



International Long-Term Ecological Research Network

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**

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Surname	Name		Provisional title
Plenaries			
Welcome			
Affiliation			
Mirtl	Michael	Chair of ILTER; Environment Agency Austria	Welcome on behalf of ILTER
Pauw	Johan	Director of SAEON; Chair of the ILTER Public Policy Committee	Welcome by host and technical information
Phillips [t.b.c.]	Glenn	Director of Kruger National Park	Introduction to Kruger
Opening/ Plenary 1			
Affiliation			
Mjwara	Phil	Director General, Science and Technology S.A.	Global Change and Sustainable Development Goals - South African views including the specific role ILTER
Mirtl	Michael	Chair of ILTER; Environment Agency Austria	Long-term Ecological Research: ILTER Status and responsibilities entering the Anthropocene
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
Scholes	Bob	Professor, University of the Witwatersrand, Global Change and Sustainability Research Institute, South Africa	Integration challenges for long-term research site networks in ecosystem dynamics and socio-ecological systems research [t.b.c.]
Plenary 2 & Roundtable on Partnerships			
Strategic global partnerships			
Global network and/or organisation			
Settele	Josef	IPBES	All talks will provide a short 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.
Ellis	Erle	GLP, GLOBE	
Masso	Cargele	INI	
Geller	Gary	GEO/GEOBON/ GCOS	
Provenciale	Antonello	GEO ECO	
Scholes	Bob	ICSU/PECS	
Loescher	Henry	NEON	
Pool-Stanvliet	Ruida [t.b.c.]	UNESCO WNBRS	
Padgham	Jon	Future Earth	
Masoka	Cecil	Future Earth	
Francisco	Bonet-Garcia	COOP+	
Plenary 3			
Affiliation			
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
Kutsch	Werner	ICOS, ENVRI+	Functional traits of species - a key for integration of data streams from diverse research infrastructures?
Speaker 3, t.b.c.			
Nitrogen impacts on ecosystems structure and function			
ORAL PRESENTATIONS			
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

Halada	Luboš	Halada, David, S; Mojses, M; Záhora, J; Gajdoš, P; Tůma I	The effects of nitrogen and temperature manipulation to alpine grasslands in two sites of LTER Slovakia.
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
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.
Motitsoe	Samuel	Hill, JM; Coetzee, JA; Hill, MP	Stable Isotope Techniques: from freshwater biological monitoring to ecosystem conservation
Nikolaïdis	Nikolaos	Efstathiou, D; Nikolaïdis, NP; Malago, A; Bouraoui, F; Bidoglio, G	Historical reconstruction of landuse change and climate timeseries and their impacts on the hydrologic & geochemical response of Koiliaris Critical Zone Observatory (CZO)
Pinho	Pedro	Matos, P; Branquinho, C	Using ecological indicators to monitor the long-term effects of atmospheric nitrogen pollution on ecosystems
Shibata	Hideaki	ILTER-Nitrogen Initiative members	Challenge of the ILTER-Nitrogen Initiative to foster the global collaborative research in the ILTER network
Trisos	Matthew	Parr, K; Picker, M; Hedin, LO; February, E	Water and nitrogen additions in a Kruger savanna result in cascading effects on biodiversity
Zhu	Bo	Zhou, M; Wang, T; Dong, Z; Kuang, F	Long term nitrogen fertilization regimes on cropland productivity and nitrogen cycling
POSTER PRESENTATIONS			
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
Shi	Yuanliang	Li, J	The progress of research on Chinese stabilized fertilizer
Williamson	Robert	Schlegel, R & Smit, AJ	Trends in Coastal Temperature Data
Carbon and water cycles under climate change			
ORAL PRESENTATIONS			
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
Carrillo	Oswaldo	Wayson, C; Olguín, M; Vaquera, H	Fake forests and quantifying uncertainty in allometric equations for the real world
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
Djukic	Ika	Kobler, J; Djukic, I; Dirnböck, T; Schindlbacher, A; Jandl, R; Zehetgruber, B; Mirtl, M	Forest carbon sink in times of increasing disturbance regime
Everson	Colin		An enhanced Terrestrial and Freshwater Environmental Observation Network in South Africa
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.
Hopkinson	Charles	Morris, J; Fagherazzi, S; Forbrich, I; Wang, SR	Blue carbon dynamics in coastal tidal wetlands and estuaries
Isbell	Forest		Biodiversity increases the resistance of ecosystem productivity to climate extremes
Nikolaïdis	Nikolaos	Giannakis, G; Efstathiou, D; Panakoulia, S; Nerantzaki, S; Paranychanakis, N	Koiliaris Critical Zone Observatory (Koiliaris CZO): A platform for development and testing of tools for sustainable water and soil management
Nippert	Jesse	Holdo, RM; Swemmer, AM	Physiological traits among grasses and woody plants influence coexistence and competition for water.
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)
Riddell	Eddie	Lamula, T; Thibela, D; Swemmer, AM	Long term post rehabilitation responses of a semi-arid headwater wetland
Rotenberg	Eyal	Preisler, Y; Roahtyn, S; Ramati, E; Yosef, G; Tatarinov, F; Schwartz, E; Yakir, D	Tradeoffs in dry-land forestation
Strydom	Tercia	Govender, N	Effects of varying fire frequencies on soil hydrology in African Savannas
POSTER PRESENTATIONS			
Knapp	Alan	Smith, MD; Griffin-Nolan, R; Collins, SL; Pockman, WT; Luo, Y; Wilcox, KR	Assessing responses to extreme drought in Grasslands
Li	Xinrong		Soil organic carbon storage of desert grassland in the Tengger Desert, Northern China
Maidi	Katlego E	Stam, EM	Soil moisture dynamics and vegetation structure along a precipitation gradient in the Soutpansberg, South Africa
McGill	Bonnie	Hamilton, SK	Agricultural liming, groundwater irrigation and carbon sequestration
O'Connor	Rory	Nippert, J	Physiological mechanisms of woody plant seedling establishment in mesic grasslands
O'Keefe	Kimberly	Nippert, JB	Tallgrass prairie ecohydrology: implications for a changing climate
Rineau	Francois	Beenaerts, N; Nijs, I; de Boeck, H; Vangronsveld, J	Effects of repetitive droughts on carbon, nutrient and water cycles of heathland ecosystem
Shaver	Gaius	Rastetter, EB	Leaf traits and canopy structure in heterogenous Arctic vegetation

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.)
Yang	Haotian		Biomass carbon storage for desert grassland on the edge of Tengger Desert, Northern China
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
Towards sustainable usage of ecosystem services (local, regional & global)			
ORAL PRESENTATIONS			
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
Ens	Bruno	Philippart, CJM; Baptist, M; Hansen, L; Sijtsma, F	Long-term ecosystem and socio-ecological research in the Dutch Wadden Sea
Forsius	Martin	Akujärvi, A; Mattsson, T; Holmberg, M; Punntila, P; Posch, M; Liski, J; Repo, A; Virkkala, R; Vihervaara	Modelling impacts of forest bioenergy use on ecosystem sustainability: Lammi LTER region, southern Finland
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
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
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
Kofinas	Gary		Local Traditional Knowledge: Methods, Challenges, and Potential Contributions to a LTER Network
Kruger	Frederick		Thinking about the long term: experience from South Africa's forest hydrology programme
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
Mozumder	Pallab	Van Vleet, E; Bray, D	Conservation Auctions and Bundling Payments for Multiple Ecosystems Services: A Framed Field Experiment in Oaxaca, Mexico
Orenstein	Daniel	Katz-Gerro, T; Dick, J	Defining environmental tastes as a tool for cultural ecosystem service assessment
Purdon	Jean	Findlay, K	Acoustic Pollution in the South African marine environment as a need for Long-term Monitoring and Governance?
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
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 PRESENTATIONS			
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
Atkinson	Lara	Attwood, CG; von der Meden, CEO; Sink, K; Borman, T	A five-year experiment to monitor seabed recovery near the continental shelf edge
Bowman	Jeff	Neumann, B; Ducklow, H	Socio-ecological valuation of ecosystem services along the West Antarctic Peninsula
Dousset	Sylvie	Vallée, R; Schott, F; Pallez, C; Cherrier, R; Munoz, J; Benoît, M	Do constructed wetlands in grass strips reduce water contamination from drained fields?
Elbakidze	Marine	Angelstam, P	Green infrastructures for human wellbeing in European rural landscapes: case studies from Sweden and Latvia
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
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.
Thompson	Jonathan		Future scenarios of land-use and climate change: impacts on ecosystem services
Drivers of biodiversity across scales			
ORAL PRESENTATIONS			
Beckett	Heath	Bond, WJ	Resilience and recovery in Forest and Thicket patches following a Firestorm
Beja	Pedro	Paupério, J; Martins, F; Verissimo, J; Filipe, AF; Rebelo, H; Mata, V; Ferreira, S; Corley, M; Grosso-Silva, JM; Muñoz, A; Henriques, S; Alves, PC	Metabarcoding LTER biodiversity: A case study and applications in LTER Sabor (Portugal)
Beja	Pedro	Paupério, J; Martins, F; Verissimo, J; Filipe, AF; Rebelo, H; Mata, V; Ferreira, S; Corley, M; Grosso-Silva, JM; Muñoz, A; Henriques, S; Alves, PC	Long-term ecological research: Understanding drivers of biodiversity change over 30,000 years in LTER Sabor

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.
Chamane	Sindiso	Kirkman, K; Morris, C; O'Connor, TG	The effect of high density livestock grazing on a mesic grassland in South Africa
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
Frenzel	Mark	Everaars, J; Schweiger, O	Long-term bee and bird communities observation in agricultural landscapes: What are the drivers of recent temporal changes?
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
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 Uhlářská catchment, Czech Republic.
Janecke	Beanelri	Le Roux, PAL; Du Preez, PJ; Kruger, FJ	Bottom-up determinants of habitat in a catena ecosystem – connecting abiotic and biotic components that drive its functioning.
Jardel-Peláez	Enrique J	Santiago-Pérez, AL; Cortés-Montaño, C; Castillo-Navarro, F; Vargas-Jaramillo, S; Llamas-Casillas, P; Morfín-Ríos, JE; Vélica-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
Miller	Robert	Reed, DC; Rassweiler, AR; Lamy, T	Responses of biodiversity to fluctuations in foundation species
Mlambo	Musa		Ephemeral pans as model system in long-term environmental research
Mlambo	Musa	Blanckenberg, M; Reed, C; Mlambo, M	Resurrection ecology in vernal pools of the Cape Floristic Region
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.
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
Soininen	Eeva		Climate-Ecological Observatory for Arctic Tundra (COAT)
Sun	Bo	Liang, Y; Zhou, J	Long-Term Soil Transplant Simulating Climate Change With Latitude Significantly Alters Microbial Temporal Turnover
Swemmer	Anthony M	Wigley-Coetsee, C	The response of the tree layer to six decades of fire manipulation in a pristine African savanna.
Thompson	Dave	Swemmer, AM	Are grasslands doomed under global change? Triennial burning cannot prevent shrubland transformation of mid-altitude South African grasslands.
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
Van der Merwe	Helga	Du Toit, JCO; Van den Berg, L; O'Connor, TG	Impact of stocking rate on vegetation at the arid karro stocking rate trial after 27 years, Carnavon, South Africa
Villar	Marc	Augustin, S; Chantereau, 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)
Welti	Ellen	Qiu, F; Tetreault, H; Ungerer, M; Joern, A	Changes in grassland plant-grasshopper (Acrididae) network structure with fire and grazing
POSTER PRESENTATIONS			
Burkepile	Deron	Adam, TC; Brooks, A; Holbrook, SJ; Schmitt, R	Changes in dominance drive global variation in herbivore effects on grassland diversity
Dlomo	Xolisa	Goschen, W; Bornman, T	Ocean dynamics that influence sea temperature structures in the Algoa and St. Fransis Bay region.
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.
Henschel	Joh	Henry, D; Pauw, M; Ramaswiela; T; Todd, S; Van der Merwe, H	Fresh perspectives on long-term research in South Africa's Karoo
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
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
Pinho	Pedro	Principe, A, Santos, J-P; Ramos, A; Máguas, C; Correia, O; Branquinho, C; Santos-Reis, M	Using a large-scale LTSER 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
Ramoelo	Abel	Cho, M	Towards earth observation based near-real time estimation of regional grass biomass as an indicator of rangeland quantity
Santos-Reis	Margarida	Carreiras, AL; Fernandes, J; Gona-Alves, P; Loureiro, C; Mendes, T; Prancipe, A; Serrano, A; Petrucci- Fonseca, F	Effects of grazing exclusion on animal biodiversity: lessons learned from a LTSER Montado research and monitoring station
Siebert	Frances	Swemmer, AM	Different responses in the woody and herbaceous layers after 15 years of herbivore exclusion
Stoll	Stefan	Maute, M; Haase, P	Effects of habitat fragmentation on bird communities

Thompson	Dave	Taylor, RW; Thompson, DI; Witkowski, ETF	Eighteen years on: Fire, utilization by elephants and temperature drive changes in the demographics of a population of long-lived giants.
Thompson	Dave	Maraschin, NMR; Thompson, DI; Grab, SW	Increasing maximum temperatures but variable rainfall across the Kalahari Gemsbok National Park over four decades: Implications for wildlife management in a semi-arid savanna.
Thompson	Dave	Sikhwivhilu, T; Thompson, DI; Scholes, RJ	Climatic controls on the distribution of plant species: A case study from the Waterberg Massif, Limpopo Province, South Africa
Van Staden	Nanette	Siebert, FS; Siebert, SJ; Swemmer, AM	Herbaceous species diversity and traits of different land-uses in Mopaneveld
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
Vezi	Madonna	O'Brien, G	The environmental variables that drive macro-benthic invertebrate communities of the river dominated

Data integration and interoperability linking global scale ecosystem research and environmental monitoring

ORAL PRESENTATIONS

Bahlai	Christie		Project-based training in reproducible research using population data produced by LTER sites
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)
Downs	Martha		Supporting Collaboration with Effective Communication: The USLTER Network Communication Office
Hugo	Willem		Sustainable, Scalable Infrastructures for Earth and Environmental Science
Klug	Hermann		Automated Geosynthesis - A transdisciplinary framework for real-time integrated holistic landscape analysis and decision support
Oggioni	Alessandro	Oggioni, A; Tagliolato P; Carrara, P	Ecosystem data interoperability issues: on the opportunity of exploiting Observations & measurements standard for monitoring environmental status
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
Vanderbilt	Kristin	Gries, C	Supporting Data Synthesis in the US LTER and Partner Research Programs: A Collaborative Data Center Model
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 PRESENTATIONS

Kwon	Ohseok	Han, Y-G	Development of Integrated data management system on ecological information in Korea
Yanai	Ruth		QUEST: Quantifying Uncertainty in Ecosystem Studies

Linking local, regional and global Earth system observations and models

ORAL PRESENTATIONS

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
Bretagnolle	Vincent	Allier, F; Badenhausser, 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
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
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.
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
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
Higgins	Steven	Buitenwerf, R; Moncrieff, G	Using Earth Observation Satellites to define biomes and monitor their change
Moncrieff	Glenn	Scheiter, S; Langan, L; Trabucco, A; Higgins, SI.	The future distribution of the savanna biome: model based and biogeographic contingency
O'Connor	Tim G		An unrealised asset: potential contribution of long-term management experiments for understanding global change
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.

POSTER PRESENTATIONS

Bornman	Thomas	Adams, JB; Schmidt, J; Mfikili, A; Farre, R & Smit, AJ.	Algoa Bay Sentinel site for long-term ecological research: linking catchments to oceans
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Rogers	Annabelle	Moncrieff, G; February, E; Slingsby, J	Forest expansion in relation to urbanization and changing fire vulnerability on the Cape Peninsula, South Africa
McDowell	WH		International LTER and CZO networks: Opportunities to build a global understanding of land-water linkages
Schildhauer	Mark	Jones, MB	Construction and use of ECSO: A formal vocabulary for describing and defining ecosystem concepts

Long-term studies of population dynamics

ORAL PRESENTATIONS

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
February	Edmund	White, JDM; Jack, SL; Puttick, J; Bonora, D; Hoffman, MT	Collapse of an iconic conifer: Long-term changes in the demography of Widdringtonia cedarbergensis using repeat photography
Garcia	Maria B	Olesen, JM; Gómez, D; Vidal, M; García, MB	Monitoring program to track the effects of global changes on plant diversity in NE Spain. A network of scientists, managers and volunteers
Götz	Albrecht	James, P	Long-term fisheries data support effectiveness of South African Marine Protected Area
Hallett	Lauren	Suding, KN	Spatial heterogeneity buffers species diversity to climate change: Evidence from long-term population dynamics in an alpine grassland
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
James	Nicola	Cowley, P; Whitfield, A	Revisiting the East Kleinemonde Estuary marine fish community after 20 years of monitoring
Kellermann	Kobus	February, EC; Slingsby, J	Hydraulic Trait Variation of Protea repens with Change in Climate and Atmospheric CO2.
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
Schowalter	Timothy	Willig, M; Presley, S	Long-term Successional Dynamics of Populations and Assemblages of Canopy Arthropods in a Disturbance-Prone Tropical Rainforest
Waide	Robert		The effects of hurricanes and droughts on long-term population and food web dynamics in a tropical rain forest

POSTER PRESENTATIONS

Beenaerts	Natalie	Rineau, F	Sustainably optimising the protection and management of the diversity in the National Park Hoge Kempen
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
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
Díaz-Delgado	Ricardo	Carro, F; Pardavila, X; Afán, I; Santamaría, L; Soriguer, R	Long-term spatio-temporal patterns of micromammals communities under environmental change
Guinart	Daniel	Herrando, S	Long term studies of wildlife population and its use in management of natural protected areas. The LTER-Montseny example
Marchal	Antoine	Lejeune, P; de Bruyn, NPJ	Using photogrammetry for age, sex and individual identification from lion trails
Ramulifho	Pfananani	Foord, S	Environmental Flow Requirements and Response of Macroinvertebrates Population in the Luvuvhu River Basin
Staudhammer	Christina	Kainer, KA; Da Cunha, TA; Wadt, LHO	What drives Brazil nut (Bertholletia excelsa) production? Factors in long-term variation of an important non-timber forest product
Wigley-Coetsee	Corli	Swemmer, AM	Finding efficient ways of monitoring long-term trends in vegetation

Long-term changes in nutrient cycling

ORAL PRESENTATIONS

Ball	Becky	Hall, SJ	The impacts of urbanization on soil biogeochemistry and biodiversity in the Sonoran Desert
Goericke	Ralf		Climate and the control of phytoplankton biomass and primary production by inorganic nitrogen in the Southern California Current System
Kendrick	Michael	Hurn, 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
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
Pozo Buil	Mercedes	Di Lorenzo, E	Natural vs. anthropogenic controls on coastal hypoxia along the US West Coast
Wei	Wenxue	Chen, A; Sheng, R	The stability of soil fertility and soil microbial communities influenced by long term fertilization

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
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 PRESENTATIONS			
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
Klug	Hermann		Phosphorus runoff in the Austrian Mondsee catchment
Kominoski	John		Saltwater intrusion and carbon loss: Identifying biogeochemical attributes that drive differential responses among coastal wetlands
Morris	James		The strange harmonics of salt marsh biogeochemical cycles in 4D- with a twist: It's a symphony
Tan	Huijuan	Tan,, HJ; Li, XR; Liu, YB; Zhao, X	Effects of salinity on growth and compatible solutes of callus induced from Reaumuria soongorica
Experiments workshop: • Highlighting the power of experimentation in a strongly observational ILTER • Distributed experimental research: exceptional inference at an affordable price			
ORAL PRESENTATIONS			
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
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
Clark	James		New and existing statistical tools for multisite experiments
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
Djukic	Ika		TEACOMPOSITION: A Global Litter Decomposition Initiative
Henschel	Joh	Milton, SJ; Dean, R; Arena, G; Van der Merwe, H; Pauw, M; Henschel, JR	Advancing Karoo knowledge through long-term experiments at Tierberg
Isbell	Forest		Nutrient enrichment, biodiversity loss, and consequent declines in ecosystem productivity
Lajtha	Kate		The dirt on DIRT: What a cross-site international collaboration can tell us about controls on soil organic matter
Seabloom	Eric	Borer, ET; Kinkel, L; May, G	Biodiversity of plant microbiomes in global grasslands: breaking boundaries and crossing scales
Smith	Melinda	Sala, O; Phillips, R; Knapp, A; Collins, S	Drought-Net: A global network to assess terrestrial ecosystem sensitivity to drought
Strydom	Tercia	Govender, N	The Kruger National Park Experimental Burn Plots: A long-term fire experiment
Zeglin	Lydia	Floyd, V	Microbial feedbacks to soil N availability in tallgrass prairie following 30-year burning and fertilization treatments
Information management workshop			
ORAL PRESENTATIONS			
Peterseil	Johannes	Wohner, C; Schentz, H; Watkins, J; Bertrand, N; Poursanidis, D; Cazacu, C; Oggioni, A; Kliment, T; Blankman D; Mirtl, M	Standardised description of long term observation sites using DEIMS and EnvThes
Schildhauer	Mark	Jones, MB	The Data Observation Network for Earth, DataONE: A distributed framework for preserving and discovering data about earth and environmental observations
Savanna workshop			
ORAL PRESENTATIONS			
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
Bond	William		Long-term trends in South Africa's grassy biomes: The end of savannas?
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
Cook	Garry		Greenhouse Gas abatement supporting remote livelihoods in northern Australian savannas
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



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
Lata	Jean-Christophe	Srikanthasamy, T; Leloup, J; Koné, AW; N'Dri, AJ; 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
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
Levick	Shaun	Trumbore, SE	Monitoring trajectories of vegetation change in savanna landscapes
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
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			
Rankovic	Aleksandar		Understanding the long-term dynamics of urban ecosystems for their sustainability: An illustration with the street tree plantations of Paris
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 workshop			
Facilitators			
Clark	James		Uncertainty Quantification for LTER and NEON using Hierarchical Bayesian Approaches
Csavina	Janae	Loescher, H; Roberti, J; Yanai, R	Uncertainty Workshop: Measurement Uncertainty
Staudhammer	Christina	Yanai, RD; Loescher, HW; Csavina, JL; Clark, JS	Uncertainty Workshop Module 2: Experimental Design for Long-Term Monitoring
Wayson	Craig	Carrillo, O; Yanai, RD	Uncertainty Workshop: Monte Carlo Error Propagation