, is all about.

How was the Manifesto developed? Collaboratively! 17 contributors carried out interviews with 80 users of climate knowledge and other knowledge brokers, then attended an editorial workshop in Vienna to discuss what they had learned. A draft was produced and commented on by those 17, plus the dozen members of the CKB Steering Group. Draft v2 was discussed with 55 participants at the CKB Annual Workshop in June in the UN City in Copenhagen. Following further revisions, the Manifesto was approved and adopted by the Steering Group in July.

Has the process of putting together the Manifesto identified new priorities for the CKB? We've had a robust discussion leading to a statement of CKB's principles - something we didn't have up to now. That's helped us to be clearer on what CKB stands for.

The process reinforced the importance of climate knowledge brokers responding to user needs – being demand driven rather than information-supply led – as I've already explained. We realised we need to keep working on a more sophisticated understanding of the multiplicity of users' needs, and what that means for the knowledge broker. The new priority that comes out of that is the emphasis on learning. Unless a person learns, information they have been given does not become part of their knowledge. To do their job well, knowledge brokers have to be concerned not just with presenting information, but also ensuring their users are able to use it for whatever decision they are making. Therefore those users need to learn.

The Climate Knowledge Brokers Manifesto can be downloaded from: <http://manifesto.climateknowledgebrokers.net/>

We've heard this is the most confident El Niño forecast ever. Is that true, and if so, what does that mean?

Indeed. Quite early on, nearly two-thirds of the dynamical models surveyed for WMO's global consensus assessment showed a robust indication of the El Niño establishment and its continued strengthening expected to peak towards the end of 2015. The high confidence in the forecasts emanates from the low levels of uncertainty within the individual models and also across multiple models and forecasting systems. Such high levels of confidence immensely contribute to the effectiveness of the early warning systems and climate risk management approaches. Compared to the last major El Niño events, we now have more information, better prediction models and more awareness, which should all contribute to better preparedness.

There seems to be a lot of comparison between this El Niño and the one in 1997. Do we understand the dynamics of El Niño better than we did at that time?

Expert opinion, including through assessment of model results, suggests that this El Niño would be among the four strongest events since 1950, the other three being 1972-73, 1982-83 and 1997-98. Over the past couple of decades, our understanding of ENSO as well as its representation in climate models have made steady progress. The very fact that a larger number of global centres, including the WMO Global Producing Centres of Long Range Forecasts, are now routinely producing and disseminating operational forecasts of ENSO based on coupled atmosphere-ocean dynamical models demonstrates substantial improvement in our understanding. That said, model biases and inadequate representation of atmosphere-ocean interactions, etc. continue to pose research challenges.

Is there anything about the run-up to this event that raises new scientific questions? This year's El Niño was preceded by a long period of El Niño expectations in 2014, which never materialised, mainly because the overlaying atmosphere largely failed to respond to the warming of the tropical Pacific. It is also important to note that the planet has substantially changed since the last big El Niño of 1997-98; for example, we are witnessing record levels of Arctic sea ice minimum. These are issues that raise new scientific questions, bringing in even the global change aspects, which will need additional research.

How has our understanding of the impacts associated with El Niño changed? While some of the key impacts of El Niño (e.g., its association with a weak South Asian summer monsoon) are still seen, more data, better analyses and better models have vastly improved our understanding of the spatio-

temporal characteristics of these impacts, and also the role of ENSO patterns in modulating the impacts in the complex interplay of other regional factors (e.g., Indian Ocean Dipole). No two El Niño events are the same, and it is also important to note that El Niño and La Niña are not the only factors that drive global climate patterns. At the regional level, seasonal outlooks need to assess the relative impacts of both the El Niño/La Niña state and other locally relevant climate drivers. For example, the state of the Indian Ocean Dipole, or the Tropical Atlantic SST Dipole, and the Pacific Decadal Oscillation may impact the climate in the adjacent land areas.

What are the best ways for organizations to access information about the climate, and its potential impacts, in order to make good decisions? WMO, in collaboration with a number of agencies and experts across the world, regularly issues an El Niño/La Niña Update, which is a consensus assessment of the current situation, and an outlook for the coming months on the El Niño and La Niña. WMO is also working on expanding this product to a "Global Seasonal Climate Update", combining with information on other global-scale factors and also indicating large-scale features of precipitation/temperature impacts. Regionally and locally applicable information is available via regional/national seasonal climate outlooks, such as those produced by WMO Regional Climate Centres (RCCs), Regional Climate Outlook Forums (RCOFs) and National Meteorological and Hydrological Services (NMHSs). People should consult such regionally relevant information on the nature of local impacts, to consider risk management options. It is important to rely on authentic sources of information, and also to understand the associated uncertainties and effectively integrate them into decision making.

Pilot Program for Climate Resilience (PPCR)

The World Bank

The 8th Pilot Countries Meeting of Pilot Program for Climate Resilience (PPCR) took place July 19-24 in Frascati, Italy. The event was organised by the Climate Investment Fund in cooperation with the European Space Agency – European Space Research Institute (ESA-ESRIN). The main objectives of the meeting were to orient 10 newly selected PPCR countries to the program and to enable learning among new and existing PPCR countries. The meeting brought together more than 80 participants from 24 countries, Multilateral Development banks, PPCR Observers and other stakeholders. The meeting overall facilitated active sharing of experiences among the new and the existing countries on strategic planning preparation and implementation. Full-day events were dedicated to earth observation (EO) applications and climate services to foster learning on developments in the delivery and use of climate services for decision-making. The events highlighted climate services as an indispensable pillar for climate resilience and allowed for lessons from the first set of PPCR countries to be shared on integration of climate services in climate resilient planning and investments. This new round of PPCR provides an opportunity to promote a more strategic engagement on climate services, building on the experiences from the existing PPCR countries, and learning from other programs. For additional information, please contact: Kanta Kumari Rigaud, WB PPCR Focal Point kkumari@worldbank.org

Climate Service Center 2.0 becomes GERICS

Climate Service Center Germany



For legal reasons, the Climate Service Center ceased to use the acronym CSC on 1 June 2014, and temporarily changed its name to Climate Service Center 2.0. As of 20 July 2015, the center has a new permanent name "Climate Service Center Germany", which is abbreviated GERICS. This new name, abbreviation and logo (see picture attached) is now used in all communications and new projects. Director of GERICS is Dr. Daniela Jacob.

Latin American Observatory

Launching the Datoteca Data Library

The Latin American Observatory has launched their Datoteca, a version of IRI's (International Research Institute for Climate and Society) Data Library, thanks to a cooperative agreement between the institutes. This tool provides products at different timescales for decision makers in Latin America, ranging from a characterisation of the past behaviour of rainfall amount and frequency, maximum, minimum and mean temperatures, to short-term calibrated forecasts (via the Red Cross-Red Crescent Federation), to the Observatory's own probabilistic seasonal forecasts. Professor Xandre Chourio, lead scientist of the Datoteca project at the Center for Scientific Modeling, indicated that "IRI's Data Library is helping us to 'democratise' access to these products in Latin America; decision-makers have now a continuously updated situation room everywhere they go, just with a few clicks in their phones or laptops."

For more information, see here: http://129.236.110.25/maproom/Sala_de_Mapas/index.htmles

Earth League Second Annual Workshop

The Earth League

The Earth League (EL) recently held its second Annual Workshop, kindly hosted by the Center for Earth System Science, Tsinghua University, Beijing. The workshop's careful timing, held from the 12-13th October, was crucial for solidifying strategic steps and connections in the final lead up to COP 21.

Central to the workshop was a "High-level Dialogue on the Road to Paris", where EL members met with Chinese climate leaders. Here, the Earth Statement (ES) was introduced to Chinese leadership. The ES (<http://earthstatement.org>), written by 17 of the world's leading scientists (comprising the EL), identifies 8 essential elements of climate action needed in COP 21 to safeguard the planet and human development. The ES, which shall be handed over to leaders at Paris, was received with enthusiasm by the Chinese guests. Additionally the EL World-Earth Systems endeavour was presented to Chinese science experts. A roundtable dialogue was held between the Earth League and Chinese guests on cooperation in key future science areas surrounding the fusion of Earth systems science and societal and economic dimensions, for a critical integrated understanding of potential future global pathways on a stable and resilient planet. The Workshop also enabled the first official meeting of the Earth League's new Earth-Doc (post-doc) team. The Earth-Docs, based across five different EL institutes, will be working at the forefront of the World-Earth Systems, covering a wide range of separate critical research areas that are deeply intertwined and related in their impacts.

For more on the Earth League see: <http://www.the-earth-league.org>

News from Red Cross Red Crescent

Red Cross Red Crescent (IFRC)

Climate Services for Resilient Development partnership

-The Climate Centre joined the Climate Services for Resilient Development partnership, announced by the US government in June, to help developing nations vulnerable to climate impacts boost resilience. The American Red Cross – one of seven founding partners – and with it the global Red Cross Red Crescent will leverage staff and resources already operating in focus countries by networking communities, civil society and government agencies. “Climate change threatens our entire planet,” a White House press release announcing the initiative said. The new partnership will harness the resources of actors and institutions, relying on “collaboration between the partners and local stakeholders to ensure long-term ownership and sustainability”.

Action plan for adaption to climate change

- The first twice-yearly dialogue platform supported by the German Federal Foreign Office – gathering meteorologists, climate scientists, humanitarians and donors as part of an action plan for adaptation to climate change – was hosted in Geneva by the IFRC in July. The plan centres on forecast-based financing (FbF) pilots being implemented by the German Red Cross (GRC) and National Societies or the World Food Programme (WFP) in Bangladesh, the Dominican Republic, Haiti, Mozambique, Nepal, Peru and the Philippines. The meeting heard an update on FbF work already underway in Ethiopia, Togo and Uganda from the Red Cross/Red Crescent Climate Centre.

Heatwaves increase under climate change

- In July, it was judged “virtually certain” that climate change increased the likelihood of the heatwave affecting Europe, according to the World Weather Attribution team of international scientists that includes the Red Cross/Red Crescent Climate Centre. It was the first time such information – based on an analysis of observations and models – has been made available during a weather-related emergency.

National System for Agricultural Information

International Research Institute for Climate and Society (IRI)

Since 2013, the IRI has been working with Uruguay's National Agricultural Research Institute and the Ministry of Livestock, Agriculture, and Fisheries to develop a sophisticated information and decision-support system for the country's agriculture sector. The sector, which accounts for 25% of the country's gross domestic product, faces increasing risks of drought and extreme weather events. “The idea is to provide farmers with cutting-edge climate data in terms that anybody can understand,” says IRI's Walter Baethgen.

The project was featured in the Spring/Summer issue of Columbia Magazine: <http://iri.columbia.edu/news/seeds-of-hope/>

Capacity building: modelling tools for climate and public health

International Centre for Theoretical Physics (ICTP)

A number of diseases with high socio-economic impacts have significant climatic and environmental drivers. Although there is a wealth of environmental remote sensing data freely available via the internet, these data are not always fully exploited to inform public health decision-making. To address this gap, a two-week training activity entitled “Modelling tools and capacity building for climate and public health” took place at the Oswaldo Cruz Foundation Itaboraí Palace in Petrópolis, Rio de Janeiro, Brazil from 20-31 July 2015. The course was attended by around 30 PhD students, early career scientists and public health practitioners from across the globe, including Brazil, Colombia, Argentina, Mozambique, Singapore, France and Australia. Participants The workshop was sponsored by the International Centre for Theoretical Physics (ICTP), the Global Framework for Climate Services (GFCS, WMO), the Oswaldo Cruz Foundation and the Science Without Borders Brazilian program, via CAPES (Coordination for the Improvement of Higher Education Personnel). The aim of the workshop was to introduce several tools that can be used to access, visualise and analyse climate and health datasets, and to show how such data can be extracted and converted into a format suitable to devise public health early warning systems.

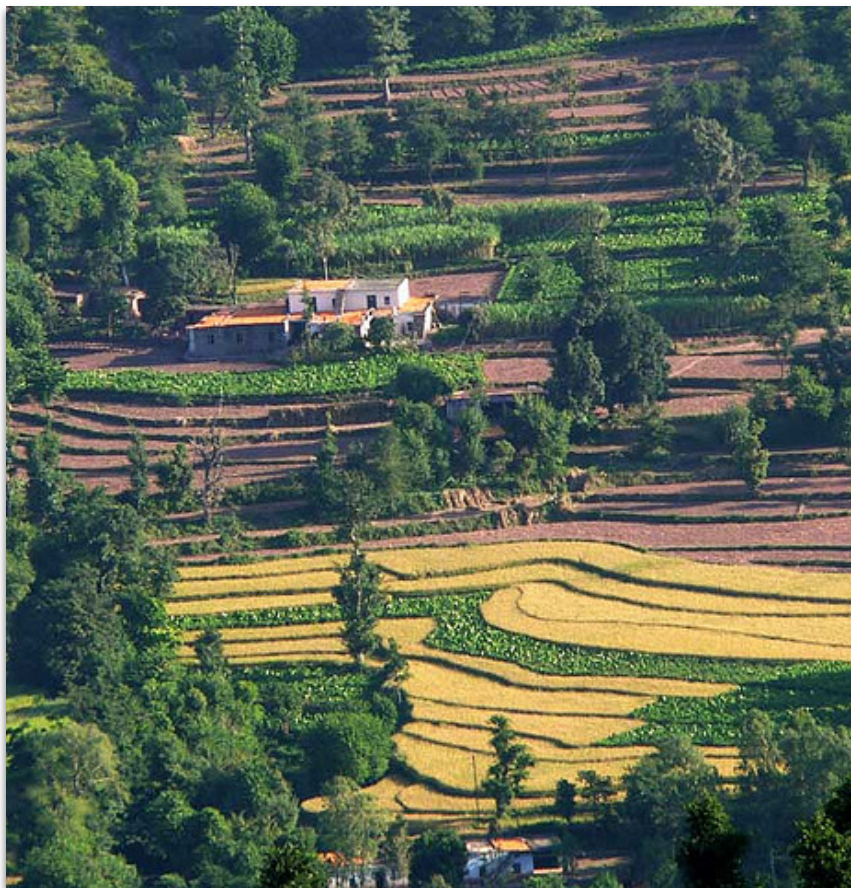


End-of-course group photo outside the Itaboraí Place, Petrópolis, Rio de Janeiro, Brazil.

Farmers in Colombia combine scientific and local knowledge to manage agroclimatic risk

CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS)

Today in four regions of Colombia, local agricultural sector institutions and technicians are tailoring agroclimatic forecasts. These are based on context-specific conditions as an input to make recommendations to farmers within the discussions that take place every month at the Local Technical Agroclimatic Committees. The Committees were established by the CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS) jointly with the Ministry of Agriculture and Rural Development of Colombia by the end of 2014 in two regions of the country, Córdoba and Cauca, with the purpose of creating a dialogue setting that could bring together scientific knowledge (seasonal forecasting and outputs from crop modelling) with local knowledge (farmers, indigenous groups, technicians). The purpose of this dialogue is to develop tailored recommendations for farmers in terms of when to plant, what variety, management practices, water and fertilisers to use, among others, through monthly Local Agroclimatic Bulletins. As a result of the success of these Committees, two more Committees have been established during 2015 in Sucre and Magdalena, and each time more local and national level institutions want to be involved. The reason is that the initiative is being considered as a practice that can reduce agroclimatic risk by providing useful information that can offer probable scenarios to farmers based on agroclimatic forecasts for the next two weeks and six months. Additionally, Colombian government stated in their Intended Nationally Determined Contributions (INDC) for adaptation the establishment of at least 15 Local Technical Agroclimatic Committees in the country during the next years.



Our Common Future under Climate Change

UNESCO & French Government

The scientific conference "Our Common Future under Climate Change" (CFCC) with more than 2200 scientists from around 100 countries all over the world took place in Paris from the 6th to 10th of July. It was the largest expert meeting ahead of the 21st UNFCCC Conference of the Parties 21 (COP21), which will be hosted by France in December.

The CFCC addressed key issues concerning climate change in a broader context of global change, building on the results of IPCC 5th assessment report and heading for discussing solutions for mitigation as well as adaptation options.

The conference itself was structured around the following four topics:

- State of Knowledge on Climate Change
- Landscapes of Our Common Future
- Responding to Climate Change Challenges
- Collective Action and Transformative Solutions

The Climate Service Center Germany (GERICS) participated actively in the conference: Dr. Daniela Jacob, director of GERICS, was leading the session "Multi-sectoral analysis of risks to climate change (hot spots) at 2 °C warming". Here, the impacts of 2 °C and higher global warming compared to pre-industrial level in Europe and for key vulnerable regions in the world were discussed. A cross-sectoral analysis, for example, showed that the projected lower precipitation and higher temperatures have a very negative impact on the local water resources in Crete. Possible adaptation measures in terms of water scarcity would include both, "soft" measures (e.g. changes in behaviour) and also investments in infrastructure in order to get a reliable access to enough water in the future.

One overall result of the CFCC conference was the outcome statement, which summarises the basis for possible action and shows the problem and solution space especially in respect of COP21.

IMPACT2C Atlas

Climate Service Center Germany

The IMPACT2C project, a 4 year project which quantifies for Europe projected impacts under a global 2°C warming, will soon make its results publically accessible through a Web Atlas. This dissemination tool allows all to access key results from the project. It includes climate change impacts as well as vulnerabilities maps on a pan-European level and specific topics for hot spot regions: Bangladesh, Maldives, West-Africa and East-Africa. Each research area is categorised into different topics and stories, which are easily digestible: showing the key results in bullet points, with short explanations of the impacts and which sectors will be affected, as well as giving space for additional important information. A lot of this information is highly interlinked, and the interactive online atlas allows viewers to follow the links and surf between the topics. The atlas looks to bring the scientific content into a common and easily accessible context and framework. It provides input for the development of recommendations on possible adaptations strategies.

CSP Ethics Working Group

Climate Service Partnership

CSP's Working Group on Climate Service Ethics has released a white paper, available on the website and open for comment until the end of the year. The paper reviews ethical challenges associated with the provision and use of climate information and introduces principles of practice and product that can help to guide the climate service

community in identifying and adhering to ethical standards. The white paper is intended to spur conversation around this topic and to lead to further and associated outputs later in the year.

Those interested in contributing to this effort should please feel free to reach out to the group by contacting Cathy Vaughan at: cvaughan@iri.columbia.edu.

Water and Climate Risk in the Caribbean

International Research Institute for Climate and Society (IRI)

This summer, the IRI finished a three-year project with the US Agency for International Development, the Centre for Resource Management and Environmental Studies (CERMES) at the University of West Indies, and the Caribbean Institute for Meteorology and Hydrology (CIMH). A multimedia story from IRI explains the project's activities at the intersection of water, climate and education. It also explores the logical next steps for improving water and climate resilience in the region.



To view the multimedia story, see here: <https://medium.com/@climatesociety/minds-on-the-information-gap-6bfb202854b1>

European Provision of Regional Impact Assessments on Seasonal and Decadal Timescales

EUPORIAS

General Assembly 2015. The EUPORIAS project held its third General Assembly from September 29 to October 1, 2015, in Winterthur, Switzerland. The event took stock of current progress and laid a path for the project's final year, including the identification and prioritisation of strategies to improve the utility, use, and marketability of climate information in European contexts. Challenges and successes of specific prototypes were also discussed. More on the EUPORIAS project is found here: <http://www.euporias.eu/>

A story visual summary of the meeting can be found here: <https://storify.com/Euporias/general-assembly-2015>

Climate, Data & Journalism

Media Innovation & IRI

Together with the Brown Institute for Media Innovation, the IRI co-hosted an event on climate data for journalism on September 24 during Climate Week (22-28 September, 2015). Speakers included Heidi Cullen (Climate Central), Walter Baethgen (IRI), and Andrew Revkin (Dot Earth, New York Times). The event also featured a panel of journalists highlighting recent efforts to use climate data — including Derek Watkins from the New York Times, Kat Bagley from InsideClimate, Brian Kahn from Climate Central, and Eric Roston from Bloomberg Business. The afternoon culminated in a series of focused discussions around challenges in using climate data for journalism: (1) challenges & opportunities in accessing & using climate data; (2) public engagement in creating & using data; and (3) using data to tell compelling stories about the climate.

Online learning platform

Global Framework for Climate Services

Together with the United Nations Institute for Training and Research (UNITAR), the GFCS has launched a learning platform to help people to educate themselves about climate services. The platform includes modules on key terms and concepts related to climate services, the importance of climate-informed decision making, climate services support to international agreements, and issues including probability, climate risk management and economic benefits of climate services.

The platform is found here: <http://bit.ly/1iLhRbe>

Handbook of Climate Change Adaptation

HAW Hamburg and Manchester Metropolitan University

The Handbook of Climate Change Adaptation, edited by Walter Leal addresses the scientific, social, political and cultural aspects of climate change. It focuses on one of the

key aspects of climate change: adaptation and how to handle its impacts on physical, biotic and human systems. Furthermore, it analyses the social and normative scientific concerns and shows the tools, approaches and methods aimed at management of climate change impacts. The work is presented as multi-volume reference in an integrated and coherent way. As one of the largest non-public funded peer-reviewed book projects of this type, the high-quality, interdisciplinary contributions provide state-of-the-art descriptions of the topics at hand. It provides the collective aim of offering, for a broad readership, an authoritative, balanced and accessible presentation of the best current understanding of the nature and challenges posed by climate change. It serves not only as a valuable information source, but also as a tool to support teaching and research and as help for professionals to assist in decision-making.

The book can be viewed here: <http://www.haw-hamburg.de/en/ftz-als/publications/handbook.html>

Climate Week

The Earth League

Climate Week NYC (21-28 September, 2015) saw momentous results as the Sustainable Development Goals were formally adopted by world leaders. These highly praised goals aim to address the interlinked problems of inequality, hunger and climate change by 2030 through 17 key themes.

As part of Climate Week, the Earth League, together with the World Resources Institute, the Global Challenges Foundation and the United Nations Financial Initiative, held a breakfast roundtable event on 26 September. Hosted by Columbia University's Earth Institute, the lively discussions were dedicated to "Climate Risk and the Financial Sector", and were attended by investors and other interested parties. Earth League chair Professor Johan Rockström (professor in Natural Resources Management at Stockholm Resilience Centre, who shares the German Environmental Award 2015 with Mojib Latif, professor at Kiel University) kicked off proceedings by sharing the key messages of the Earth Statement, followed by a presentation on climate risks from Earth League member Professor Peter Schlösser. A panel of experts, including Mark Burrows (Executive Vice Chairman and Managing Director for Credit Suisse, Asia Pacific), Åsa Romson (Minister for the Environment and Deputy Prime Minister of Sweden) and Mats Andersson (CEO of pension fund AP4), then discussed the role of the financial sector in tackling climate change, providing powerful arguments that decarbonising investment portfolios is indeed a sound business proposition.

The Earth League was also represented by Prof. Rockström at an event organised by the B Team (global group of leaders working together to accelerate "Plan B") (<http://bteam.org/tag/climate/>) on "The role of business in achieving the global goals". This event was attended by international business leaders, including Richard Branson (founder of the Virgin Group), Ariana Huffington (Editor in Chief of the Huffington Post), both supporters of the Earth Statement.

Pacific Islands Climate Storybook

Author(s): US National Oceanic and Atmospheric Administration, US Department of State & US Agency for International Development

Summary: Pacific Islands Climate Storybook details community experiences in addressing the impacts of a changing climate in Pacific Island countries. The storybook reflects broad community engagement over a two-year period and incorporates experiential knowledge and scientific data. With emphasis on the vital need for climate early warning, the stories highlight the use of or need for climate services to increase community resilience to a changing climate. They are part of the Pacific Islands Climate Storybook, a compilation of technical material, process guides, and activities that were used to conduct the Climate Services Dialogues and build Climate Stories.

Link: <http://bit.ly/1Gkr7yb>

Barriers to using climate information: Challenges in communicating probabilistic forecasts to decision makers

Author(s): Davis, M., Lowe, R., Steffen, S., Doblas-Reyes, F., & X. Rodó

Summary: Despite the strong dependence of certain sectors (e.g. energy, health, agriculture, tourism and insurance) on weather and climate variability, and several initiatives towards demonstrating the added benefits of integrating probabilistic climate forecasts into decision-making processes, such information is still under-utilised. Improved communication is fundamental to stimulate the use of climate products by end-users. This SPECS (EU project Seasonal-to-decadal climate Prediction for the improvement of European Climate Services) Technical Note focuses on evaluating the current approaches of climate information visualisation and its related communication, and identifies ways to improve this for probabilistic seasonal climate forecasts specifically. The overall aim of this study is to establish a visual communication protocol for such forecasts, which does not currently exist.

Link: http://www.specs-fp7.eu/sites/default/files/u1/SPECS_Technical_note_March_2015.pdf

Capturing and sharing our collective expertise on climate data: the CHARMe project

Author(s): Clifford, D., Alegre, R., Bennet, V., Blower, J., DeLuca, C., Kershaw, P., Lynnes, C., Mattmann, C., Phipps, R. & I. Rozum.

Summary: For users of climate services, the ability to quickly determine the datasets that best fit one's needs would be invaluable. The volume, variety and complexity of climate data make this judgment difficult. The ambition of CHARMe (EU project *Characterization of metadata to enable high-quality climate services*) is to give a wider interdisciplinary community access to a range of supporting information, such as journal articles, technical reports or feedback on previous applications of the data. The capture and discovery of this "commentary" information, often created by data users rather than data providers, and currently not linked to the data themselves, has not been significantly addressed previously. CHARMe applies the principles of Linked Data and open web standards to associate, record, search and publish user-derived annotations in a way that can be read both by users and automated systems.

Link: <http://journals.ametsoc.org/doi/abs/10.1175/BAMS-D-14-00189.1>

What climate services do farmers and pastoralists need in Tanzania? Baseline study for the GFCS Adaptation Program in Africa

Author(s): Coulibaly, J. Y., Mango, J., Swamila, M., Tall, A., Kaur, H., & Hansen, J.

Summary: This report presents final findings from the baseline data collection exercise conducted for Global Framework for Climate Services (GFCS) Adaptation Programme in Africa. The GFCS programme, having a focus on agriculture, food security, health and disaster risk reduction, is implemented in Tanzania and Malawi. Under the auspices of this GFCS, the CGIAR (Consortium of International Agricultural Research Centers) project, the CGIAR research program on Climate Change, Agriculture and Food Security (CCAFS) is responsible to support baseline data collection and monitoring and evaluation to evaluate climate services for farmers and pastoralists in Tanzania. The purpose of this report is to inform national partners on farmers' current access and needs for climate information services.

Link: <http://taccire.suanet.ac.tz/xmlui/handle/123456789/384>

Interpreting climate data visualisations to inform adaptation decisions

Author(s): Daron, J. D., Lorenz, S., Wolski, P., Blamey, R., & Jack, C.

Summary: The appropriate development of graphical visualisations to communicate climate data is fundamental to the provision of climate services to guide climate change adaptation decisions. However, at present there is a lack of empirical evidence, particularly in Africa, to help climate information providers determine how best to communicate and display climate data. To help address this issue, an online survey, primarily targeted at the African vulnerability, impacts and adaptation community, was designed and disseminated widely. The survey examines the interpretation of climate data as a function of the style and information content of graphical visualisations. It is shown that choices made when constructing the visualisations, such as presenting percentile information versus showing the range, significantly impact on interpretation.

Link: http://ac.els-cdn.com/S221209631500025X/1-s2.0-S221209631500025X-main.pdf?_tid=83791128-6609-11e5-99a6-00000aacb362&acdnat=1443462855_c71e8504772d1dde4e2d2cfc1a5e7fa9

Climate change and vector-borne disease: what are the implications for public health research and policy.

Authors: Campbell-Lendrum, D., Manga, L., Bagayoko, M., and J. Sommerfield

Summary: Vector-borne diseases continue to contribute significantly to the global burden of disease, and cause epidemics that disrupt health security and cause wider socioeconomic impacts around the world. All are sensitive in different ways to weather and climate conditions, so that the ongoing trends of increasing temperature and more

variable weather threaten to undermine recent global progress against these diseases. Here, we review the current state of the global public health effort to address this challenge, and outline related initiatives by the World Health Organization (WHO) and its partners. Much of the debate to date has centred on attribution of past changes in disease rates to climate change, and the use of scenario-based models to project future changes in risk for specific diseases.

Link: <http://rstb.royalsocietypublishing.org/content/370/1665/20130552.short>

Education for Sustainability and Resilience in a Changing Climate

Author(s): Honwad, S., Sypher, M. S., Hoadley, C., Lewis, A., Tamminga, K., & Honey, R.

Summary: Educators, researchers, planners, and policy-makers are faced with the challenge of preparing current and future generations for adaptation to the impacts of climate change. Pedagogy related to living sustainably and creating resilience is a complex field of educational practice that involves cognitive, social, and affective aspects of teaching and learning such as environmental decision-making both in a reactive and an anticipatory framing; learning in both formal and informal environments; learning to understand complex systems; and understanding both scientific and socio-cultural aspects of climate change issues related to sustainability and resilience. This symposium has brought together a set of diverse research projects that, together, shed light on teaching and learning about sustainability and resilience in a changing climate.

Link: http://www.researchgate.net/profile/Kenneth_Tamminga/publication/280937585_Education_for_sustainability_and_resilience_in_a_changing_climate/links/55ccdd5a08aebd6b88e0598d.pdf

Communicating Climate Change Risk and Enabling Pro-Environmental Behavioral Change Through Human Resource Development

Author(s): Sadler-Smith, E.

Summary: The Problem Climate change is the most pressing environmental issue of our times. The majority of reputable scientists are in agreement that it threatens dangerous and irreversible impacts on the whole-Earth system. The mitigation of its potential effects requires immediate, substantial, and sustained actions.

This article proposes two ways in which human resource development (HRD) can contribute: first, through individual learning and development interventions; second, through organisational development and change. Furthermore, it is argued that organisational culture and individual agency have the potential to reciprocally enable or constrain pro-environmental behavioral change; hence to be

effective, green HRD requires interventions both at the individual and the organisational levels. The Stakeholders HRD scholars, researchers, and practitioners may also be of interest to others involved in environmental sustainability and critical management studies.
Link: <http://adh.sagepub.com/content/early/2015/09/15/1523422315601087.abstract>

Local climate change policy: a comparative analysis of climate mitigation- and adaptation policy between four municipalities in Twente, The Netherlands

Author: Vegt, A. van der

Summary: Climate change has become increasingly manifest. Local governments have shown to play an important role in the implementation of initiatives that contribute to climate change mitigation- and adaptation. In this study, the following research question is addressed: What problems and opportunities can be identified in local climate change policy when comparing similarities and differences in views on local climate change policy between four Twente municipalities? The research question is studied using a comparative analysis amongst four cases, which are local governments in the region of Twente. Two rural municipalities and two urban municipalities have been selected. Interpretive policy analysis and CAQDAS (Computer-assisted qualitative data analysis software) have been used to analyse the collected research data from the interviews and policy documents. Results from the comparative analysis shows all municipalities lack a high budget for climate change policy implementation. A general lack of balance between climate change mitigation- and adaptation has also been found. However, it was found that, from comparing the four municipalities, Hengelo has the best balance.

Link: <http://essay.utwente.nl/68204/>

Exploring the use of seasonal climate forecasts in Europe through expert elicitation

Author(s): Bruno Soares, M.

Summary: The importance of climate information for decision-making in sectors susceptible to climate variability and change is widely recognised. Advancements in climate science have led to an increased interest in seasonal climate forecasts (SCF) although in Europe very little is known about the practical use of these forecasts. To start filling this gap we conducted a workshop with experts in this subject area in order to elicit their knowledge and experiences regarding the current use of SCF in Europe. We found that although the use of SCF across Europe is fairly limited, particular sectors such as energy, water, insurance, and transport are taking the lead. The central role of the European Centre for Medium-Range Weather Forecasts and National Meteorological Services as the main providers of SCF in Europe was also highlighted. Perceived barriers to their uptake tend to be associated with factors such as accessibility, relevance, and usability of SCF by the end-users. Some of our findings are consistent with other experiences outside Europe where the uptake of SCF for

decision-making has a longer history. For example, the interaction between actors, the usability of the information provided, and the influence of institutional and social factors have all been noted as important aspects influencing the use of these forecasts in Europe. However, as these findings are based on experts' knowledge further research with decision-makers and end-users is needed to better understand the use and potential benefits of SCF in Europe.

Link: http://www.researchgate.net/publication/280567968_Exploring_the_use_of_seasonal_climate_forecasts_in_Europe_through_expert_elicitation

Drought stress impacts of climate change on rainfed rice in South Asia

Author(s): Angeles, O., Radanielson, Ando., MarcaidaIII, M., & Manalo, E.

Summary: Rice production is threatened by climate change and the productivity of rainfed rice is increasingly challenged. A better understanding of the future trends of rice production associated with climate change is important for improving food security. Rice production under irrigated and rainfed conditions was simulated using the rice crop model ORYZA2000. Simulated rice yield representing crop and environment interaction was used to evaluate the drought impact of climate change on rainfed rice in South Asia. If rainfed rice system was applied in all current rice cultivating areas in South Asia, drought stress could result to yield losses of more than 80 in 22 %, but crop failure was lower than 40 in 73 % of the areas under mild and severe SRES A1B and A2. The spatial patterns of drought stress on rainfed rice were similar under both A1B and A2, and the yield loss and crop failure decreased slightly in the far future (2045 to 2074) in areas where drought risk was high in the near future (2015 to 2044), but the impacts would gradually increase over initially low-impact areas. Both A1B and A2 would shift the best sowing season of rainfed rice to be earlier or later by up to 90 days in 30 years. Appropriate adjustment of sowing season is a major adaptation strategy for rainfed rice production in South Asia to benefit from climate change. In this case, rainfed rice yield could potentially increase by about 10 % in most areas of South Asia associated with 10 to 50 % lower inter-annual variation and slightly higher risk for crop failure.

Link: <http://link.springer.com/article/10.1007/s10584-015-1487-y>

Seventh International Conference on Agricultural Statistics

Lead organisations: Italian National Institute of Statistics and Food and Agriculture Organization of the UN (FAO).

Date: 26-28 October, 2015

Location: Rome, Italy

About: The Seventh International Conference on Agricultural Statistics will take place under the theme 'Modernization of agricultural statistics in support of the Sustainable Development Agenda'. The conference, which will bring together economists, statisticians, researchers and analysts working on agricultural and rural statistics, is expected to discuss changing needs and opportunities for agricultural statistics, particularly in the context of the development of the indicator framework for the Sustainable Development Goals (SDGs). The conference will include plenary sessions and parallel sessions on: poverty, rural development and the social dimension of agriculture; sustainable agricultural production and consumption; markets, prices and value chains for the agribusiness sector; natural resource use in agriculture (soil, water, fishery, forestry, biodiversity); climate change and environmental issues: the role of agriculture; and data sources, data collection, use of information technology tools and data quality; data analysis integration and modeling; and data dissemination and communication and the use of statistics for policy making and research. Interested participants should submit abstracts in response to the call for papers by 30 September 2015. The Italian National Institute of Statistics is organising the conference in collaboration with the Food and Agriculture Organization of the UN (FAO).

Web link: <http://www.climate-services.org/event/seventh-international-conference-on-agricultural-statistics/>

Fifth Climate Change & Development Conference

Lead organisations: Climate for Development in Africa (ClimDev-Africa) Programme

Date: 28-30 October, 2015

Location: Victoria Falls, Zimbabwe

About: To support Africa's preparedness for the 21st session of the Conference of the Parties to the UN Framework Convention on Climate Change (COP21), the Fifth Conference on Climate Change and Development in Africa (CCDA-V) will be held on the theme "Africa, climate change and sustainable development: what is at stake at Paris and beyond?". The conference will be the culmination of climate change dialogues across the continent and will focus on addressing the climate change, sustainable development and equity issues provided for in Article 2 of the UN Framework Convention on Climate

Change (UNFCCC) in the context of the broad theme on "Prospects for Sustainable, Resilient and Creative Economies in Africa in the Context of a Changing Climate". CCDA-V aims to, among other things, contribute towards the development of common African positions regarding the post-Kyoto global climate governance regime, as well as anticipate the outcomes of COP21 and initiate preparations for their implementation. The event is organised under the auspices of the Climate for Development in Africa (ClimDev-Africa) Programme, which is a consortium of the African Union Commission (AUC), the UN Economic Commission for Africa (UNECA) and the African Development Bank (AfDB).

Web link: <http://www.climdev-africa.org/ccda5>

Innovations in Climate Services, Contributions of National Meteorological Services (NMSs) to Adaptation

Lead organisations: Royal Netherlands

Date: 2-4 November 2015

Location: Egmond aan Zee, The Netherlands

About: Meteorological Institute (KNMI), Ministry of Infrastructure and the Environment, The Netherlands
Brief summary: Many NMSs play a special role in climate services by contributing to national adaptation strategies, to the European Copernicus project and to the Global Framework for Climate Services (GFCS) of the World Meteorological Organization (WMO). This role particularly concerns information on extreme weather events in the current and future climate. However, the connection between impact and vulnerability assessment, meteorological information and options for adaptation measures is often not well developed. This workshop aims to identify the main challenges, to show good examples and to generate new ideas for innovations in climate services from NMSs to address adaptation issues.

Web link: www.innovationsinclimateservices.eu

Contributions of National Meteorological Services (NMSs) to National Adaptation Strategies

Lead organisations: Dutch government

Date: 2-5 November, 2015

Location: Egmond aan Zee, Netherlands

About: Many NMSs play a special role in climate services by contributing to national adaptation strategies, to the European Copernicus project and to the Global Framework for Climate Services (GFCS) of the World Meteorological Organization (WMO). This role particularly concerns information on extreme weather events. In 2017 all EU member states countries are requested to have a national adaptation strategy. The Dutch government strongly supports this development and has commissioned the organisation of this workshop.

The workshop involves NMSs, policy makers at national and European level, environmental agencies, projects that aim for providing climate services, companies providing adaptation services and NGOs. Among others there will be participants from Copernicus, EEA, EU DG Clima, EU DG R&I, GFCS, JPI-Climate, Provia, CTCN and WMO CCI.
Web link: <http://www.innovationsinclimateservices.eu>

Rome 2015: Science Symposium on Climate

Lead organisations: Food and Agriculture Organization of the United Nations (FAO)

Date: 19-20 November, 2015

Location: Rome, Italy

About: The Conference is hosted by FAO (Food and Agriculture Organization of the United Nations). FAO will provide its expertise to ensure that the Conference findings – which are sole responsibility of the organisers – are relevant to member countries goals of food security, sustainable natural resources management and rural development. The Conference will be held on November 19-20, 2015 at FAO Headquarter (Rome).

The Conference aims to involve scientists, researchers and policy makers to provide a focused summary of the key impacts of climate and climate change on natural and socio-economic environments, and highlight needed response actions and related policies on adaptation and mitigation activities, ahead of the UNFCCC Conference of Parties in Paris, COP21, on Dec 2015. The main objectives of the Conference will be to summarise the Italian experience on climate research and policy action, within the international setting, and specifically:

- Highlight the most relevant results achieved by the scientific community in the field of climate research and policy
- Provide the scientific knowledge in support of evidence-based decision making in preparation of needed adaptation and mitigation strategies, with explicit linkages to food security and sustainable development goals of developing countries
- Explore future perspectives for research needs on climate change
- Provide a fruitful opportunity for dialogue, exchange of ideas and sharing of experiences within the scientific community towards policy-relevant knowledge

A statement from the Italian scientific community will be proposed during the Symposium in order to be presented at the XXI UNFCCC- Conference of the Parties in Paris.

Web link: <http://www.rome2015.it/>

21 Conference of the Parties

Lead organisations: United Nations

Date: 30 November - 11 December, 2015

Location: Paris, France

About: The main objective of the annual Conference of Parties (COP) is to review the Convention's implementation. The first COP took place in Berlin in 1995 and significant meetings since then have included COP3 where the Kyoto Protocol was adopted, COP11 where the Montreal Action Plan was produced, COP15 in Copenhagen where an agreement to success Kyoto Protocol was unfortunately not realised and COP17 in Durban where the Green Climate Fund was created.

In 2015 COP21, also known as the 2015 Paris Climate Conference, will, for the first time in over 20 years of UN negotiations, aim to achieve a legally binding and universal agreement on climate, with the aim of keeping global warming below 2°C.

Web link: <http://www.cop21.gouv.fr/en>

AGU Fall Meeting

Lead organisation: International Geosphere-Biosphere Program

Date: 14-18 December, 2015

Location: San Francisco, United States

About: The International Geosphere-Biosphere Program is planning a series of events at the 2015 AGU Fall Meeting to celebrate their past and to transition to Future Earth. All their networks and partners are invited to participate. The events are designed to:

- Present IGBP's second Earth-system synthesis
- Bring together IGBP's projects, networks, partners and staff past and present
- Planned events and activities (dates to be confirmed)

- Union session/Great Debate
- IGBP and projects integrated sessions
- Young scientist event
- Booth and networking event

Evening reception recognising and celebrating the people and projects that made IGBP a success for three decades

Web Link: <http://fallmeeting.agu.org/2015/>