DesertNet International Newsletter n. 3/2015

This quarterly electronic newsletter is intended to inform the scientific community about dryland-relevant research matters. The **deadline** for receipt of material for the next issue is **20.01.2016.** Please send your contributions (1000 characters max, including spaces) to nrd@uniss.it and czanolla@uniss.it

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1 Message from Wafa Essahli – Chair of DesertNet International

Dear members of DesertNet International,

The major event of recent months was the participation of DesertNet International at the twelfth Conference of the Parties of the UNCCD (CoP12) that was held in Ankara, Turkey from 12th to 23rd October 2015 through the side event organised by the newly created International Consortium of Science and Knowledge Networks on Sustainable Land Management (ICoN SLM).

ICoN SLM is a network of networks founded by DNI, WOCAT and GNDRI. Since its launch in Windhoek on September 2013 during UNCCD CoP11, DNI has been very active in its implementation process.

The side event in Ankara on: "Policy-oriented research to achieve land degradation neutrality: ICoN SLM's contributions to COP 12" aimed at discussing the policy oriented research needs proposed by ICoN SLM and to identify ways to operationalise LDN and develop a process for concrete interactions between ICoN SLM and the UNCCD's Science Policy Interface (SPI).

The side event saw the active participation of many representatives of the Parties who provided precious feedback on how ICoN SLM could interact between the scientific community on one side and the SPI of the UNCCD on the other to achieve the upscaling of SLM strategies at Government level.
Certainly, ICoN SLM gives DNI a great opportunity to strengthen its activities and improve its impact on the UNCCD's related knowledge and science development. DNI's members present in Ankara also discussed the network's activities and sought to identify all the opportunities offered by their projects to initiate actions that can mobilize members and increase the visibility of our network.

Wafa Essahli, DNI and ICoN SLM Chair

2. Information relevant to DesertNet members

Science at UNCCD COP.12

The twelfth session of the Conference of the Parties to the UN Convention to Combat Desertification took place from 12 to 23 October 2015 in Ankara, Turkey (for details on the negotiations see http://issd.ca/desert/cop12).

The newly established Science Policy Interface (SPI) of the UNCCD successfully presented the results emerging from its first work programme 2014-2015. The SPI had compiled 8 of the 11 documents, which were the basis of the negotiations at the session of the Committee on Science and Technology (STC) at COP.

CST Session/COP.12 in Ankara, Turkey, October 2015.

The SPI addressed the policy implications of the outcomes of the UNCCD 3rd Scientific Conference held in Cancun in March 2015 (for details see http://www.unccd.int/en/about-the-convention/official-documents/Pages/SymbolDetail.aspx?k=ICCD/COP(12)/CST/2&ctx=COP(12)/CST). The SPI also proposed a mechanism to improve the efficiency of the CST, also through the strengthening of synergies between the Rio Conventions and other science-policy interfaces and scientific networks.

Based on the recommendations of the SPI, COP.12 decided that the SPI mandate, as contained in decision 23/COP.11, paragraph 3, should be extended to enable the SPI, under the leadership of the Bureau of the CST, to provide the CST with clear thematic guidance on scientific knowledge requirements. The SPI will also identify the optimal way forward to address these knowledge requirements. This can include commissioning an individual or group of experts, organizing expert meetings, encouraging the organization of regional meetings by regional scientific institutions or networks. In order to implement the optimal mechanism, the SPI under the leadership of the CST Bureau will select experts, including from scientific societies, science and knowledge organizations, and civil society organizations, and networks known for their expertise in DLDD.

Information provided by: Mariam Akhtar-Schuster, Advisory Board DNI

Desertif'actions 2015: voicing civil society into the UNCCD and other international forums

Convened by the CARI (Centre d'Actions et de Réalisations Internationales) NGO, Désertif'actions 2015 is the international forum of civil society, which addressed combating desertification and land degradation issues facing climate change. It brought together some 300 actors in the international development arena, representing 57 countries. It took place, from June 10th to 13th, 2015 in Montpellier, France.

The stakeholders impacted by desertification processes and by the acceleration of these processes are often not asked to participate in international debates. Civil society's purpose in meeting at Desertif'actions 2015 was to reintroduce the testimony and interrogations of these stakeholders into international conversation and debate. It will then be in a better position to make itself heard during the international summits that followed the conference, which included:

- UN General Assembly and validation of the Sustainable Development Goals
- United Nations Conference to Combat Desertification in Ankara,
- United Nations Framework Convention on Climate Change Conference presided by France in December 2015.

Desertif'actions evidenced the capacity of civil society to organize itself in order to work in a synergistic way with a wide diversity of stakeholders and deliver recommendations in view of major international events which will take place towards the end of 2015.

The participants evidenced the indisputable links between land degradation and the three domains of environment, development and international stability within the framework of present and forthcoming impacts of climate change.

The major outcome of that event placed emphasis on the key role of land and soils and the need to fight against their degradation within the framework of negotiations about climate change. New priority must be given to agriculture, in terms of benefits expected for both mitigation and adaptation. All the participants, including representatives from French and African ministries, supported the related declaration, which is referenced hereunder.

Indeed, this declaration took into account preliminary work of national voluntary meetings held in Burkina Faso, Burundi, Chad, Congo, India, Iran, Ivory Coast, Mali, Morocco, Mauritania, Niger, Tunisia, the regional meeting in the Middle East, and the electronic forum bringing together 380 people from 46 countries, and needless to say the Montpellier meeting from June 10th to 12th, 2015.

A special event was organized during the UNCCD CoP 12 in Ankara, where the major outcomes of Desertif'actions were presented, and where major stakeholders explained how they planned to convene the related messages to CoP 12. The CoP12 President declared that he would present the Conference outcomes to the Paris 2015 UNCCD CoP 21 in Paris, December 2015.

Declaration website (English) : http://cariassociation.org/IMG/pdf/CR-Da15-english_light.pdf

Information provided by: Gerard Begni, DNI – CSFD/CAC

Report of First Sahara Scientists Summit (3S) at Budapest, Hungary

The 1st Sahara Scientists Summit („3S") was organized by the 165 yr old Budapest Chamber of Commerce and Industry (BCCI-EBTS) Energy and Bio-Technology Section at Budapest, Hungary on May 20th, 2015. „SSS" made its first most important step towards a „Fundamentally New Approach" (FNA) to climate mitigation and sustainability. Speakers emphasized that scientific approaches with innovative and progressive new solutions developed for climate mitigation could offer multidimensional responses on the most important questions of humanity, such as migration (which has become a global key security issue nowadays), unemployment, food and feedstock supply against qualitative and quantitative starvation, reforestation and renewable energy supply. As a summary of the summit speakers have agreed that application of such type of complex solutions could increase overall national security. The Chairman of the Organizing Committee was Prof. Dr. Jozsef Steier (President of the Budapest Chamber of Commerce and Industry. 1016 H-Budapest, Krisztina krt. 99. Tel.: +36-1-4424720. E-mail: j.drsteier@sunwo.eu). Plenary speakers included Prof. Dr. Nguyen Huu Ninh (Chairman of the Center for Environment Researc Education and Development. 279/24 Giang Vo, Ha Noi, Viet Nam), and Prof. Dr. Janos Mika (Climate researcher of the Hungarian Academy of Sciences. 1054 H-Budapest, Nádor u. 7)

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Information provided by: Márton László, ISSAC CAR HAS, Hungary

'ENVIRONMENTS' issues peer-reviewed papers from 2014 Global Land Project (GLP) Asia Conference

environments

According to UNCCD, "Out of a total land area of 4.3 billion hectares, Asia contains some 1.7 billion hectares of arid, semi-arid, and dry sub-humid land […]. In terms of the number of people affected by desertification and drought, Asia is the most severely affected continent".

The Global Land Project (GLP) took the initiative to convene a conference in Taipei (Taiwan) on 24–26 September 2014, focused on sustainable land use and ecosystem management, investigation of the vulnerability and resilience of critical lands, and the development of modeling and analysis tools for land-use projects. Such discussions emphasized the connections between the environment, ecosystem, and ecosystem services. A set of papers were selected by a rigorous peer review procedure and published in a recent special issue of 'Environments'.

SOURCES: GLP e-News No. 73, May 31, 2015 – Environments, Special issue :"Selected Papers from 2014 Global Land Project (GLP) Asia Conference"

Information provided by: Gerard Begni, DNI – CSFD/CAC

Understanding impacts of desert urbanization climate

NASA LCLUC Land-Cover / Land-Use Change Program

The NASA Land-Cover and Land-Use Change (LCLUC) Program has just issued its first electronic newsletter. We can find there a paper about 'Understanding Impacts of Desert Urbanization

on Climate and Surrounding Environments to Foster Sustainable Cities Using Remote Sensing and Numerical Modeling'

This interdisciplinary project examines how urban infrastructure and vegetation (land cover) is distributed in and around sub-tropical desert cities and how this affects both the local and regional climate. Five regions were chosen-Las Vegas, USA; Beer Sheva, Israel; Jodhpur, India; Kharga, Egypt; Hotan/Hetian, China-to allow for a comprehensive analysis.

The project has two overall goals. One is to gain a better understanding of how land cover and land use (LCLU) distribution, patterns, and arrangements within and around these cities affect the local and regional climate as well as how changes in these elements increase or decrease heat retention or cooling in these areas. The second is to use this knowledge to support adaptive management and foster the development of sustainable desert cities.

SOURCE:
http://lcluc.umd.edu/newsletter_article_Soe_format.php?utm_source=Newletter_Version2&utm_campaign=First+newsletter&utm_medium=email

Information provided by: Gerard Begni, DNI – CSFD/CAC

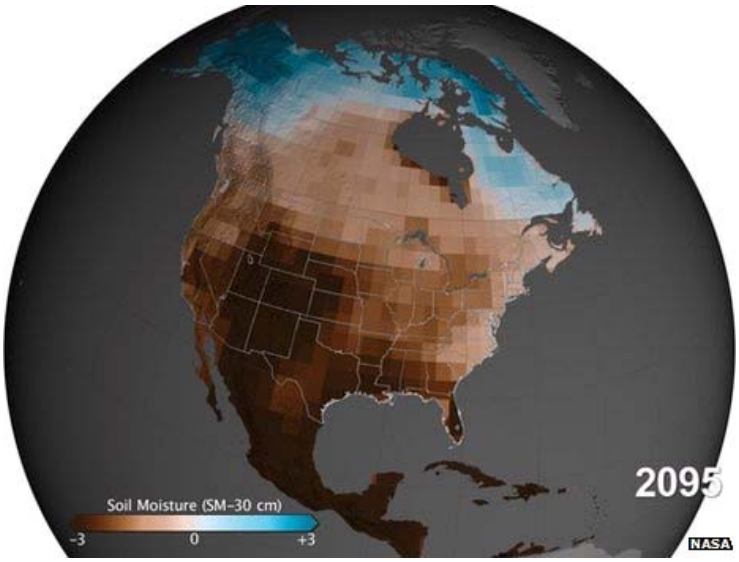
Common Water Strategy of 5+5 Dialogue Countries Adopted in Algiers

Water Ministers of the countries of the Western Mediterranean (5+5) and their representatives adopted last March 31st, 2015, in Algiers, a common water strategy, marking the effective start of the Euro-Maghreb dialogue in this sector. This strategy, intended to implement a common approach in terms of addressing water-related concerns, was adopted by all ten countries of the northern and southern shores of the western Mediterranean. The works of this ministerial conference were held under the joint chairmanship of Algeria and Spain which initiated this 5+5 Dialogue. This common strategy is meant to "establish the rules for sustainable governance of the water sector in all the member countries," said Spanish Minister of Agriculture, Food and Environment Isabel Garcia Tejerina. The Minister also said that the common strategy on water for the sub-region placed a particular emphasis on the need to set up an integrated system for better water demand management while including an environmental component. The strategy is also about defining priorities for national projects regarding access to water resources and purification. An action plan is going to be developed by the 5+5 water expert group that should meet later in the year.

SOURCE: http://www.emwis.net/initiatives/5et5/water-ministerial-conference-western-mediterranean-5-5-algiers-algeria-31-march/common-water-strategy-5-5-dialogue-countries-adopted-algiers

Information provided by: Gerard Begni, DNI – CSFD/CAC

US and North Canada at risk of mega-drought future



According to a paper published by Benjamin I. Cook et al. in Science Advances, climate change is expected to increase drought severity in the coming decade in the Southwest and Central Plains of Western North America. The authors used an empirical drought reconstruction and three soil moisture metrics from 17 state-of-the-art general circulation models to show that these models project significantly drier conditions in the later half of the 21st century compared to the 20th century and earlier paleoclimatic intervals. This desiccation is consistent across most of the models and moisture balance variables, indicating a coherent and robust drying response to warming, despite the diversity of models and metrics analyzed. The cause of the drying is twofold: (i) reductions in rainfall and snowfall, and (ii) increased evaporation, driven by higher temperatures, leading to more parched soils. Projections evidence unprecedented drought conditions during the last millennium.

SOURCES: http://advances.sciencemag.org/content/1/1/e1400082

Information provided by: Gerard Begni, DNI – CSFD/CAC

Satellite-based Wetland Observation Service (SWOS) project launch

The kick off meeting of Satellite-based Wetland Observation Service (SWOS) project took place in Jena (Germany) o*n* July 1st-2nd, 2015. The Satellite-based Wetland Observation Service (SWOS) project is co-funded by Research and Innovation H2020 programme for 3 years and involves 13 partners.

The main objective is to develop a monitoring and information service focusing on wetland ecosystems. The partners started working on the selection of test sites, their characterisation and products that will be derived from satellites data. A wide variety of wetland areas will be studied, in some cases in combination with the entire river basin to analyse the contribution of these areas to water management.

In the Mediterranean area, the coverage should include sites in Spain, France, Italy, Greece, Slovenia, Montenegro/Albania, Morocco, Algeria, Egypt, Jordan and Tunisia. Service cases will be developed focusing on the key policy issues of each area.

The types of product foreseen are: land cover/land use (and their changes), inventory/delineation, soil moisture, land surface temperature, water quality and surface water dynamic. A strong focus will be on end-users' engagement through dedicated workshops, field visits, training and direct access to the services.

SOURCE: http://www.emwis.net/thematicdirs/news/2015/08/satellite-based-wetland-observation-service-swos-project-launch

Information provided by: Gerard Begni, DNI – CSFD/CAC

Japan successfully launched the Himawari 8 weather satellite on October 7th, 2014

The Japanese Geostationary Meteorological Satellite (GMS) series, also known by its nickname, "Himawari" (meaning a "sunflower"), is on a geostationary orbit at 140 degrees of east longitude to carry out weather observation from space as part of the World Weather Watch (WWW) project of the World Meteorological Organization (WMO).

The spacecraft's main instrument is the Advanced Himawari-8 Imager, a sixteen-channel multispectral imager operating at visible-light and infrared wavelengths. It currently produces full-disc and area images with a resolution of up to 500 meters. Each spectral band brings dedicated information for different observations, allowing the satellite to collect data on various factors including cloud cover, temperatures, winds, precipitation and aerosol distribution.

SOURCES: http://global.jaxa.jp/projects/sat/gms/index.html

Information provided by: Gerard Begni, DNI – CSFD/CAC

A key milestone for SWOT, a F/US continental hydrology mission

On Tuesday 6 January, CNES and Thales Alenia Space (TAS) signed a contract to develop the spacecraft bus for the French-U.S. SWOT satellite to be launched in 2020.

The SWOT mission (Surface Water and Ocean Topography) will fly an Earth-observation satellite dedicated to measuring surface water levels in lakes and rivers and river discharges, and to acquiring highly precise and detailed data on ocean topography. It is designed around a key leap-ahead technology using wide-swath interferometry that promises to revolutionize oceanography and land surface hydrology. The mission is the latest in a long line accomplished in partnership between US/NASA and FRANCE/CNES, beginning in 1992 with the launch of the TOPEX/Poseidon satellite and since continuing through the series of Jason satellite missions.

Together with SMOS which measures the soil moisture at low resolution, high-precision geoid models from the GOCE satellite and precise digital terrain models, SWOT should prove to be an innovative system to estimate and forecast water availability in arid, semi-arid and sub-humid regions

SOURCES: https://swot.cnes.fr/en/SWOT/index.htm
http://swot.jpl.nasa.gov/

Information provided by: Gerard Begni, DNI – CSFD/CAC

Educational resources for Sustainable Development

The UN Global Initiative Sustainable Development Solutions Network offers courses for free online, Courses focus on The Age of Sustainable Development, Planetary Boundaries and Human Opportunities, and Climate Change Science and Negotiations. Please visit https://www.sdsnedu.org/

This network encourages you to share the courses with your students, and is keen to work with you to incorporate the materials they have created into your teaching, both online and in brick-and-mortar classrooms.
Please contact Megan.Cassidy@unsdsn.org for more information.

Information provided by: Maria Jose Marqués, Univ. Autónoma de Madrid, Spain

3. Researchers' Updates

Growing food vertically in the drylands

Vegetables and herbs can easily be grown in towers of recycled bottles, pots or buckets. Container gardening is an efficient tool the combatting hunger and malnutrition.

In the battle against desertification and hunger, soil and water are difficult to manage. Soils are often sandy or stony, poor to infertile. Water is mostly a limiting factor for plant growth. These tightly linked factors limit the production potential for food crops and fodder, afforestation or reforestation. Speaking about agriculture in the drylands, these factors are associated with improving soil conditions with either the use of fertilizers, manure, compost and with the use of wells, drip irrigation, tubes, canals, sprinklers. Farming and gardening are normally an activity performed at the horizontal level in the field. Exceptionally, farmers are thinking of growing crops in a vertical garden. And yet, there are important benefits in vertical farming: less dependency on soil qualities, saving of irrigation water and nutrients, optimized growing conditions, maximal plant production on the smallest surface, easier resource management, and less labour. Vertical farming or gardening techniques could easily be promoted by development organizations as a low investment method with a high return-on-investment.

Vertical Farming or Gardening in Soda Bottles or Pots

As the majority of dryland populations cannot afford PVC tubes, we decided to utilize food grade plastic bottles and pots. Most developing countries are experiencing environmental pollution from littering. By creatively recycling discarded containers, we were able to grow a number of different crops and saplings in individual containers, e.g. yogurt pots. On the basis of these successes we developed the method of stacking individual containers to form towers. This simple solution - growing vegetables and herbs in window-like openings in the sidewall of recycled bottles, pots and buckets – has the potential of becoming a cheap, but effective tool for dryland people. The method is basic, uncomplicated and easily understood. The footprint is compact with important resource conservation benefits. Watering the entire tube-like tower through a single water-tank on top of each tower offers impressive water savings

and nutrient conservation. It offers anyone on Earth the possibility of growing fresh food on an extremely limited surface.

Videos:
Building a bottle tower for container gardening : https://youtu.be/-uDbjZ9roEQ
CÓMO HACER LA HUERTA VERTICAL DE BOTELLAS DE PLÁSTICO : https://youtu.be/2mx-lzPz2DM
BOTTLE TOWER GARDENS : https://youtu.be/K9vN2eudWcQ

Information provided by: Willem Van Cotthem - University of Ghent, Belgium

4. Important upcoming events

List of links to next meetings regarding desertification, water conservation and land degradation.

2015		
5-6 Dec	Global Landscapes Forum 2015 http://www.landscapes.org/setting-stage-2015-global-landscapes-forum/	Paris, France
28-29 Dec	AgriAqua http://www.agriconference.info/topics/	Colombo, Sri Lanka
2016		
17–20 Jan	International Remote Sensing Conference - Saudi Arabia https://www.irsc-sa.org/	Riyadh, Saudi Arabia
13-15 Mar	RDC 2016 - Rural Development Conference http://www.rdconference.org	Bangkok, Thailand
14-17 Mar	4th World Congress of Biosphere Reserves http://www.unesco.org/new/fileadmin/MULTIMEDIA/HQ/SC/pdf/First_Announcement_WCBR2016_en.pdf	Lima, Peru
8-12 May	The International Society for Ecological Modelling Global Conference http://www.isemconference.com/	Towson University, MD, USA
31 May –2 Jun	International Conference on Conservation Agriculture and Sustainable Land Use http://caslu2016.mtafki.hu/venue.html	Budapest, Hungary
1–4 Jun	2nd EWaS International Conference: Efficient & Sustainable Water Systems Management toward Worth Living Development http://www.ewas2.tuc.gr/5709.html	Chania, Greece
10–14 Jul	8th International Congress on Environmental Modelling and Software (iEMSs 2016) http://www.iemss.org/sites/iemss2016/	Toulouse, France
13–15 Jul	22nd International Sustainable Development Research Society Conference http://www.isdrsconference.org/	Lisbon, Portugal
22–26 Aug	10th European Conference on Ecological Restoration Best Practice in Restoration www.ser2016.org	Freising, Germany
29 Aug – 1 Sep	EcoSummit 2016 http://www.ecosummit2016.org/	Montpellier, France
12–15 Sep	8th International Conference on Scour and Erosion http://www.icse2016.com/topics/	Oxford, United Kingdom

Information provided by: DNI Bureau

Future Earth Session, AGU Fall Meeting- 14-18 December 2015

In September this year the United Nations launched its post-2015 development agenda in the form of Sustainable Development Goals. By being universally applicable and focusing on such diverse aspects as climate, food, water, health, urbanization and inequality, the goals seek to address development from a holistic perspective. In that respect they embody recent thinking about the interconnected nature of modern problems. At the same time, the sheer number of goals and targets (17 and 169 respectively) will make their implementation challenging. The scientific community can and should play an important role to provide integrated knowledge and innovative solutions for transformation towards sustainability across local, national and global scales.

This session invites contributions that explore how the goals can be effectively implemented by combining monitoring, evaluation and assessment. Contributions that focus on integrative science, the tensions between local and global priorities, and perspectives of developing nations are welcome.

SOURCES**:** GLP e-News No. 74

Information provided by: Gerard Begni, DNI – CSFD/CAC

IAAE Inter-Conference Symposium: Agricultural Transitions along the Silk Road, Almaty, Kazakhstan, 4–6 April 2016

Leibniz Institute of Agricultural Development in Transition Economies (IAMO), Kazakh National Agrarian University (KazNAU) and International Association of Agricultural Economists (IAAE) have announced an IAAE Inter-Conference Symposium: Agricultural Transitions along the Silk Road: Restructuring, Resources and Trade in the Central Asia Region to be held in KazNAU, Almaty, Kazakhstan, 4–6 April 2016.

The aim of this IAAE Inter-Conference Symposium is to provide a platform for knowledge exchange, discussion and networking that revives the traditional role of the Silk Road. The symposium will be structured around three sub-themes:

- Agricultural restructuring
- Natural resources management
- Regional trade and integration

Researchers and scientists active in the wider Central Asian and Caspian Sea region with a background in agricultural economics, rural development, water management and related disciplines are invited to share and discuss their findings to better understand the complex issues, challenges and opportunities of agricultural development along the Silk Road. Based on the main theme of agricultural development and the previous sub-themes, the organizers invite contributions particularly on the following topics:

Land reforms and farm restructuring

1. Agricultural change and labour organization
2. Land and water management
3. Cooperative movements
4. Value chains
5. Regional agricultural trade and the role of customs unions
6. WTO accession and agriculture
7. Central Asia’s role in global agricultural markets
8. Policy options to stimulate domestic agricultural production
9. Lessons from other transition economies in Central and Eastern Europe or the Former Soviet Union

For more details please visit www.iamo.de/silkroad

Those people interested in the event are invited to submit an extended abstract (2 pages) written in the English language, explaining the core question(s), data and methods used, and findings, by 1 December 2015. Submissions of extended abstracts by researchers from Central Asia, as well as comparative and cross-country empirical, cross-sectional and longitudinal, and theoretical contributions are particularly welcome.
The ConfTool system for the abstract submission will be available soon at: http://www.iamo.de/veranstaltungen/agricultural-transitions-along-the-silk-road/submission-of-abstracts/
Important deadlines: 1 December 2015: Deadline for extended abstract submission
15 January 2016: Announcement of accepted papers
1 March 2016: Final registration to the conference

The list of panel speakers can be found here http://www.iamo.de/veranstaltungen/agricultural-transitions-along-the-silk-road/panel-speakers/ For questions please contact via silkroad@iamo.de

Information provided by: Christopher Martius, CIFOR, Indonesia

Global Land Project 3rd Open Science Meeting- First Announcement "Land system science: understanding realities and developing solutions"

The Global Land Project third Open Science Meeting (GLP 3rd OSM 2016), to be held from 24-27th October 2016 at China National Convention Center

The aim of GLP 3rd OSM 2016 is to bring together large parts of the international research community working on land system issues, showcase the width and scope of ongoing research, help build a community in this highly interdisciplinary field, inspire new research and facilitate review, theory building and extrapolation.
The conference covers the following main themes: -

- Mapping and modeling the sustainability of land systems
- Land systems in an urbanizing and telecoupling world
- Land systems and the water, food, energy nexus
- Managing trade-offs and synergies for sustainable land systems
- Novel land governance systems to manage natural resources

Source: GLP e-News No. 78 - October 31, 2015

Information provided by: Gerard Begni, DNI – CSFD/CAC

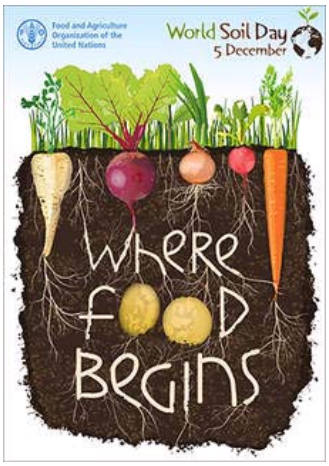
EGU General Assembly, Vienna 2016

The call to organise sessions for next General Assembly of the European Geosciences Union Sessions is now open. You can define and advertise sessions regarding your scientific expertise. The conference will be held in Vienna, from 17 to 22 April 2016. The deadline for the call for Abstracts will be the 13th January 2016, 13:00 CET.

More information at: http://meetingorganizer.copernicus.org/EGU2016/sessionprogramme

Information provided by: Maria Jose Marqués, Univ. Autónoma de Madrid, Spain

World Soil Day 2015



The next World Soil Day will be celebrated on the 4th of December at FAO headquarters in Rome and FAO regional offices.

The theme for this year is "Soils: a solid ground for life".
FAO is also developing diverse campaign material: posters, logos, banners, buttons or infographic materials. They are available for you to download and use to help the campaign at your event in different languages.

More information at: http://www.fao.org/globalsoilpartnership/world-soil-day/en/

Information provided by: Maria Jose Marqués, Univ. Autónoma de Madrid, Spain

5. Publications and Special Issues

1. Antwi-Agyei, P. Dougill, A.J., Stringer, L.C, 2015. Impacts of land tenure arrangements on the adaptive capacity of marginalized groups: The case of Ghana's Ejura Sekyedumase and Bongo districts, Land Use Policy, 49, pp.203-212.
2. Azarnivand, A., and N. Chitsaz, 2015, Adaptive policy responses to water shortage mitigation in the arid regions-a systematic approach based on eDPSIR, DEMATEL, and MCDA: Environmental Monitoring and Assessment, v. 187.
3. Barbosa, B., J. Costa, A. L. Fernando, and E. G. Papazoglou, 2015, Wastewater reuse for fiber crops cultivation as a strategy to mitigate desertification: Industrial Crops and Products, v. 68, p. 17-23.
4. Bartuska, A., 2015, Beyond desertification: Frontiers in Ecology and the Environment, v. 13, p. 3-3.
5. Becerril-Pina, R., C. Alberto Mastachi-Loza, E. Gonzalez-Sosa, C. Diaz-Delgado, and K. M. Ba, 2015, Assessing desertification risk in the semi-arid highlands of central Mexico: Journal of Arid Environments, v. 120, p. 4-13.
6. Bonachela, J. A., R. M. Pringle, E. Sheffer, T. C. Coverdale, J. A. Guyton, K. K. Caylor, S. A. Levin, and C. E. Tarnita, 2015, Termite mounds can increase the robustness of dryland ecosystems to climatic change: Science, v. 347, p. 651-655.
7. Chang, I., A. K. Prasidhi, J. Im, H.-D. Shin, and G.-C. Cho, 2015, Soil treatment using microbial biopolymers for anti-desertification purposes: Geoderma, v. 253, p. 39-47.
8. Eckert, S., F. Husler, H. Liniger, and E. Hodel, 2015, Trend analysis of MODIS NDVI time series for detecting land degradation and regeneration in Mongolia: Journal of Arid Environments, v. 113, p. 16-28.
9. Eisele, A., S. Chabrillat, C. Hecker, R. Hewson, I. C. Lau, C. Rogass, K. Segl, T. J. Cudahy, T. Udelhoven, P. Hostert, and H. Kaufmann, 2015, Advantages using the thermal infrared (TIR) to detect and quantify semi-arid soil properties: Remote Sensing of Environment, v. 163, p. 296-311.
10. Feng, Q., Z. Miao, Z. Li, J. Li, J. Si, S. Yonghong, and Z. Chang, 2015, Public perception of an ecological rehabilitation project in inland river basins in northern China: Success or failure: Environmental Research, v. 139, p. 20-30.
11. Geeson, N., G. Quaranta, R. Salvia, and J. Brandt, 2015, Long-term involvement of stakeholders in research projects on desertification and land degradation: How has their perception of the issues changed and what strategies have emerged for combating desertification?: Journal of Arid Environments, v. 114, p. 124-133.
12. Okpara, U.T., Stringer, L.C., Dougill, A.J., Bila, M.D., 2015. Conflicts about water in Lake Chad: Are environmental, vulnerability and security issues linked?, Progress in Development Studies, 15, pp.308-325.
13. Vincent, K., Dougill, A.J., Dixon, J.L., Stringer, L.C., Cull, T., 2015. Identifying climate services needs for national planning: insights from Malawi, Climate Policy.
14. Whitfield, S., Benton, T., Dallimer, M., Firbank, L., Poppy, G.M., Sallu, S.M., Stringer, L.C., 2015, Sustainability spaces for complex agri-food systems, Food Security.

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