



1st OPEN SCIENCE MEETING 2016

Skukuza, South Africa

Long-Term Ecosystem Research for sustainability under global changes:
Findings and challenges of ILTER from local to global scales

v31 - 20160929

Day	Start	End	Surname	Name		Title
Plenaries						
Sun	18:00	t.b.c.	Welcome (Plenary 1)			Chaired by Michael Mirtl and Hideaki Shibata
					Affiliation	
			Mirtl	Michael	Chair of ILTER; Environment Agency Austria	Welcome on behalf of ILTER
			Pauw	Johan	Director of South African Environmental Observation Network (SAEON TM); Chair of the ILTER Public Policy Committee	Welcome by host and technical information
			Phillips	Glenn	Director of Kruger National Park	Introduction to Kruger
Mon	8:30	10:00	Opening + Plenary 2			Chaired by Michael Mirtl and Hideaki Shibata
					Affiliation	
	8:40	9:00	Mjwara	Philemon	Director-General, Science and Technology South Africa; Co-Chair of Group on Earth Observation (GEO)	Global Change and Sustainable Development Goals - South African views including the expected role of ILTER
	9:00	9:20	Mirtl	Michael	Chair of ILTER; Environment Agency Austria	Long-term Ecological Research: ILTER Status, roles and responsibilities entering the Anthropocene
	9:20	9:40	Lindenmayer	David	Professor, Australian National University, College of Medicine, Biology and Environment, The Fenner School of Environment and Society	Biodiversity research in the context of LTER networks: Key examples from long-term data series and its implications for network design
	9:40	10:00	Scholes	Bob	Professor, University of the Witwatersrand, Global Change and Sustainability Research Institute, South Africa	Integration of land, water, biodiversity and social observations within long-term research networks
Tue			Plenary 3 & Roundtable on Partnerships			Chaired by Michael Mirtl and Hideaki Shibata
					Towards strategic global partnerships	
					Global network and/or organisation	
	8:30	8:50	Settele	Josef	Intergovernmental Platform on Biodiversity and Ecosystem Services (IPBES)	All talks will provide an overview of the respective global partner or potential global partner and then expand on existing and potential links with ILTER, providing input to the following round table discussion.
	8:50	9:10	Ellis	Erlé	Global Land Project (GLP), Global Collaboration Engine (GLOBE)	
	9:10	9:30	Masso	Cargele	International Nitrogen Initiative (INI)	
	9:30	9:40	Padgham	Jon	Future Earth/ International	
	9:40	9:50	Masoka	Cecil	Future Earth/ South Africa	
	9:50	10:00	Loescher	Henry	National Ecological Observatory Network (NEON)	
	10:00	10:10	Provenzale	Antonello	GEO ECO	
	10:10	10:20	Geller	Gary	Group on Earth Observation (GEO) / GEOBON / Global Carbon Observation System (GCOS)**	
	10:20	10:30	Martin	Price	World Network of Biosphere Reserves (UNESCO WBNBR's)**	
	10:30	10:40	Greenwood	Gregory B.	Global Mountain Research Initiative (MRI) and GENOMO **	
	10:40	10:45	Scholes	Bob	Programme on Ecosystem Change and Society (ICSU-PECS)*	
					<i>*Key messages from other plenary talks, **Remote presentation</i>	
Wed	12:00		Plenary 4			Chaired by Margarida Santos-Reis
	12:00	12:15	Bergami	Caterina	Rozzi, R; Ragueneau, O	TRAIL - TRAvelling through ecosystems and biodiversity: Long-term ecological research for citizens
	12:15	12:30	Liddel	Michael	Everson, C; Muraoka, H; Hoshizaki, K; Karan, M; Bond, WJ	Data Integration Across Continents: Understanding Changes in Biodiversity, Carbon and Water under Climate Change
	12:30	12:45	Pinho	Pedro	Rose, AK; Wang, C-P; Branquinho, C; Root, HT; Shibata, H; Lai, I-L; Sutton, MA; Giordani, P; Matos, P; Oishi, Y	Global network for the assessment of the effects of atmospheric nitrogen pollution and climate change using lichens as ecological indicators
Thu	8:30		Plenary 5			Chaired by Michael Mirtl and Hideaki Shibata
					Affiliation	
	8:30	8:50	McDowell	William H.	Professor, University of New Hampshire, Department of Natural Resources and the Environment, USA	Brothers in earth systems research: the converging notions of critical zone and ecosystem as used in LTER
	8:50	9:10	Kutsch	Werner	Integrated Carbon Observation System (ICOS); Environmental and Earth System Research Infrastructures (EU ENVRI+)	Functional traits of species - a key for integration of data streams from diverse research infrastructures?
	9:10	9:20	Bonet	Francisco	Cooperation of Research Infrastructures Project (EU H2020 COOP+)	An international effort to support global research infrastructure (RI) cooperation
	9:20	9:30	Haase	Peter	Senckenberg Research Institute and Natural History Museum Frankfurt	From theory to praxis: Adopting the concepts of Ecological Integrity and Essential Biodiversity Variables (EBVs) as basis for standard parameter sets across RIS

REGULAR SESSIONS (thematic call of the ILTER OSM): Sessions in alphabetical order of the short theme titles in the conference schedule							
BIODIVERSITY - Drivers of biodiversity across scales							
ORAL PRESENTATIONS: Chaired by Nikki Thurgate and Nicky Allsopp							
Mon	10:30	10:45	Beckett	Heath	Bond, WJ	Resilience and recovery in Forest and Thicket patches following a Firestorm	
	10:45	11:00	Jardel-Peláiez	Enrique J	Santiago-Pérez, AL; Cortés-Montaño, C; Castillo-Navarro, F; Vargas-Jaramillo, S; Llamas-Casillas, P; Morfin-Rios, JE; Véliza-Zúñiga, G; Balcázar-Medina, OE; Cuevas-Guzmán, R	Landscape patterns, stand dynamics and biodiversity of montane forests along climate, soil-landform and disturbance gradients in the Sierra de Manantlán, Western Mexico	
	11:00	11:15	Beja	Pedro	Gaspar, R; Tereso, J; Detry, C; Seijo, MM; Vaz, F; Pereira, SS; Sastre, J; Soares de Figueiredo, S; Pinto, AT; Honrado, J	Very long-term ecological research: Understanding drivers of biodiversity change over 30,000 years in LTER Sabor	
	11:15	11:30	Chamane	Sindiso	Kirkman, K; Morris, C; O'Connor, TG	The effect of high density livestock grazing on a mesic grassland in South Africa	
	11:30	11:45	du Preez	Johann	le Roux, PAL	The distribution of plant communities in response to various ground water and soil factors along a granite catena at the southern granite super site, Kruger National Park	
	11:45	12:00	Janecke	Beanelri	Le Roux, PAL; Du Preez, PJ; Kruger, FJ	Bottom-up determinants of habitat in a catena ecosystem Manantlán connecting abiotic and biotic components that drive its functioning.	
	12:00	12:15	Frenzel	Mark	Everaars, J; Schweiger, O	Long-term bee and bird communities observation in agricultural landscapes: What are the drivers of recent temporal changes?	
	12:15	12:30	Gordijn	Paul	Everson, C; Everson, T; O'Connor, TG	Assessment of long-term changes in grassland composition and biomass in relation to fire treatment in the Cathedral Peak Brotherton plots and research catchments	
Tue	16:00	16:15	Beja	Pedro	Paupério, J; Martins, F; Verissimo, J; Filipe, AF; Rebelo, H; Mata, V; Ferreira, S; Corley, M; Baldock, ; Ferreira, M; Quaglietta, L; Porto, M; Penado, A; Grosso-Silva, JM; Muñoz, A; Amorim, F; Henriques, S; Archer, J; Célio AlvesGrosso-Silva, JM; Muñoz, A; Henriques, S; Alves, PC	Metabarcoding LTER biodiversity: A case study and applications in LTER Sabor (Portugal)	
	16:15	16:30	Miller	Robert	Reed, DC; Rassweiler, AR; Lamy, T	Responses of biodiversity to fluctuations in foundation species	
	16:30	16:45	Mlambo	Musa		Ephemeral pans as model system in long-term environmental research	
	16:45	17:00	Blanckenberg	Michelle	Reed, C; Mlambo, M	Resurrection ecology in vernal pools of the Cape Floristic Region	
	17:00	17:15	Mohlala	Thabo	Swemmer, AM	Are contemporary monitoring methods able to detect expected losses of aquatic biodiversity? Insights from the analysis of 6 years of river health data from the Lower Olifants River.	
	17:15	17:30	Slingsby	Jasper A	Merow, C; Aiello-Lammens, M; Hall, S; Kilroy, H; Turner, R; Wilson, A; Silander Jr, J	Intensifying postfire weather extremes and invasion history drive directional diversity loss in a Mediterranean-type crown-fire ecosystem	
	17:30	17:45	Soininen	Eeva		Climate-Ecological Observatory for Arctic Tundra (COAT)	
	17:45	18:00	Sun	Bo	Liang, Y; Zhou, J	Long-Term Soil Transplant Simulating Climate Change With Latitude Significantly Alters Microbial Temporal Turnover	
	18:00	18:15	Swemmer	Anthony M	Wigley-Coetsee, C	The response of the tree layer to six decades of fire manipulation in a pristine African savanna.	
	18:15	18:30	Thompson	Dave	Swemmer, AM	Are grasslands doomed under global change? Triennial burning cannot prevent shrubland transformation of mid-altitude South African grasslands.	
Wed	14:00	14:15	Van Coller	Helga	Siebert, F; Scogings, P	Disentangling the herbaceous layer: palatable perennial grasses and forbs respond differently to long-term herbivore exclusion in a semi-arid sodic savanna	
	14:15	14:30	Van der Merwe	Helga	Du Toit, JCO; Van den Berg, L; O'Connor, TG	Impact of stocking rate on vegetation at the arid Karoo stocking rate trial after 27 years, Carnarvon, South Africa	
	14:30	14:45	Villar	Marc	Augustin, S; Chantreau, M; Chevalier, R; Denux, O; Greulich, S; Guerin, V; Jorge, V; Juge, P; Marel, A; Rodrigues, S; Wintenberger, C	Consequences of fluvial maintenance operations on the sediment dynamics and the biodiversity (fauna, flora) in the Mareau-aux-Prés islands (National Reserve of Saint-Mesmin, Loire River, France)	
	14:45	15:00	Welti	Ellen	Qiu, F; Tetreault, H; Ungerer, M; Joern, A	Changes in grassland plant-grasshopper (Acrididae) network structure with fire and grazing	
	15:00	15:15	Hruška	Jakub	Oulehle, F; Kulasová, A; Wright, R; Hořická, Z	Possible retreat of stream acidification as a result of enhanced forest growth long-term observations (1982-2015) and model predictions (2016-2060) at Uhlířská catchment, Czech Republic.	
	15:15	15:30	Bizani	Mfundo	Deyzel, SHP; Bornman, TG; Goschen, WS; Perissinotto, R; Campbell, E	Detecting mesozooplankton responses to episodic coastal events: insights from the Pelagic Ecosystem LTER with particular reference to a recent harmful algal bloom.	
			Poster #				
			POSTER PRESENTATIONS				
			1	Burkepile	Deron	Sally E. Koerner, Melinda D. Smith, Meghan L. Avolio, Scott L. Collins, Alan K. Knapp, Nathan P. Lemoine, Elizabeth J. Forrester, and The Grazing Exclusion Consortium	Changes in dominance drive global variation in herbivore effects on grassland diversity
			2	Dlomo	Xolisa	Goschen, W, Bornman, T	Ocean dynamics that influence sea temperature structures in the Algoa and St. Francis Bay region.
			3	Fritz	Hervé	Sukumar, R; Scholtes, P; Pays, O; Renaud, P-C; Li, L; Duncan, P; Ogutu, J; Pradel, R; Guerbois, C	Using long-term data sets and field studies to explore patterns and determinants of wildlife-human coexistence at the edge of protected areas.
			4	Henschel	Joh	Arena, G; Milne, B; Pauw, M; Ramaswela; T; Todd, S; Van der Merwe, H	Fresh perspectives on long-term research in South Africa's Karoo
			5	Magadzire	Nyasha	de Klerk, H; Esler, K; Slingsby, J	Effects of fire on the distribution of species with different life-histories in the Cape Floristic Region
			6	Mfikili	Athi	Bornman, T; Du Preez, D	Impact of riverine flood events and sediment supply on the <i>Spartina maritima</i> intertidal salt marsh of the Keurbooms Estuary
			7	Ndou	Leonard	Swart, VR; Henschel, JR; Rand, S; Louw, VdM	Brown locusts (<i>Locustana pardalina</i>) in the Karoo: historic records and a plan to understand the origins of outbreaks
			8	Ntshanga	Nasiphi	Proches, S; Slingsby, JA	Landscape transformation and fragmentation; setting the playing field for global change impacts in natural systems in the Cape Floristic Region
			9	Pinho	Pedro	Príncipe, A, Santos, J-P; Ramos, A; Mágua, C; Correia, O; Branquinho, C; Santos-Reis, M	Using a large-scale LTER platform to study the effects of environmental drivers working multiple spatial scales: from the regional effects of climate to the local effects of land-use and topography
			10	Ramoelo	Abel	Cho, M	Towards earth observation based near-real time estimation of regional grass biomass as an indicator of rangeland quantity
			11	Santos-Reis	Margarida	Carreiras, AL; Fernandes, J; Gonçalves, P; Loureiro, C; Mendes, T; Príncipe, A; Serrano, A; Petrucci-Fonseca, F	Effects of grazing exclusion on animal biodiversity: lessons learned from a LTER Montado research and monitoring station

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		12	Mngadi	Nonhle		An investigation of the socio-economic factors contributing to ecosystem loss within KwaZulu-Natal Municipalities: A case study of uMngeni and Mbonambi Municipality.
		13	Siebert	Frances	Swemmer, AM	Different responses in the woody and herbaceous layers after 15 years of herbivore exclusion
		14	Stoll	Stefan	Maute, M; Haase, P	Effects of habitat fragmentation on bird communities
		15	Taylor	Robert	Taylor, RW; Thompson, D; Witkowski, ETF	Eighteen years on: Fire, utilization by elephants and temperature drive changes in the demographics of a population of long-lived giants.
		16	Swanepoel	Juan	Picker, MD; Henschel, JR; Milton, SJ	The influence of heuweltjie density and dispersion on ecological processes in Succulent Karoo
		17	Sikhwivhilu	Thomas	Sikhwivhilu, T; Thompson, DJ; Scholes, RJ	Climatic controls on the distribution of plant species: A case study from the Waterberg Massif, Limpopo Province, South Africa
		18	Van Staden	Nanette	Siebert, FS; Siebert, SJ; Swemmer, AM	Herbaceous species diversity and traits of different land-uses in Mopaneveld
		19	Momberg	Mia	Greve, M; le Roux, PC	Fine-scale and global distribution of the cushion plant <i>Euphorbia clavarioides</i> : A study from an alpine environment
		20a	Vezi	Madonna	O'Brien, G	The environmental variables that drive macro-benthic invertebrate communities of the river dominated estuaries in KwaZulu-Natal.
		20b	Fu	Yung-Hao	Lin, Y	Spatial patterns of Formosan sika deer activity in a Taiwanese karst forest
CARBON - Carbon and water cycles under climate change						
ORAL PRESENTATIONS: Chaired by Tiffany Troxler and William Bond						
Mon	10:30	10:45	Band	Lawrence	Miles, B & Duncan, J	Ecosystem processes and services at the watershed scale: Hydroclimate change impacts on distributed carbon, water and nutrient cycling in forest and urban watersheds
	10:45	11:00	Carrillo	Oswaldo	Wayson, C; Olguin, M; Vaquera, H	Fake forests and quantifying uncertainty in allometric equations for the real world
	11:00	11:15	Corman	Jessica	Casson, N; Sebestyen, S; Kolka, R; Stanley, E	From whence the carbon: Potential effects of acid rain and climate change on staining in lakes in Wisconsin, USA
	11:15	11:30	Djukic	Ika	Kobler, J; Djukic, I; Dimböck, T; Schindlbacher, A; Jandl, R; Zehetgruber, B; Mirtl, M	Forest carbon sink in times of increasing disturbance regime
	11:30	11:45	Everson	Colin		An enhanced Terrestrial and Freshwater Environmental Observation Network in South Africa
	11:45	12:00	Griffin-Nolan	Robert	Knapp, AK; Smith, M; Ocheltree, T	Community-weighted resistance to drought-induced xylem cavitation predicts ecosystem sensitivity of net primary productivity to extreme drought in North American LTER Grasslands.
	12:00	12:15	Hopkinson	Charles	Morris, J; Fagherazzi, S; Forbrich, I; Wang, SR	Blue carbon dynamics in coastal tidal wetlands and estuaries
	12:15	12:30	Isbell	Forest		Biodiversity increases the resistance of ecosystem productivity to climate extremes
Thu	10:00	10:15	Nikolaïdis	Nikolaos	Giannakis, G; Efsthathiou, D; Panakoulia, S; Nerantzaki, S; Paranychianakis, N	Koiliaris Critical Zone Observatory (Koiliaris CZO): A platform for development and testing of tools for sustainable water and soil management
	10:15	10:30	Nippert	Jesse	Holdo, RM; Swemmer, AM	Physiological traits among grasses and woody plants influence coexistence and competition for water.
	10:30	10:45	Pons	Marie-Noelle	Poszwa, A; Rousselle, P; Wagner, P; Pollier, B; Pontvianne, S; Poirot, H; Giamberini, L; Legout, A; Guérol, F	Long-term monitoring of headwater streams acidification in the Vosges Mountains (North-eastern France)
	10:45	11:00	Riddell	Eddie	Lamula, T; Thibela, D; Swemmer, AM	Long term post rehabilitation responses of a semi-arid headwater wetland
	11:00	11:15	Rotenberg	Eyal	Preisler, Y; Roathyn, S; Ramati, E; Yosef, G; Tatarinov, F; Schwartz, E; Yakir, D	Tradeoffs in dry-land forestation
	11:15	11:30	Strydom	Tercia	Rowe, T; Riddell, E; Govender, N; Lorentz, S; Le Roux, P	Effects of varying fire frequencies on soil hydrology in African Savannas
			Poster #			POSTER PRESENTATIONS
		21	Knapp	Alan	Smith, MD; Griffin-Nolan, R; Collins, SL; Pockman, WT; Luo, Y; Wilcox, KR	Assessing responses to extreme drought in Grasslands
		22	Lenkwe	Aobakwe	Curtis, C; Janse van Rensburg, S	Is there a significant relationship between the colour of sample water and dissolved organic carbon (DOC) in mountainous catchments under contrasting land uses at the Cathedral Peak Research Site (CPRS), Drakensberg?
		23	Li	Xinrong		Soil organic carbon storage of desert grassland in the Tengger Desert, Northern China
		24	Maidi	Katlego E	Stam, EM	Soil moisture dynamics and vegetation structure along a precipitation gradient in the Soutpansberg, South Africa
		25	McGill	Bonnie	Hamilton, SK	Agricultural liming, groundwater irrigation and carbon sequestration
		26	O'Connor	Rory	Nippert, J	Physiological mechanisms of woody plant seedling establishment in mesic grasslands
		27	O'Keefe	Kimberly	Nippert, JB	Tallgrass prairie ecophysiology: implications for a changing climate
		28	Rineau	Francois	Beenaearts, N; Nijis, I; de Boeck, H; Vangronsveld, J	Effects of repetitive droughts on carbon, nutrient and water cycles of heathland ecosystem
		29	Shaver	Gaius	Rastetter, EB	Leaf traits and canopy structure in heterogenous Arctic vegetation
		30	Smart	Kathleen	Scholes, RJ; Woodbourne, S	Using tree rings structure and isotopes to reconstruct production dynamics of the facultative CAM plant <i>Portulacaria afra</i> (Jacq.)
		31	Yang	Haotian		Biomass carbon storage for desert grassland on the edge of Tengger Desert, Northern China
		32	Zhiyanski	Miglana	Gikov, A; Nedkov, S; Dimitrov, P; Naydenova, L; Doncheva, S	Assessing and mapping land cover related carbon stocks in the mountain treeline zone of Beklemeto under global change during 1982-2012
DATA INTEGRATION - Data integration and interoperability linking global scale ecosystem research and environmental monitoring						
ORAL PRESENTATIONS: Chaired by David Blankman and Martin Forsius						
Mon	14:00	14:15	Bahlai	Christie		Project-based training in reproducible research using population data produced by LTER sites
	14:15	14:30	Cabral	Joao Alexandre	Jesus, J; Travassos, P; Barros, P; Monzón, A; Pereira, V; Braz, L; Vale-Gonçalves, H; Santos, C; Carvalho, D; Gomes, C; Lopes, M; Bastos, R; Santos, M; Cortes, RMV	Predicting the vertebrate communities' trends facing the long-term impacts of a recent hydropower reservoir installed in a South European watershed (LTER Sabor, Portugal)
	14:30	14:45	Downs	Martha		Supporting Collaboration with Effective Communication: The USLTER Network Communication Office
	14:45	15:00	Hugo	Willem		Sustainable, Scalable Infrastructures for Earth and Environmental Science

	15:00	15:15	Klug	Hermann		Automated Geosynthesis - A transdisciplinary framework for real-time integrated holistic landscape analysis and decision support
Mon	15:45	16:00	Oggioni	Alessandro	Oggioni, A; Tagliolato P; Carrara, P	Ecosystem data interoperability issues: on the opportunity of exploiting Observations & measurements standard for monitoring environmental status
	16:00	16:15	Rosati	Ilaria	Bergami, C; Fiore, N; Oggioni, A; Pugnetti, A; Tagliolato, P; Basset, A	Semantic tools to facilitate data integration and interoperability in aquatic functional ecology
	16:15	16:30	Vanderbilt	Kristin	Gries, C	Supporting Data Synthesis in the US LTER and Partner Research Programs: A Collaborative Data Center Model
	16:30	16:45	Wolfaard	Graeme	Peel, M; van Rooyen, J	Ecological monitoring to inform management of semi-arid African savannas: an assessment of techniques across the wildlife-livestock interface and the evaluation of a long term data set
			Poster #			
						POSTER PRESENTATIONS
		33	Kwon	Ohseok	Han, Y-G	Development of Integrated data management system on ecological information in Korea
		34	Yanai	Ruth		QUEST: Quantifying Uncertainty in Ecosystem Studies
						ECOSYSTEM SERVICES - Towards sustainable usage of ecosystem services (local, regional & global)
						ORAL PRESENTATIONS: Chaired by Nicky Aillsopp and Daniel Orenstein
Mon	15:45	16:00	Childers	Daniel	Grimm, N	A research framework for exploring urban ecology and sustainability that is based on a design with natural infrastructure and a reconceptualization of urban ecosystem services
	16:00	16:15	Ens	Bruno	Philippart, CIM; Baptist, M; Hansen, L; Sijtsma, F	Long-term ecosystem and socio-ecological research in the Dutch Wadden Sea
	16:15	16:30	Forsius	Martin	Akujärvi, A; Mattsson, T; Holmberg, M; Punttila, P; Posch, M; Liski, J; Repo, A; Virkkala, R; Vihervaara	Modelling impacts of forest bioenergy use on ecosystem sustainability: Lammi LTER region, southern Finland
	16:30	16:45	Gaba	Sabrina	Bretagnolle, V	From long-term monitoring of biodiversity and evaluation of ecosystem functioning to stakeholders viewpoint and ecosystem services provisioning: field socio-ecological experiments in a French LTSER
	16:45	17:00	Gettel	Gretchen	Geenan, B; van Dam, A	The critical need for long-term studies in Africa for the sustainability of ecosystem services: The Kafue River, Zambia, an observatory in the making
Thu	10:00	10:15	Holden	Petra	Hoffman, MT; Eckardt, F; New, M; Smit, J; Visser, M; Ziervogel, G	A social-ecological approach to understanding drivers and effects of conservation in the Groot Winterhoek Mountain Catchment and Wilderness Area in Western Cape, South Africa
	10:15	10:30	Kofinas	Gary		Local Traditional Knowledge: Methods, Challenges, and Potential Contributions to a LTER Network
	10:30	10:45	Kruger	Frederick		Thinking about the long term: experience from South Africa's forest hydrology programme
	10:45	11:00	McHale	Melissa	Beck, SM; Bunn, DN; Cadenasso, ML; Childers, D; Cluett, C; Ebersohn, L; Meentemeyer, R; Pickett, ST; Rivers, L; Swemmer, L; Twine, W	Democratization of ecosystem services as a radically revised framework for assessing natural benefits to communities
	11:00	11:15	Orenstein	Daniel	Katz-Gerro, T; Dick, J	Defining environmental tastes as a tool for cultural ecosystem service assessment
	11:15	11:30	Purdon	Jean	Findlay, KP; Somers, MJ	Acoustic Pollution in the South African marine environment as a need for Long-term Monitoring and Governance?
	11:30	11:45	Todd	Simon	Henschel, J	Development of a network of ecological observatories to monitor the impacts of rapidly emerging threats to the arid regions of South Africa
	11:45	12:00	Twine	Wayne	Hunter, L; Collinson, M & Erasmus, B	Linkages between food security, livelihood shocks, and natural resource use: insights from a longitudinal study in a savanna socio-ecological system
			Poster #			
						POSTER PRESENTATIONS
		35	Angelstam	Per	Neumann, B; Ducklow, H	LTER platforms as infrastructure for problem-solving research in social-ecological systems: assessment of green infrastructures as providers of ecosystem services
		36	Atkinson	Lara	Attwood, CG; von der Meden, CEO; Sink, K; Bornman, T	A five-year experiment to monitor seabed recovery near the continental shelf edge
		37	Bowman	Jeff	Neumann, B; Ducklow, H	Socio-ecological valuation of ecosystem services along the West Antarctic Peninsula
		38	Dousset	Sylvie	Vallée, R; Schott, F; Pallez, C; Cherrier, R; Munoz, J; Benoit, M	Do constructed wetlands in grass strips reduce water contamination from drained fields?
		39	Elbakidze	Marine	Angelstam, P	Green infrastructures for human wellbeing in European rural landscapes: case studies from Sweden and Latvia
		40	Mazé	Camille	Olivier, R	The fabric of the governance of SES. Integrating the social science of politics in sustainability science, coupling ecological and socio-anthropological approaches: The case of the Sea
		41	Rankovic	Aleksandar		Understanding the long-term dynamics of urban ecosystems for their sustainability: An illustration with the street tree plantations of Paris
		42	Thompson	Dave	Fitchett, JM; Roshan, G; Grab, SW	Sunny and warm, with a chance of frost: Variable flowering responses of citrus to 50-years of climate change in Iran.
		43	Thompson	Jonathan		Future scenarios of land-use and climate change: impacts on ecosystem services
						NITROGEN - Nitrogen impacts on ecosystems structure and function
						ORAL PRESENTATIONS: Chaired by Martin Forsius and Bill McDowell
Mon	14:00	14:15	Burkepile	Deron	Adam, TC; Brooks, A; Holbrook, SJ; Schmitt, R	Impact of nutrient pollution on coral bleaching, coral mortality, and coral recovery in the Moorea Coral Reef LTER
	14:15	14:30	Halada	Luboš	Halada, David, S; Moyses, M; Záhora, J; Gajdoš, P; Tůma I	The effects of nitrogen and temperature manipulation to alpine grasslands in two sites of LTER Slovakia.
	14:30	14:45	Minocha	Rakesh	Long, S; Minocha, S	Forest health monitoring with metabolic data collected from several long-term study sites including LTER (Harvard Forest, MA, Hubbard Brook, NH, USA) and Kufri Mountain, Himalayas, HP, India.
	14:45	15:00	Minocha	Subhash	Turlapati, S.; Minocha, R	Soil bacterial community structure changed in response to nitrogen and calcium Amendments at two LTER sites in northeastern USA
	15:00	15:15	Motitsoe	Samuel	Hill, JM; Coetzee, JA; Hill, MP	Stable Isotope Techniques: from freshwater biological monitoring to ecosystem conservation

Mon	15:45	16:00	Nikolaidis	Nikolaos	Efstathiou, D; Nikolaidis, NP; Malago, A; Bouraoui, F; Bidoglio, G	Historical reconstruction of landuse change and climate timeseries and their impacts on the hydrologic & geochemical response of Kolliaris Critical Zone Observatory (CZO)
	16:00	16:15	Pinho	Pedro	Matos, P; Branquinho, C	Using ecological indicators to monitor the long-term effects of atmospheric nitrogen pollution on ecosystems
	16:15	16:30	Shibata	Hideaki	ILTER-Nitrogen Initiative members	Challenge of the ILTER-Nitrogen Initiative to foster the global collaborative research in the ILTER network
	16:30	16:45	Trisos	Matthew	Parr, K; Picker, M; Hedin, LO; February, E	Water and nitrogen additions in a Kruger savanna result in cascading effects on biodiversity
	16:45	17:00	Zhu	Bo	Zhou, M; Wang, T; Dong, Z; Kuang, F	Long term nitrogen fertilization regimes on cropland productivity and nitrogen cycling
			Poster #	POSTER PRESENTATIONS		
		44	Pons	Marie-Noelle	Poszwa, A; Rousselle, P; Wagner, P; Pollier, B; Pontvianne, S; Poirot, H; Giamberini, L; Legout, A; Guérol, F	Measuring oxygen and redox profiles in hyporheic zone of small rivers with wooden stakes
		45	Shi	Yuanliang	Li, J	The progress of research on Chinese stabilized fertilizer
		46	Williamson	Robert	Schlegel, R & Smit, AJ	Trends in Coastal Temperature Data
			NUTRIENT CYCLING - Long-term changes in nutrient cycling			
			ORAL PRESENTATIONS: Chaired by Bill McDowell and Hideaki Shibata			
Mon	10:30	10:45	Ball	Becky	Hall, SJ	The impacts of urbanization on soil biogeochemistry and biodiversity in the Sonoran Desert
	10:45	11:00	Goericke	Ralf		Climate and the control of phytoplankton biomass and primary production by inorganic nitrogen in the Southern California Current System
	11:00	11:15	Kendrick	Michael	Hurnyn, AD; Bowden, WB; Deegan, LA; Hershey, AE; Schuett, E; Benes, J	Decadal-scale trends of dissolved nutrients and insect isotopic patterns in an arctic river
	11:15	11:30	Philippart	Catharina JM	Jung, AS; Brinkman, AG; Folmer, EO; Herman, PMJ; Van der Veer, HW	Sources and sinks of phosphorus and nitrogen before, during and after eutrophication of the World Heritage Wadden Sea
	11:30	11:45	Pozo Buil	Mercedes	DI Lorenzo, E	Natural vs. anthropogenic controls on coastal hypoxia along the US West Coast
	11:45	12:00	Wei	Wenxue	Chen, A; Sheng, R	The stability of soil fertility and soil microbial communities influenced by long term fertilization
	12:00	12:15	Yanai	Ruth	Fahey, TJ; Fisk, FC; Bae, K; Kang, H; See, CR	Nitrogen and phosphorus co-limitation: a factorial fertilization experiment in temperate hardwood forests
	12:15	12:30	Zhang	Xudong	He, H; Liu, X; Hu, G; Zhang X	In situ turnover of soil microbial residues induced by long-term microbial immobilization of fertilizer nitrogen in an agro-ecosystem
			Poster #	POSTER PRESENTATIONS		
		47	Grimm	Nancy	Earl, S; Hale, R; Lu, M; Sabo, J; Handler, A	Long-term variability in storm-driven hydrologic and nutrient export from urban and native desert streams in Arizona, USA
		48	Klug	Hermann		Phosphorus runoff in the Austrian Mondsee catchment
		49	Kominoski	John		Saltwater intrusion and carbon loss: Identifying biogeochemical attributes that drive differential responses among coastal wetlands
		50	Morris	James		The strange harmonics of salt marsh biogeochemical cycles in 4D- with a twist: It's a symphony
		51	Tan	Huijuan	Tan., HJ; Li, XR; Liu, YB; Zhao, X	Effects of salinity on growth and compatible solutes of callus induced from Reaumuria soongorica
			OBSERVATION ACROSS SCALES - Linking local, regional and global Earth system observations and models			
			ORAL PRESENTATIONS: Chaired by William Bond and David Blankman			
Mon	14:00	14:15	Bornman	Thomas	Adams, JB; Schmidt, J; Mfikili, A; Farre, R; Smit, AJ	Relative sea-level rise and the potential for subsidence of the Swartkops Estuary intertidal salt marshes, South Africa
	14:15	14:30	Bretagnolle	Vincent	Allier, F; Badenhauter, I; Houte, S; Monceau, K; Plumejeaud, C; Gaba, S	Zone Atelier 'Plaine & Val de Sèvre', a French Long Term Socio-Ecological Research site in intensive agricultural area
	14:30	14:45	Choler	Philippe	Carlson, B	Local and regional-scale assessment of the relationships between climate forcing, ecosystem functioning and land use in seasonally snow-covered mountain pastures
	14:45	15:00	Deyzel	Shaun (HP)	Bornman, TG ; Bizani, M; Perissinotto, R; Goschen, WS; Campbell, EE	A long-term observation system for pelagic ecosystem monitoring in the coastal waters of Algoa Bay, South Africa.
	15:00	15:15	Glenday	Julia		Use of surface and groundwater data to build a multi-scale hydrologic model of a semi-arid, meso-scale catchment, the Baviaanskloof, South Africa
Tue	13:30	13:45	Gooseff	Michael	Adams, B; Barrett, J; Doran, P; Fountain, A; Lyons, B; McKnight, D; Priscu, J; Takacs-Vesbach, C; Virginia, R; Wall, D	Long-term response to climate variability in aquatic and terrestrial ecosystems
	13:45	14:00	Higgins	Steven	Buitenwerf, R; Moncrieff, G	Using Earth Observation Satellites to define biomes and monitor their change
	14:00	14:15	Moncrieff	Glenn	Scheiter, S; Langan, L; Trabucco, A; Higgins, SI	The future distribution of the savanna biome: model based and biogeographic contingency
	14:15	14:30	O'Connor	Tim G		An unrealised asset: potential contribution of long-term management experiments for understanding global change
	14:30	14:45	Whitcross	Melissa	Witkowski, E; Archibald, S	Improving our understanding of local and regional phenological patterns through the linking of ground-based monitoring and remote sensing techniques in broad-leaved savannas.
	14:45	15:00	Kim	Eun-Shik		Challenges in establishing a global terrestrial ecological observatory system and promoting LTER at local and regional levels
			Poster #	POSTER PRESENTATIONS		
		52	Bornman	Thomas	Deyzel, S.H.P., Goschen, W., Hermes, J.	Algoa Bay Sentinel site for long-term ecological research: linking catchments to oceans
		53	Rogers	Annabelle	Moncrieff, G; February, E; Slingsby, J	Forest expansion in relation to urbanization and changing fire vulnerability on the Cape Peninsula, South Africa
		54	McDowell	WH		International LTER and CZO networks: Opportunities to build a global understanding of land-water linkages
		55	Schildhauer	Mark	Jones, MB	Construction and use of ECOS: A formal vocabulary for describing and defining ecosystem concepts

POPULATION DYNAMICS - Long-term studies of population dynamics						
ORAL PRESENTATIONS: Chaired by Daniel Orenstein and Nikki Thurgate						
Wed	13:45	14:00	Bouskila	Amos	Bird, T; Bar, P; Groner, E; Zilka, Y	Long term rodent and reptile community trends under experimental restoration of coastal sand dunes in Israel
	14:00	14:15	February	Edmund	White, JDM; Jack, SL; Puttick, J; Bonora, D; Hoffman, MT	Collapse of an iconic conifer: Long-term changes in the demography of <i>Widdringtonia cedarbergensis</i> using repeat photography
	14:15	14:30	García	Maria B	Pardo, I;Tejero, P; Guzmán, D;Gómez, D	Monitoring program to track the effects of global changes on plant diversity in NE Spain. A network of scientists, managers and volunteers
	14:30	14:45	Götz	Albrecht	James, P	Long-term fisheries data support effectiveness of South African Marine Protected Area
	14:45	15:00	Hallett	Lauren	Suding, KN	Spatial heterogeneity buffers species diversity to climate change: Evidence from long-term population dynamics in an alpine grassland
	15:00	15:15	Hoshizaki	Kazuhiko	Noguchi, M; Matsushita, M; Shibata, M; Hoshino, D; Takahashi, K; Osumi, K; Suzuki, W; Masaki, T	A quarter-century monitoring of reproductive investment in major tree species in a temperate forest, northern Japan
	15:15	15:30	James	Nicola	Cowley, P; Whitfield, A; Nodo, P	Revisiting the East Kleinemonde Estuary marine fish community after 20 years of monitoring
Wed	16:00	16:15	Kellermann	Kobus	February, EC; Slingsby, J	Hydraulic Trait Variation of <i>Protea repens</i> with Change in Climate and Atmospheric CO2.
	16:15	16:30	Lewis	Joel	February, EC; Verboom, GA	Should phylogeny be considered in observational studies of long-term ecological change? Insights from African acacia community assembly in the Kruger National Park, South Africa
	16:30	16:45	Schwalter	Timothy	Willig, M; Presley, S	Long-term Successional Dynamics of Populations and Assemblages of Canopy Arthropods in a Disturbance-Prone Tropical Rainforest
	16:45	17:00	Waide	Robert		The effects of hurricanes and droughts on long-term population and food web dynamics in a tropical rain forest
			Poster #	POSTER PRESENTATIONS		
		56	Beenaerts	Natalie	Rineau, F	Sustainably optimising the protection and management of the diversity in the National Park Hoge Kempen
		57	Bird	Tania	Bar, PK; Bouskila, A; Groner, E	Temporal analyses of long term biodiversity trends to monitor restoration success in coastal sand dunes in Israel
		58	Budy	Phaedra	Klobucar, S	Understanding how lake fish populations are structured and function with special consideration of the potential effects of climate change: opportunities to learn from an international meta-analysis
		59	Diaz-Delgado	Ricardo	Carro, F; Pardavila, X; Afán, I; Santamaría, L; Soriguer, R	Long-term spatio-temporal patterns of micromammals communities under environmental change
		60	Guinart	Daniel	Herrando, S	Long term studies of wildlife population and its use in management of natural protected areas. The LTER-Montseny example
		61	Marchal	Antoine	Lejeune, P; de Bruyn, NPJ	Using photogrammetry for age, sex and individual identification from lion trails
		62	Ramulifho	Pfananani	Foord, S	Environmental Flow Requirements and Response of Macroinvertebrates Population in the Luvuvhu River Basin
		63	Staudhammer	Christina	Kainer, KA; Da Cunha, TA; Wadt, LHO	What drives Brazil nut (<i>Bertholletia excelsa</i>) production? Factors in long-term variation of an important non-timber forest product
		64	Wigley-Coetsee	Corli	Swemmer, AM	Finding efficient ways of monitoring long-term trends in vegetation

SPECIAL SESSION in alphabetical order of short session titles						
EUROPEAN FLAGSHIPS - European flagship projects in the field of ecosystem and biodiversity research & infrastructures						
ORAL PRESENTATIONS: Chaired by Michael Mirtl						
Thu	10:00	10:20	Basset	Alberto	Wouter, L	The European e-Infrastructure for Biodiversity data flows and analyses
	10:20	10:50	Jacobsen	Kim	Smirnova, L	Building the European Biodiversity Observation Network: enhancing biodiversity data mobilization, publication and integration
	10:50	11:10	Provenzale	Antonello	Beierkuhnlein C., Marangi C., El Serafy G., Giamberini M., Imperio S.	H2020 Project ECOPOTENTIAL: making best use of remote sensing and in-situ observations to improve future ecosystem benefits
	11:10	11:30	Mirtl	Michael	Haubold, H	Developing the European LTER infrastructure alongside scientific analyses of increasing complexity (eLTER H2020)
	11:30	11:50	Kutsch	Werner	Kunin, J	The European Environmental Research Infrastructures (RI) cluster project ENVRI+: Integration challenges across 21 environmental RIs
			Poster #	POSTER PRESENTATIONS		
		65	Provenzale	Antonello	Beierkuhnlein C., Marangi C., El Serafy G., Giamberini M., Imperio S.	H2020 Project ECOPOTENTIAL: making best use of remote sensing and in-situ observations to improve future ecosystem benefits
		66	Imperio	Simona	Bassano B., Provenzale A.	Long-term monitoring of two mountain ungulates in the Alps: ecosystem and cultural services, and impact of global changes
		67	Viterbi	R.	Baneschi I., Cerrato C., Ferraris S., Giamberini M., Giordano F., Imperio S., Provenzale A.	Set-up of a long-term study on the changes in alpine grasslands owing to climate and grazing pressure modifications
EXPERIMENTS workshop: • Highlighting the power of experimentation in a strongly observational ILTER • Distributed experimental research: exceptional inference at an affordable price						
ORAL PRESENTATIONS: Chaired by Elizabeth Borer, Scott Collins, Eric Seabloom and Melinda Smith						
Tue	13:30	13:40	Borer	Elizabeth		Intro of Session Theme and Goals
	13:40	14:00	Smith	Melinda	Sala, O; Phillips, R; Knapp, A; Collins, S	Drought-Net: A global network to assess terrestrial ecosystem sensitivity to drought
	14:00	14:20	Borer	Elizabeth	Seabloom, E & Lind, E	Your site is my replicate: Using a distributed grassland experiment to scale up from site-scale science to multi-continent inference about diversity
	14:20	14:40	Seabloom	Eric	Borer, ET; Kinkel, L; May, G	Biodiversity of plant microbiomes in global grasslands: breaking boundaries and crossing scales
	14:40	15:00	Clark	James		Highlighting the power of experimentation in a strongly observational ILTER - Distributed experimental research: exceptional inference at an affordable price
	15:00	15:30	Collins	Scott		Facilitation of Panel-Audience Discussion
	16:00	16:15	Arena	Gina	Milton, SJ; Dean, R; Van der Merwe, H; Pauw, M; Henschel, JR	Advancing Karoo knowledge through long-term experiments at Tierberg
	16:15	16:30	Collins	Scott	Brown, RF; Gehres, N; Pockman, WT	Impact of drought and precipitation seasonality on net primary production, soil respiration and plant community composition in two semi-arid grasslands
	16:30	16:45	Isbell	Forest		Nutrient enrichment, biodiversity loss, and consequent declines in ecosystem productivity
	16:45	17:00	Strydom	Tercia	Govender, N	The Kruger National Park Experimental Burn Plots: A long-term fire experiment
	17:00	17:15	Archibald	Sally	Parr, C; Pollard, D; Donaldson, J; Govender, N	Functional consequences of repeated small fires for grassy communities: implications from the long-term experimental burn plots in the Kruger National Park, South Africa
	17:15	17:30	Zeglin	Lydia	Blair, J; Carson, Ch; Carson, M; Floyd, V; Mueller E	Microbial feedbacks to soil N availability in tallgrass prairie following 30-year burning and fertilization treatments
	17:30	17:45	Djukic	Ika		TEACOMPOSITION: A Global Litter Decomposition Initiative
	17:45	18:00	Lajtha	Kate		The dirt on DIRT: What a cross-site international collaboration can tell us about controls on soil organic matter
INFORMATION management workshop						
ORAL PRESENTATIONS: Chaired by David Blankman						
Tue	13:30	13:45	Peterseil	Johannes	Wohner, C; Schentz, H; Watkins, J; Bertrand, N; Poursanisidis, D; Cazacu, C; Oggioni, A; Kliment, T; Blankman D; Mirtl, M	Standardised description of long term observation sites using DEIMS and EnvThes
	13:45	14:00	Schildhauer	Mark	Jones, MB	The Data Observation Network for Earth, DataONE: A distributed framework for preserving and discovering data about earth and environmental observations
ILTER/PECS Workshop: Changes in biodiversity and trade-offs among ecosystem services, stakeholders, and components of well-being: the contribution of ILTER to Programme on Ecosystem Change and Society (PECS)						
ORAL PRESENTATIONS: Chaired by Manuel Maass						
Tue	16:00	16:15	Maass	Manuel	Balvanera, P; Bourgeron, P; Equihua, M; Boudry, J; Dick, J; Forsius, M; Halada, L; Krauze, K; Nakaoka, M; Orenstein, D; Parr, T; Redman, Ch; Rozzi, R; Santos-Reis, M; Swemmer, AM; Vădineanu, A.	The ILTER/PECS initiative
	16:15	16:30	Equihua	Miguel		Ecosystem Integrity: conceptual & methodological aspects
	16:30	17:00	Dick	Jan	Forsius, M; Halada, L; Orenstein, D; Rozzi, R; Santos-Reis, M; Swemmer, AM	Several speed talks presenting case studies (5 min each)
SAVANNA futures						
ORAL PRESENTATIONS: Chaired by Jacques Gignoux						
Wed	13:45	14:00	Blaum	Niels	Geissler, K; Hauptfleisch, M; Marquart, A; Wanke, H; Joubert, D; Lohmann, D; Jeltsch, F	What can we learn from geo-biosphere-feedbacks for sustainable savanna rangeland management? First insights from an arid Namibian savanna
	14:00	14:15	Bond	William		Long-term trends in South Africa's grassy biomes: The end of savannas?
	14:15	14:30	Charles-Dominique	Tristan	Barot, S; Beckett, H; Blaum, N; Bond, WJ; Bustamante, M; Durigan, G; Gignoux, J; Kimuyu, DM; Langan, L; Lata, J-C; Laurans, Y; Murphy, B; Poux, X; Rankovic, A	Global and regional threats to savannas
	14:30	14:45	Cook	Garry		Greenhouse Gas abatement supporting remote livelihoods in northern Australian savannas

	14:45	15:00	Gignoux	Jacques	Barot, S; Beckett, H; Blaum, N; Bond, WJ; Bustamante, M; Charles-Dominique, T; Durigan, G; Langan, L; Lata, J-C; Laurans, Y; Poux, X; Rancovic, A	The interest of heuristic conceptual models to predict the future of biodiversity in different ecosystems. Application to savannas worldwide
	15:00	15:15	Langan	Liam	Higgins, S; Scheiter, S	Exploring how climate, soil and fire mediate biome distributions, biomass patterns, emergent plant traits and trait diversity relationships in South America using a trait based vegetation model
	15:15	15:30	Lata	Jean-Christophe	Srikanthasamy, T; Leloup, J; Koné, AW; N'Dri, AI; Abbadie, L; Boudsocq, S; Raynaud, X; Yé L; Barot, S	Role of the biological control of nitrogen cycle on grass-trees competition and coexistence: New insights from 25 years' research to understand the future of savannas in a moving world
Wed	16:00	16:15	Laurans	Yann	Aubert, P-M; Lapeyre, R; Rankovic, A; Vignes, R	Commodities global value chains and savanna futures: the case of the soybean in the Brazilian Cerrado
	16:15	16:30	Levick	Shaun	Trumbore, SE	Monitoring trajectories of vegetation change in savanna landscapes
	16:30	16:45	Poux	Xavier	Rankovic, A; Bustamante, M; Coreau, A; Laurans, Y; Gignoux, J	How to ensure a long-term sustainability for World Savannas? Insights from an international scenario-building initiative
	16:45	17:00	Sukumar	Raman	Dattaraja, HS; Suresh, HS; Ramaswami, G; Mondal, N; Pulla, S	The dynamics of a seasonally dry tropical forest in southern India over three decades
POSTER PRESENTATIONS						
		63	N'Dri	Brigitte	Soro, TD; Kpagba, P; Barot, S; Gignoux, J	Sustainable management of West African savanna ecosystems in the context of shrub encroachment
		69	Srikanthasamy	Tharaniya	Lata, J-C; Barot, S; Koné, AW; N'Dri, BA; Raynaud, X; Lerch, T; Leloup, J	Nitrification and denitrification under different landscapes elements (trees, groves and grasses) in Lamto (Ivory Coast) savanna soils: different strategies of nitrogen cycle control
UNCERTAINTY - Estimating Uncertainty in Measurements, Experiments, and Models						
Facilitated by Ruth Yanai and Hank Loescher						
Tue	13:30	15:30	Csavina	Janae	Loescher, H; Roberti, J; Yanai, R	Uncertainty Workshop, Module 1: Measurement Uncertainty
	13:30	15:30	Staudhammer	Christina	Yanai, RD; Loescher, HW; Csavina, JL; Clark, JS	Uncertainty Workshop, Module 2: Experimental Design for Long-Term Monitoring
	16:00	18:30	Wayson	Craig	Carrillo, O; Yanai, RD	Uncertainty Workshop, Module 3: Monte Carlo Error Propagation
	16:00	18:30	Clark	James	Remark: James Clark to present in the Experimental Special Session at 14:40 same afternoon)	Uncertainty Workshop, Module 4: Synthesis of network experiments and observations with generalized joint attribute modeling (GJAM)