



INNOVATION FOR INFORMATION

SASAS 2016



Climate System Analysis Group

32nd Annual Conference of the South African Society for Atmospheric Sciences

31 October-1 November

Hosts: Climate System Analysis Group (University of Cape Town)

Lagoon Beach Hotel in Milnerton, Cape Town.

PROGRAMME

Sponsor:



PROGRAMME
DAY 1: 31 OCTOBER

KEY: *STUDENT

0800-0845	REGISTRATION
0845-0900	WELCOME (Dr Peter Johnston) AND HOUSEKEEPING (Mrs Kate Kloppers)
0900-0930	KEYNOTE ADDRESS
	Prof William Gutowski Water and Climate Change (WACC): Building Community Consensus for a Sustainable Future
0930-1000	INVITED SPEAKER
	Dr Yushi Morioka Role of Weddell Sea ice variability in southern African climate
1000-1030	TEA BREAK

1030-1230	SESSION 1	PARALLEL
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1A		Climate Modelling and Development (Chairperson: Chris Lennard)	
1	1030-1045	Elelwani Phaduli	Evaluation of the Convective Scale Configurations of the Unified Model
2	1045-1100	Francois A. Engelbrecht	Dynamic core of the Variable-resolution Cubic Ocean Model (VCOM)
3	1100-1115	Magdel Erasmus*	Tropical Temperate Troughs over Southern Africa as Simulated by a Fully Coupled Model
4	1115-1130	Mary-Jane Bopape	Simulating the Convective Boundary Layer with a Dynamic Smagorinsky Model
5	1130-1145	Mavhungu S Muthige*	Impacts of spectral nudging on the simulation of present-day rainfall patterns over southern Africa
6	1145-1200	Rachel James	Representation of Tropical Temperate Troughs over southern Africa in coupled climate models

20 MIN DISCUSSION

1B		Ocean Dynamics and Atmosphere-Ocean Interactions (Chairperson: Marcello Vichi)	
1	1030-1045	Mathieu Rouault	Wind changes above warm Agulhas Current eddies
2	1045-1100	Marc de Vos	Towards understanding the impact of assimilating along-track SLA data on simulated eddy characteristics in the Agulhas System
3	1100-1115	Teboho Nchaba	Summer circulation trends over southern Africa and its adjacent oceans
4	1115-1130	Tharone Rapeti	Preliminary investigation into the impacts of assimilating SST and SLA on the surface velocities in a HYCOM of the Agulhas Current
5	1130-1145	Daneeja Mawren*	Variability of tropical cyclone heat potential and barrier layers in the South Indian Ocean
6	1145-1200	Fehmi Dilmahamod*	Investigating the regime of the South-West Indian Ocean Currents through a numerical model.

20 MIN DISCUSSION

1230-1330 LUNCH

1330-1410 POSTER PRESENTATIONS (1 MIN X 30)

PLENARY

1410-1550 SESSION 2

PARALLEL

2A		Climate Modelling and Development (Chairperson: Babatunde Abiodun)	
1	1410-1425	Stephanie Landman	Predictability of Rain-Bearing Systems over South Africa by Regional and Global Weather Prediction Models
2	1425-1440	Syamala Krishnannair	Comparative study of PCA and wavelet-PCA models for simulating monthly rainfall and temperature for Cape Point station
3	1440-1455	Willem Conradie*	Initial Conditions and Quantifying Model Climates: Does it Matter Where We Come from?
4	1455-1510	Georges-Noel T. Longandjo	How does well ECHAM simulate central Africa rainfall seasonal cycle?
5	1510-1525	Asmerom Beraki	Covariability of remote and local climate forcings and South African winter climate predictability

20 MIN DISCUSSION

2B		Atmosphere/Ocean Interaction, Aerosols and Atmospheric wave dynamics (Chairperson: Venkataraman Sivakumar)	
1	1410-1425	Kirodh Boodhraj*	An assessment of the role of vertical mixing schemes in the simulation of Southern Ocean upper dynamics
2	1425-1440	Neil Hart	Upper-level jets and eddies associated with tropical-extratropical cloud bands over southern Africa: The seasonal cycle
3	1440-1455	Xolile Nciphha*	Comparison of summer and spring carbon dioxide vertical and spatial distribution over the Southwest Indian Ocean Islands using TES data
4	1455-1510	Anzel Swart*	An Analysis of the Air Dispersion Potential (ADP) over Uubvlei in Oranjemund, Namibia.
5	1510-1525	Majambo Gamoyo*	Mesoscale dynamics in the Western Indian Ocean (Focus on the Southern Gyre): A numerical investigation using ROMS

20 MIN DISCUSSION

1550-1610 TEA

1610-1730 SESSION 3

PARALLEL

3A		ENSO and seasonal impacts (Chairperson: Asmerom Baraki)	
1	1610-1625	Christien J. Engelbrecht	The 2015/16 Summer vs the Summers of the Last Decade
2	1625-1640	Willem A Landman	Decision-relevant information on seasonal time scales - the case of a farm in northern Namibia

3	1640-1655	Hector Chikoore	Evolution of the 2015/16 El Niño drought: circulation anomalies, heat waves and impacts on southern Africa
4	1655-1710	Takayoshi Ikeda	Linking malaria in Limpopo, South Africa to climate using self-organizing maps

20 MIN DISCUSSION

3B	Atmospheric Air Quality (Chairperson: Nkanyiso Mbatha)		
1	1610-1625	Maluta Pennington Mbedzi*	The potential use of CCAM as a meteorological driver to air quality mode over the Waterberg-Bojanala Priority Area
2	1625-1640	S.K. Sangeetha*	Comparative study of OMI BRD and PCA algorithm retrievals in relation to ground based measurements over a South African Site
3	1640-1655	Sewela Malaka*	Contribution of dairy farming on climate change through direct methane emissions to the atmosphere
4	1655-1710	Lynette V Schalkwyk	Warning South Africa when severe weather unfolds

20 MIN DISCUSSION

1730-1830 POSTER VIEWING (see poster presentation list below)

1730-1830 SASAS BOARD MEETING (by invitation only)

1900 GALA DINNER

DAY 2: 1 NOVEMBER

0830-0900	KEYNOTE ADDRESS
	Prof Tim Carter Modelling impacts of climate change: what are the information needs?
0900-0930	INVITED SPEAKER
	Prof Mike Savage Open water evaporation quo vadis?

0930-1030 SESSION 4 PLENARY

4	1.5 Degrees, Climate Services and application (Chairperson: Mark Tadross)		
1	0930-0945	Coleen Vogel	"END of END user!" – Transdisciplinary approaches in climate science.
2	0945-1000	Bruce Hewitson & Katinka Waagsaether	The evolving landscape of Climate Information Websites
3	1000-1015	Piotr Wolski	Improving visualisations of climate projection information

15 MIN DISCUSSION

1030-1100 TEA

1100-1300 SESSION 5

PARALLEL

5A		Applications for water and agriculture (Chairperson: Piotr Wolski)	
1	1100-1115	Harold Weepener	Climate change related impact on avocado production areas in South Africa
2	1115-1130	Johan Malherbe	How would current advice benefit maize farmers with respect to historical associations with El Niño events
3	1130-1145	Shepherd Muchuru	Mitigating vulnerability to drought and enhancing livelihood resilience: A review of Southern Africa region
4	1145-1200	Teboho Masupha*	Temporal evolution of agricultural drought in the Luvuvhu River catchment of South Africa
5	1200-1215	Yao Télésphore Brou	Spatio-temporal variability of rainfall and impacts on vegetation in Reunion Island
6	1215-1230	Lisa van Aardenne	Climate and Tsetse: exploring the effect of climate variability and change on vector biology, population dynamics and distribution in the Zambezi Valley

20 MIN DISCUSSION

5B		Instrumentation and data collection (Chairperson: Mike Savage)	
1	1100-1115	Alexa Brown*	Time, space and vector relationships between historical ship log data and Cape Royal Astronomical Observatory wind data between 1834 and 1854
2	1115-1130	Yerdashin Padayachi	Anthropogenic Heat Flux in South African Cities: Initial estimates from the LUCY model
3	1130-1145	Morné Gijben	Recent improvements to the rapidly developing thunderstorm product - the addition of lightning data into the software
4	1145-1200	Erik Becker	Application of radar data at the South Africa Weather Service
5	1200-1215	Nkanyiso Mbatha	Stratosphere-troposphere exchange climatology over southern Africa using ERA-Interim data set and AIRS/Aqua satellite data
6	1215-1230	Zakhele Shabalala*	Development of a patching tool on recorded daily climate data

20 MIN DISCUSSION

1300-1400 LUNCH

1400-1530 SESSION 6

PARALLEL

6A		Climate & weather forecasting (Chairperson: Willem Landman)	
1	1400-1415	Henno Havenga*	High Resolution dBz simulation of some notable hailstorms that occurred in 2013 over the South-African Highveld using WRF
2	1415-1430	Melise du Toit*	The application of support vector regression (SVR) for stream flow prediction on the Amazon basin

3	1430-1445	Kelebogile Mathole	The climatology of the stratospheric zonal wind and its wave driving in the SAWS operation seasonal prediction system
4	1445-1500	Izidine Pinto*	Process-based assessment of two CORDEX climate models projections over southern Africa
5	1500-1515	Elizabeth Webster	Impact-based severe weather warning system

15 MIN DISCUSSION

6B	Dust - Southern African aerosols, sources pathways and impacts (Chairperson: Frank Eckhardt)		
1	1400-1415	Johanna von Holdt*	Aeolian dust emission from the Namib Desert: local-scale erodibility controls
2	1415-1430	Rebecca Garland	Representation of aerosol particles and associated transport pathways in regional climate modelling in Africa
3	1430-1445	Priyanka Singh*	Validation and comparison between Aerosol Optical Depth acquired from Sun Photometer and MODIS satellite over Durban
4	1445-1500	Thabo Makgoale*	The sensitivity of simulated temperatures in climate models to aerosols over southern Africa
5	1500-1515	Ruusa Gottlieb*	The contribution of fog to the biogeography of <i>Arthroerua leubnitziae</i> in the central Namib desert

15 MIN DISCUSSION

1530-1550 TEA

1550-1600 AWARDS AND CLOSING

1600-1700 AGM

Poster presentations			
Main Author	Title	Student	Board No.
Bellinda Monyela	Abnormal climate conditions for summer 2014/2015 over southern Africa	*	1
Chris Lennard	Characterizing surface level inversions over Cape Town, South Africa		2
Claire Davis	Climate change and extreme weather events in Southern Africa: can countries adapt?	*	3
Cobus Olivier	Making seasonal forecasts easier to use		4
Eve Wicksteed	Air Pollution and Climate Change in the Greater Cape Town Area	*	5
Fabien Desbiolles	Air-Sea interactions over the Angola-Benguela Frontal Zone and their effects on regional atmospheric circulation	*	6
Jan Vermeulen	Late plum rain over northeastern South Africa: 1 to 14 March 2014		7

Kabelo Mathibela	Testing the applicability of the NAME III dispersion model in predicting air pollutants concentrations over the VTPA		8
Kaukurauee Ismael Kanguuehi	Trace metal concentration and solubility of aerosols from southern Africa sources transported over the ocean	*	9
Kelsey Woor	Assessing the Risk of Failure and Implications to Investment Payback Period for Domestic Rooftop Rainwater Harvesting Systems under Current and Future Climate in the Western Cape	*	10
Kwesi Quagraine	Regional climate model based simulations of inter-annual rainfall variability over the Guinean coast of West Africa	*	11
Lerato Mpheshea	Predictability of seasonal streamflow in the north-eastern region of South Africa	*	12
Mariam Nguvava	The influence of atmospheric teleconnections on drought regimes in Eastern Africa	*	13
Mark Jacobson	Topographic effects on the wind field in False Bay	*	14
Modathir Abdalla Hassan Zaroug	Are semi-arid regions hotspots of climate change in Africa and South Asia?	*	15
Molulaqhoora Maoyi	Simulating the characteristics of Tropical Cyclones over the South West Indian Ocean using an Adaptive Stretched-Grid Global Climate Model	*	16
Morwakoma Matabane	Ocean wave forecasting in the southern African region: the use of ECMWF WAM and NCEP Ensemble data	*	17
Mthetho Vuyo Sovara	Modeling the impacts of the Indonesian Throughflow on the Indian Ocean using the Parallel Cubic Ocean Model	*	18
Mthobisi Nxumalo	Analysis of homogenised extreme temperature trends over South Africa for the period 1931 to 2015		19
Neil Hart	The spatial distribution and variability of organised convection over southern Africa as represented by cold cloud duration		20
Njabulo Mchunu	Evaluating the Multi-Scale Predictability of a Severe Weather Event Associated with a Cut-off Low over South Africa		21
Piotr Wolski	Interannual rainfall variability and SOM-based circulation classification		22
Ramapulana Nkoana	Koppen-Geiger climate type maps of the Last Glacial Maximum over south coast	*	23
Rodger Duffett	Toward a UAV Sonde: Characterising a Quadcopter for wind speed measurements		24

Ruchith Ramakrishnan Devaki	Influence of aerosol-cloud interaction on austral summer precipitation over southern Africa during ENSO events		25
Tania Moyikwa	Wind variability along the southern coast of South Africa	*	26
Tania Williams	The changing rainfall patterns over Western Cape	*	27
Victor Indasi	Climate data in southern Africa: Agreements and contradictions	*	28
Zane Dedekind	The effect of prognostic aerosols on simulated stratocumulus over the southeastern Atlantic		29