

## Technical report on global warming

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I have just completed my technical report *An assessment of the likely consequences of global warming on the climate of South Africa*. (The extended summary of the report is now available. It consists of 92 pages, 14 tables, 16 figures and 50 references.) The conclusion is that there are no scientifically acceptable grounds for the alarmist claims related to the postulated effects of global warming.

The sole purpose of my study was to determine whether or not global warming was likely to have an adverse effect of the welfare of the peoples of South Africa in particular, and elsewhere in the world where similar conditions prevail. I neither requested nor received any financial or material support for my studies. My report is not copyright as it is my wish that it be distributed as widely as possible. The extended summary is available in the form of a 2MB pdf file. I propose publishing the full report in book form early next year when there will be more clarity on the international situation.

The following is a brief summary of my conclusions.

### Testing ground

Southern Africa provides the ideal testing ground for global climate change studies. It has a wide range of climatic conditions from high rainfall along the eastern escarpment through to desert conditions in the west. It has winter rainfall in the south through to summer rainfall over most of the country.

There is also a wide range of climate-related issues from pragmatic humanitarian concerns of poverty, malnutrition and disease through to idealistic concerns of conserving the natural environment with its rich diversity of habitats and species.

The scientific disciplines are divided along similar lines. At one end there is a small but politically influential group of scientists in the fields of climatology and the environmental sciences. They apply abstract process theory based on proxy data to hypothetical problems. At the other end is the very large but politically passive group of civil engineers. They have generations of experience in building structures to withstand the forces of nature, and building and operating dams to provide water for domestic, industrial and agricultural use. Their scientific approach is the application of observation theory based on the wealth of real-world data to the development of projects that will improve the quality of life.

Ideally, the solution of this globally important problem should involve a multidisciplinary approach by scientists in both fields of study. This is not happening in South Africa or elsewhere. The situation has deteriorated from consultation to the widening rift of confrontation as climate change scientists disparage all those who hold nonconformist views.

There are two additional but fundamentally important reasons why South Africa provides the ideal testing ground for climate change theory. The first is that South Africa has a wealth of hydrological and meteorological data with many records exceeding 80 years in length. The second and equally important reason is that South Africa lies within the zone of maximum

poleward transfer of solar energy. There are unequivocal linkages between regular variations in solar activity and concurrent variations in the meteorological and hydrological processes in South Africa.

## **Principal concerns**

The principal concerns relevant to the African continent are:

Humanitarian concerns

- Increases in the climatic extremes, (floods and droughts)
- The spread of malaria to regions that are presently free of the disease
- Threats to water supplies
- Threats to agricultural production

Environmental concerns

- Loss of habitat and species

All these concerns relate to changes in rainfall in the first instance. Although international attention has concentrated on increases in global temperature, the anticipated temperature changes are far too small to have a direct, measurable effect on these concerns.

## **Detection of adverse changes**

Undesirable greenhouse gas emissions increased throughout the last century. If the consequences are as serious as claimed, they should be readily detectable in the hydrological and meteorological records. I assembled a very large hydrometeorological database consisting of 11,804 years of data from 183 sites and eight different processes. These are my principal conclusions after a three-year diligent study.

The study demonstrated with a very high degree of assurance that the rainfall over South Africa increased progressively by more than 9% during the period of rainfall records from 1922 to 2000. There was no evidence of an increase in droughts.

It was further demonstrated that these increases in rainfall were the result of increases in beneficial, widespread rainfall events that saturate soils, increase river flow, fill storage dams and benefit agriculture.

Measured open water surface evaporation losses also increased during this period. This increase in evaporation is beneficial for agriculture but not for water supplies.

There was no evidence of increases in damaging floods during the period of record. The floods of the mid-1800s remain the highest on record for large regions of South Africa.

Claims that global warming will increase variability in the hydrological process and thereby result in an increase in the frequency of floods and droughts, demonstrates a lack of knowledge of the hydrological processes.

## **Evaluation of alarmist scenarios**

### **Rainfall will increase, not decrease.**

Alarmist scenarios rest almost exclusively on global climate model outputs that predict a substantial decrease in rainfall over South Africa in future. I demonstrated that the predictions are seriously in error as an analysis of the data showed a sustained increase in rainfall in the past. This increase is consistent with global temperature increases. The southern African

continent projects into three oceans. Increases in global temperature must result in an increase in evaporation from the oceans. This must return to earth as an increase in rainfall. This undermines most of the claims of future adverse consequences arising from global warming.

### **Malaria will not increase**

The prevalence of malaria on the African continent is unrelated to climate and directly related to banning DDT in the 1970s. Malaria is under control in South Africa as well as in other countries where DDT has since been reintroduced. This banning was the result of pressures by international environmentalists. There is a real fear that equally unjustified measures to control global warming will be enforced on African countries with similar damaging effects on their peoples and economies.

### **Habitat and species will not be endangered**

There is no evidence of large-scale destruction of habitat or species that could be attributed to global warming. A number of papers and reports have been published that predict dramatic changes in future. These are all based on the unfounded assumption that future climate will be drier than at present. They are also based on faulty science. There is no believable theoretical or observational evidence to support the view that global warming will result in the widespread loss of habitat or species.

### **Other claims**

Similarly, there is no evidential basis for claims that global warming will result in desertification, eutrophication of dams and rivers, soil erosion, or threats to agriculture and water supplies.

### **Linkage with solar activity**

Climate change scientists continue to deny that there is a linkage between variations in solar activity and concurrent variations in the climatic responses. The concurrent linkages between famines in India and sunspot numbers in the 1800s were widely reported at the time. The anomalous grouping of sequences of years with above and below average conditions is well reported in the international hydrological literature. Climate change scientists, who rely on process theory, continue to maintain that variations in solar activity are too small to account for the observed, concurrent climatic variations. As I show in my studies, the regular variations in solar activity result in statistically significant (95%) corresponding changes in rainfall, river flow and floods. This variability overwhelms any variations in the climatic processes that may be the consequence of human activities.

### **Conclusions**

The natural variability of the hydrological and meteorological processes is very important and needs to be addressed in adaptation studies. However, the alarmist claims relating to the consequences of global warming have no substance within the context of all the other national issues that require urgent attention. They can be safely ignored.

Climate change scientists are now in a very difficult position because the detailed analysis of a very large and comprehensive climatological database does not support their alarmist hypotheses.