

# 'Weather on steroids' will bring mega-storms to E Cape – expert

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RESPECTED climate change specialist Dr Bob Scholes of the CSIR has described "weather on steroids" in which mega-storms driven by a range of compounding forces will threaten coastal communities around the world.

Addressing a Johannesburg briefing of editors on Thursday, hosted by Cambridge University's sustainability unit, Scholes said it was not just famously low-lying nations like Bangladesh and the Netherlands that could suffer – South Africa's east coast would feel it too.

Disagreement on the presence and cause of climate change had largely disappeared in the past three years, he explained.

The overwhelming consensus today was that it was being caused by vast quantities of greenhouse gases like carbon dioxide (CO<sub>2</sub>) and methane, generated by human activity ranging from the burning of coal and oil in power and fuel production plants and cars to the transformation of indigenous forests and bush for agriculture. It was predicted that cli-

mate change would result in an increase in the number and severity of droughts and floods and storms, and a rise in temperature with unprecedented ramifications, in turn, for the global economy, the environment and human society.

Unless drastic steps were taken to tackle this phenomenon, the globe was headed for at least a global average 3°C increase in temperature, steeping to 8°C at the poles, resulting in the collapse of vast ice fields, which together with the expansion of water in the oceans would cause a rise in sea level, he said.

Global sea level could rise by up to 2m by the end of the century. This might not seem like a lot, but the onslaught when it came would not be a slow inundation "like the level of a bath rising".

"It will come in the form of an interaction between a rising base level, a planetary and lunar alignment leading to an exceptionally high tide, and a storm offshore which pushes in a fat pulse of water. It is the wave run-up that causes the damage."

It was hard to pinpoint climate change amid the usual variability of weather, but recent storms on the



BOB SCHOLES

around Mozambique are moving south. You have already experienced the impact of this in the Eastern and Southern Cape.

"George has been hit by two exceptionally large storms in the space of a few years. This is consistent with climate change."

In South Africa, changes in rainfall patterns would probably result in a drying on the western side of the country, and the temperature rise by the end of the century could be in the range of 2°C on the coast to 4°C in-

Cape south coast were thought to have been exacerbated by climate change, he said.

"What we are seeing is that the tropical cyclone systems which used to hover

land. While this might not seem a lot, even a fractional change could mean a "biotic shift" in which plants and wildlife species migrated into other biomes or broad habitat zones, he said.

"The Eastern Cape is in the cusp of the country's temperate and tropical biomes and its summer and winter rainfall. It's our canary in the coal mine because it is so rich in different biomes. If this expected shift does take place, it will be most visible at the boundaries of each biome."

The expected consequence was important because of the continuing upswing in Eastern Cape eco-tourism despite the stagnation of many other tourism sectors and areas of the country, he said.

Together with biotic shifts there would likely be changes in the natural fire regime, invasions of alien bush and even influxes of insects like mosquitos where they did not occur before. One of the Eastern Cape eco-tourism industry's prime selling point is that it is malaria-free.

All these changes would make it harder for protected area managers to plan and could curb investment in the sector, forcing a serious economic down-turn, he said.