



2 – 4 February 2009
Diaz Strand Hotel, Mossel Bay

DAY ONE – 2 FEBRUARY 2009

Opening and Welcome Address

Executive Mayor Rudi Laws
Eden District Municipality

Keynote Address – Western Cape climate change response strategy and action plan

Mr. Dennis Laidler
Western Cape Department of Environmental Affairs and Economic Planning

Development and implementation of climate change strategy with a focus on Eden District and Local Municipalities

Me Belynda Petrie
One World Group

Climate change projections and how they are useful

Dr Peter Johnston
University of Cape Town

Setting the Scene – Dr Sweijd

5 Minute introductory Briefs by chairs of the 6 Focal Themes

Climate change and biodiversity – Professor G. Midgley

Climate change and economic development – Professor H. Stoffregen

Climate change and tourism – Me Grace Stead

Climate change and social well-being – Professor R. Schulze

Climate change and population growth – Professor I. van der Merwe

Climate change and recreation – Mr Fred Orban

Climate change mitigation strategy for PetroSA

Mr Dan Marokane : Vice President - Operations
PetroSA

DAY TWO – 3 FEBRUARY 2009

VENUE: MAIN HALL – CHAIR : Prof G. Midgley

Parallel Session One – Biodiversity

1. Potential effects of climate change on estuarine and fresh water ecosystems – Dr Wietsche Roets (CapeNature)

Dr Wietsche Roets is an aquatic scientist and ecohydrologist associated with the scientific services division of Western Cape Nature Conservation trading as CapeNature. He is currently tasked with land use advice on development applications in the Western Cape Province.

Abstract

Scientists around the world have predicted that countries with the highest rainfall variability will be affected most by climate change. South Africa has the highest rainfall variability coefficient in the world. Climate change is said to result in dryer cycles for the western regions and possible wetter cycles for the eastern regions of the southern hemisphere. The southern Cape (Garden Route) is located on a transitional zone between the two regions and it is unclear what exactly will happen. However, scientists agree that wind speed will increase with climate change and will subsequently impact on rainfall intensity and increase frequency and intensity of wind generated storm surges.

Increased wind speed will result in more frequent and intense flash floods for freshwater systems through the increase in rainfall intensity, particularly in the quick response catchments of the Cape Folded Belt. This effect will manifest irrespective of whether annual rainfall increase or decrease.

Marine generated storm surges will also result in excessive coastal erosion and impact on estuarine ecosystems. Through scenario building it is easy to predict potential impacts of climate change on freshwater and estuarine ecosystem functioning.

2. Marine systems and the environment: Coastal Management – Mr Neville Sweijd (CSIR)

3. Climate change risks to biodiversity – Mr Guy Midgley (SA National Biodiversity Institute)

Dr Guy Midgley, head of the climate change research group at the South African National Biodiversity Institute. Dr Midgley is a member of the WWF Climate Witness Science Advisory Panel. He work for the South African National Biodiversity Institute. It is tasked with doing the research that's necessary to maximise the persistence of and the value from South Africa's biodiversity. I am a chief specialist scientist and I've been doing climate change related research since the early 1990s and I now head up the Institute's climate change research group which is looking at the medium to longer range indications of climate shifts on biodiversity and on conservation planning. So we look at biodiversity changes and how different ecosystems are responding to increased Carbon Dioxide (CO₂), temperature, changes in rainfall and other drivers

VENUE : MAIN HALL – CHAIR: Dr A. Holloway

Parallel Session Three – Climate Change and Tourism – Eden

1. Flooding with special reference to Eden District 2003 to 2008 – Mrs Penelope Price (SAEON)

"The Eden District has been subject to large magnitude floods on an annual scale since March 2003. These floods cause alot of damage to local infrastructure, farms, businesses and private homes. They significantly disrupt the lives of those in the District, including key sectors such as

Tourism and Agriculture. The question on everyone's lips is whether there is an increase in the frequency and magnitude of the extreme rain events causing these floods and whether this is in fact the effects of Climate Change we are experiencing. This presentation looks at the Duiwenhoks River as a case study of flooding in the Eden District, covering a period from the 1960 to present."

2. Reducing the carbon footprint of tourism – Me Grace Stead (Steadfast Greening)

Although a Town Planner by profession, Grace Stead focussed more on promoting sustainable development in 2000 when asked to be the Local Agenda 21 (LA21) Co-ordinator for the City of Cape Town. During this time she managed a range of projects and enabled a better working relationship between the City and Civil Society. This included managing a partnership between the City of Cape Town and the City of Aachen in Germany, which has received international acclaim. She was also very involved with the WSSD in 2002 and the 2006 ICLEI World Congress (event greening, cleaner production in hotels, technical tours, civil society input). In 2006 she compiled the draft Green Building Guideline for Cape Town.

Grace currently manages Steadfast Greening, a company that focuses on event greening, cleaner production and implementation of sustainable living. She is an organised, enthusiastic, dedicated person with proven administrative, organisational and facilitation skills. She is strongly committed to a high standard of work, which is demonstrated through an analytical, efficient and logical approach to getting things done. Grace is able to interact with people on all levels and operate well under pressure.

3. Climate risk management for robust public infrastructure – Dr Ailsa Holloway (UCT)

VENUE : MAIN HALL – CHAIR: Prof I. van der Merwe

Parallel Session Five – Climate Change and Population Growth

1. Climate change and disaster management – Dr A. Roux (Department of Agriculture)

2. Impact of Climate Change on Growth Potential of Towns – Prof Izak van der Merwe

Kort opsomming van myself: Voorheen professor in Geografie en Stedelike Ontwikkeling aan die Universiteit Stellenbosch; daarna Dekaan van die fakulteit Lettere en Sosiale Wetenskappe; laaste twee jaar Direkteur van Navorsing (Geesteswetenskappe) aan die Universiteit Stellenbosch; tans lid van die Western Cape Development Council.

Abstract

- The context of sustainable urban development.
- The growth potential of Eden's coastal towns.
- The expected climate change that could impact on urban development globally.
- Speculation on the possible effects of climate change on Eden towns.
- What can we do to counter these effects.

3. Impact of Climate Change on Spatial Planning – Mr Nick Simon (CNDV)

VENUE: BREAK-AWAY ROOM TWO – CHAIR: Prof H Stoffregen

Parallel Session Two – Climate Change and Economic Development – Eden

1. Economic implications of climate Change: A German Perspective – Prof. Heinz Stoffregen (University of Marburg, Germany)

Dr. Heinz Stoffregen is a retired professor of economics from Marburg University in Germany. His main activity has been in the field of economics of development, especially rural development. He also worked in South Africa.

As a true liberal he calls for the state to protect the citizens, create and maintain the infrastructure and determine the rules and regulations for economic activities – but to stay away from interfering into business operations.

Abstract

Since the climate change was discovered and the causes seem to have been identified, most discussions centered around the economic consequences for avoiding or at least slowing down that process. They were mainly energy oriented.

Now, it seems time to accept, that the climate change is to come, and to look at the consequences for the economy: direct consequences for agriculture and forestry, water supply as well as tourism – and the indirect consequences for other economic sectors as well as the labour, land and money markets.

As to the German perspective, one can say that there is a mixed reaction: The general public of course is worried about the changes, without really recognizing, what the consequences could be. But individuals as well a scientists start pointing out that there will be a real danger only for few population groups and enterprises – but that there also will exist chances and opportunities for many new developments.

2. Climate change impact on marine fisheries – Mr Larry Hutchings (DEAT: Marine and Coastal Management)

CURRICULUM VITAE DR. L.HUTCHINGS Feb 2008

University 1967 B.Sc. Majors Zoology and Chemistry.

University of Cape Town.(UCT): 1968 B.Sc.(Hons) Zoology.

UCT: 1979 Ph.D. Zoology.

Thesis title: "Zooplankton of the Cape Peninsula Upwelling Region"

Interests: Fishing (rock, surf, boat and freshwater), surfing, diving, camping, small-scale farming.

Awards: Gilchrist medal for contributions to marine science in South Africa 1994.

PRINCIPAL RESEARCH INTERESTS.

1. Biological Oceanography, principally plankton ecology in coastal upwelling regions, including all aspects of the transfer of energy from phytoplankton via zooplankton to fish. This includes the community structure, adaptations of the dominant organisms to maintenance on the shelf, rates of primary and secondary production, grazing and sedimentation.
2. Planktivorous fish feeding energetics and selectivity and fish behaviour and migration.
3. Recruitment mechanisms and the early life history studies of marine fish
4. An ecosystem approach to fisheries management from a "bottom-up" perspective.
5. Conservation of marine biodiversity, evaluation, establishment and management of Marine Protected Areas.
6. Coordination of multidisciplinary programs within large marine ecosystems.
7. Evaluation of the effects of demersal trawling on the benthos
8. Long term data sets and evaluation of the impact of climate change on the southern African continental shelf

SCIENTIFIC COORDINATION

- Head of Biological research section, 1975 -1992
- Member of Marine Science Society of SA 1992-3.
- Member of Phycological Society 1983-88.
- Member of Pelagic, Rock Lobster, Hake, Marine Biodiversity and Line Fish Working Groups.
- Observer on Squid Working Group.
- Member of SFRI Research Steering Committee, 1986 - 2004.
- Member of BEP I and II Scientific Committees.
- Chairman of BEP II Scientific Committee.
- Member of BEP III and IV Planning and Advisory Committee, 1990-.
- Member of Ship Replacement Committee for RV Africana, 1976-1983.
- Member of Scientific Advisory Committee of the Oceanographic Research Institute, Durban, as external assessor, 1993-2006.
- Chairman of internal panel to evaluate linefish research within SFRI, 1994
- Chairman of SANCOR Marine Reserves Task Group, 1994-96
- Chairman, Marine Biodiversity Working Group, 1997-2008
- Chairman, Sea Fisheries Management Advisory Committee, to advise Chief Director on fishing rights allocation 1998-99.
- Head of Ecosystems Section, MCM, 2002-2004, comprising Top Predators, Ecotourism, Estuaries, biodiversity and marine protected areas sections.
- Scientific coordinator, biodiversity, environment and ecosystems group, Marine and Coastal Management.
- Member of Management Committee of BENEFIT program, a joint venture between South Africa, Namibia and Angola to undertake fisheries-environmental research in the Benguela Current. Chairman of the Environmental task group of Benefit1998/99, member 1998-2004

- South African coordinator for the Benguela Current Large Marine Ecosystem (BCLME) program; member of Policy steering committee; Chairman of Environmental Variability Advisory group; member of Biodiversity, Environmental Health and Pollution Advisory group.
- Member of Living Marine Resources Panel of the Global Ocean Observing System (GOOS), 1998-00
- External evaluator, Coursework MSc in Applied Marine Science, UCT, 2001-2008
- External evaluator, 3rd year marine biology course, UCT
- Authored or co-authored more than 60 scientific papers

A number of time series exists for both fisheries and oceanographic parameters in the shelf waters around South Africa, including winds, temperatures, salinities, dissolved oxygen, nutrients, phytoplankton and zooplankton amongst the oceanographic data and changes in biomass and spatial distribution and fish condition for major fisheries. While some trends are discernible, others display decadal scale cyclic trends and it is difficult to distinguish fishing effects from natural climatic variability or trends associated with global warming. We attempt to describe patterns of variability on the continental shelf in the light of large scale changes occurring in the ocean and atmosphere surrounding South Africa.

3. Climate change and agriculture impacts and opportunities – Prof Stephanie Midgley (University of Stellenbosch)

VENUE: BREAK AWAY ROOM TWO – CHAIR: Prof. R. Schulze

Parallel Session Four – Climate Change and Social Well-Being

1. Climate change and the South African water sector – What is in it for us? – Prof Roland Schulze (University of Kwazulu Natal)

A short CV: Roland Schulze is Emeritus Professor of Hydrology and Senior Research Associate at the University of KwaZulu-Natal in Pietermaritzburg, where he leads a research team into climate change impacts.

Abstract:

South Africa already experiences many stresses related to the water sector. Superimposed upon these is projected climate change, with any changes in rainfall patterns amplified by hydrological responses. What are likely future scenarios for the water sector? And how should we go about planning for the future? These issues will be addressed in the presentatio

2. Zanzibar: A waste, energy and potable water solution – Mr Jan Vingerhoets (African Power Technologies (Pty) Ltd)

3. Climate change and human health: A Disaster Risk Management Perspective – Dr Elretha Louw (Africon (Pty) Ltd)

Elretha Louw is an Associate at the Cape Town office of Africon. Her field of specialization is Disaster Risk Assessments with a special interest in Climate Change and vulnerability assessments. She obtained her PhD in Medical geography and Disaster Risk Assessment at Stellenbosch University. Her Masters research from the same university focused on drought. She also has over 14 years experience in all aspects of Geographic Information Systems. Previously, as planning coordinator at the Department of Water Affairs, extensive experience was gained in the Water Resources Management field, specifically in Geohydrology.

At AFRICON Dr Louw has been involved in several Disaster Management projects, inter alia, Risk assessments and Disaster Management Planning for the City of Cape Town, the Limpopo Provincial government, the Mpumalanga Provincial Government and several district and local municipalities across South Africa as well as the development of training courses and risk assessment methodologies.

The South African Disaster Management Act (Act 57 of 2002) instructs a paradigm shift from preparedness, response and recovery towards risk reduction. In order to plan for and mitigate risks, all spheres of government must firstly assess their hazards, vulnerabilities, capacity to cope and therefore risks. Studies in this regard, in South Africa, have however only focussed on current risks. Climate Change has now been accepted by leading international studies as a reality. Climate change can impact upon many aspects of life on earth. Studies to quantify the impact of climate change on water resources, biodiversity, agriculture and sustainable development are steadily increasing, but human health seem to have been neglected. Only general predictions, mostly regarding vector-borne disease and injury related to natural disasters are found in literature. Studies in South Africa have only focussed on malaria distribution. Most studies, internationally and the few in South Africa, were based on determining empirical relationships between weather parameters and disease incidence, therefore assessing only the hazard, and not the disaster risk.

This study examines the impact of climate change on human health in the Western Cape, within the context of disaster risk management.

VENUE : BREAK AWAY ROOM TWO – CHAIR: Ms. T. Breetzke

Parallel Session Six – The Effect of Climate Change on Recreation

1. KZN Response to Erosion: A Coastal Management Best Practice – Ms Tandi Breetzke (Bohlweki – SSI Environmental)

Tandi Breetzke: has an honours degree in Geography and more than 12 years' coastal management / environmental experience. Tandi was, until June 2008, the head of the KZN Department of Agriculture and Coastal & Biodiversity Management Unit and chaired the KZN Provincial Coastal Committee since 1998. Tandi now leads the newly established Bohlweki-SSI Environmental National Coastal Management Unit.

Abstract

In 2007, KwaZulu-Natal's (KZN) coastline was subject to and is continuing to be subject to unprecedented levels of erosion and associated property damage. This has been the result of storm events, most notably that of 19 and 20 March 2007. The seriousness of this coastal erosion incident necessitated that the lead provincial agent for coastal management in KZN, the Department of Agriculture and Environmental Affairs (DAEA), formulated, amongst other things, a guideline document entitled, "Living with Coastal Erosion: A short term, best practice guide". This presentation will provide a background to the need for the guide, and illustrates its content by specifically detailing the principles applied, forms of mitigation of erosion which could be applied, international experience and DAEAs Best Practice Strategy. The presentation will conclude with a brief outline of SSI's innovation projects.

2. Climate Change: Sea Level Rise, Risk Assessment and Adaptation Options for City of Cape Town – Mr Darryl Colenbrander (City of Cape Town)

My profile:

Currently working for the City of Cape Town as the Coastal Co-ordinator. Was previously with the Oceanographic Research Institute (KwaZulu-Natal). Completing my MSc in Integrated Coastal Zone Management.

Abstract

The City of Cape Town is responsible for approximately 307 km of coastline, arguably its single greatest economic and social asset. The City's coast provides a range of social and economic opportunities including recreational and amenity areas, sought after housing and development opportunities as well as core economic attributes. Considering the demand for coastal

development, and considering that The City has the longest stretch of sea frontage than any other metropolitan area in South Africa, The City is becoming increasingly vulnerable to the impacts of climate change, specifically from sea level rise and storm surge events. This is exacerbated considering that much of the development that has taken place in the past is inappropriate in a sense that it is located too close to the high water mark and has resulted in the loss of regulatory services. Of great concern is the loss of coastal ecosystems ability to 'absorb' environmental perturbations, such as storm surge events. As such, infrastructure is becoming increasingly subject to damage caused by these events and is requiring more and more intervention in the form of sea defence mechanisms. Considering the long term and intensive management of such defences and repairs, this effectively translates into an economic burden with indefinite timeframes imposed on The City. In response to this, and in light of the predicted change in climatic patterns, The City is currently in the process of conducting a sea level rise and storm surge risk assessment. The intention of this assessment is to provide a key baseline informant towards determining adaptation strategies for the City of Cape Town.

3. A Citizen's Perspective: Impact on Human Well-Being – Mr Fred Orban (Boggomsbaai Conservancy)

Profile

Born and schooled in Pretoria. Spent much of my leisure time in the bush veld of the Low veld and on the Transkei Wild Coast, which developed a passion in him to protect the vulnerability of nature and man's quest to destroy it.

He have been on the board of Cape Nature, ex trustee of Pinnacle Pint Conservation Trust, founding member of MEP (Mossel Bay Environmental Partnership) previous chairman of Fransmanshoek and Boggomsbaai Conservancies, developer of true eco and alternate energy estates, co-founder and vice chair of St Blaize Bio Diversity Forum etc etc.

He have received environmental awards from National Fynbos Forum, Cape Nature, Rotary, Simonsvlei etc.

Abstract

Sharing concerns and observations from a non scientific perspective over a period of 25 years in the Mossel Bay coastal belt, of changes that have taken place in the environment due to climate changes and how I see peoples lives and the environment to be affected.

Changes in climate patterns have potentially serious implications for agriculture, leisure, development strategies, work opportunities etc. Some of these will be referred to and discussed briefly.

Many of the answers may be given by scientists and many answers will lie in the study of the history of our planet. I will try and build a word picture of my own micro world in which I live, but which surely could be indicative of the bigger picture.