environmental affairs
Department:
Environmental Affairs
REPUBLIC OF SOUTH AFRICA

South African
Weather Service

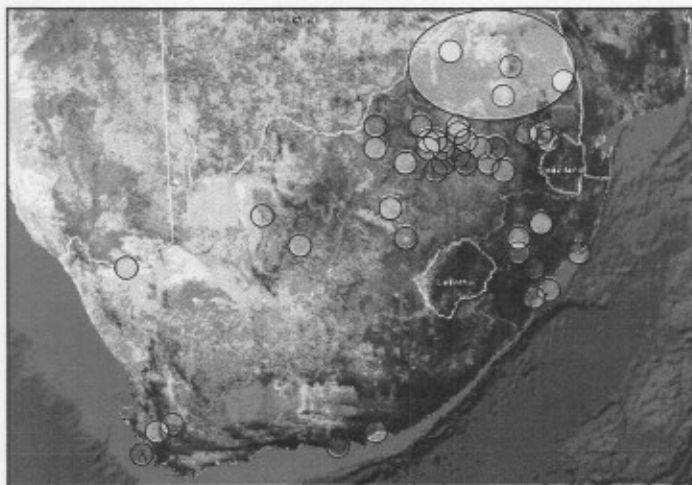# SAAQIS AND AIR QUALITY MANAGEMENT IN SOUTH AFRICA

## A PRESENTATION ON THE SIGNIFICANCE OF THE SOUTH AFRICAN AIR QUALITY INFORMATION SYSTEM (SAAQIS) AND ITS NATIONAL AMBIENT AIR QUALITY MONITORING NETWORK (NAAQMN) COMPONENT

Presentation at the Launch of the SAAQIS Phase I, 23 March 2010, South African Weather Services

---

# PRESENTATION OVERVIEW

- The state of the air at a glance

- The state of air quality governance 1965 to 2005 – the Atmospheric Pollution Prevention Act (Act No. 45 of 1965, the "APPA") Era;

- The National Environmental Management: Air Quality Act (Act 39 of 2004, the "AQA") – the "new" approach to air quality governance;

- Information as the engine that drives continuous air quality improvement;

- The significance of the South African Air Quality Information System (SAAQIS) and its National Ambient Air Quality Monitoring Network (NAAQMN); and

- SAAQIS Phase I and beyond.

environmental affairs
Department:
Environmental Affairs
REPUBLIC OF SOUTH AFRICA

South African
Weather Service

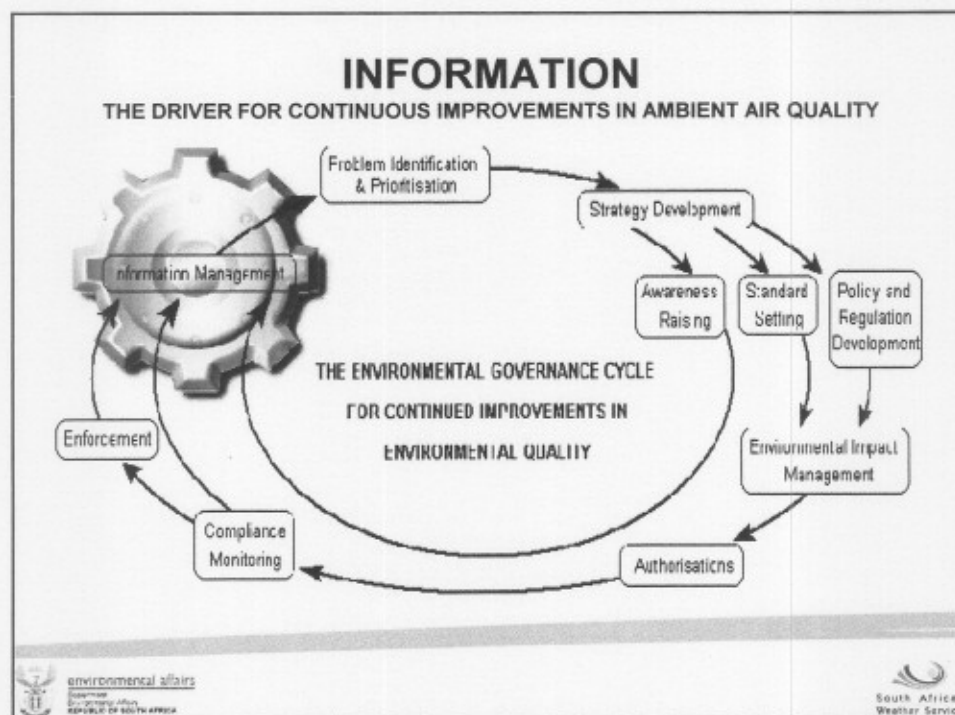## BACKGROUND – AIR QUALITY IN SOUTH AFRICA



## AIR QUALITY GOVERNANCE – THE APPA ERA, 1965 - 2005

- Based on the British Alkali Act from the late 1800s;

- Focused, largely, on centralised control of emissions from factories;

- Focused, largely, on controlling visible emissions, i.e. "smoke";

- Factory emission limits negotiated around "emission guidelines";

- Cumulative impact not formally considered;

- Other air pollution left to municipalities to manage at their discretion.

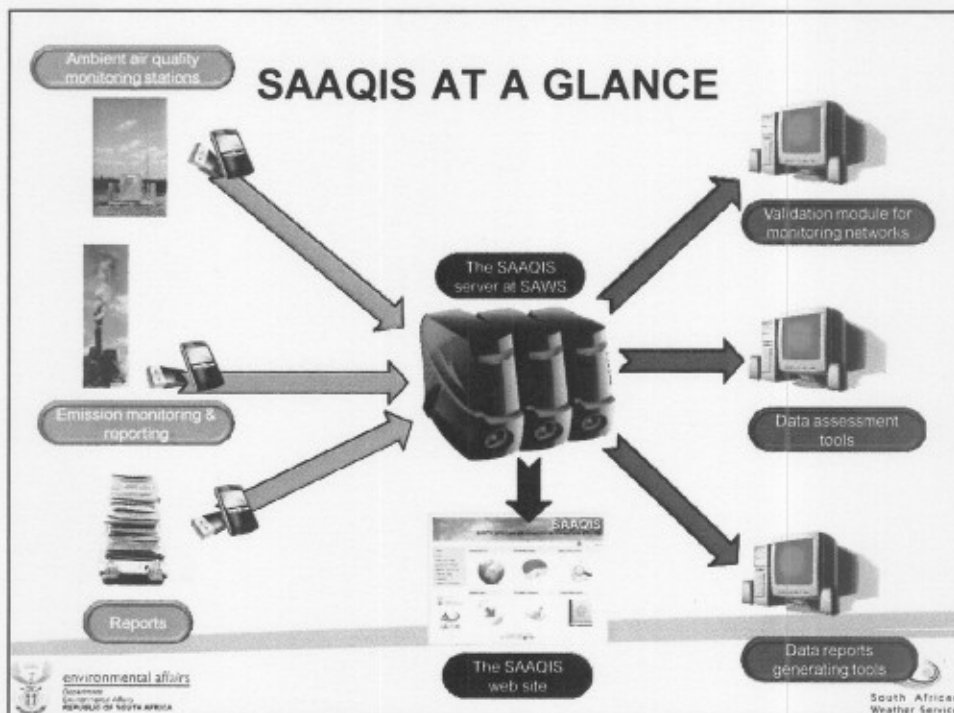## AIR QUALITY GOVERNANCE – THE APPA ERA, 1965 – 2005 (Cont.)

- Positive Impacts –
  - On the whole, gross smoke pollution was controlled to some extent

- Short-falls / negative impacts –
  - The development of pollution "hot-spots"
  - Limited accountability – air pollution control officers often distant from affected communities
  - No real knowledge of air quality
  - Moribund / declining air quality management sector (research, consultancy, public and private managers)
  - Non-industry air pollution largely ignored

environmental affairs
Department
Environmental Affairs
REPUBLIC OF SOUTH AFRICA

South African
Weather Service

## INFORMATION
### THE DRIVER FOR CONTINUOUS IMPROVEMENTS IN AMBIENT AIR QUALITY



THE ENVIRONMENTAL GOVERNANCE CYCLE FOR CONTINUED IMPROVEMENTS IN ENVIRONMENTAL QUALITY

environmental affairs
Department
Environmental Affairs
REPUBLIC OF SOUTH AFRICA
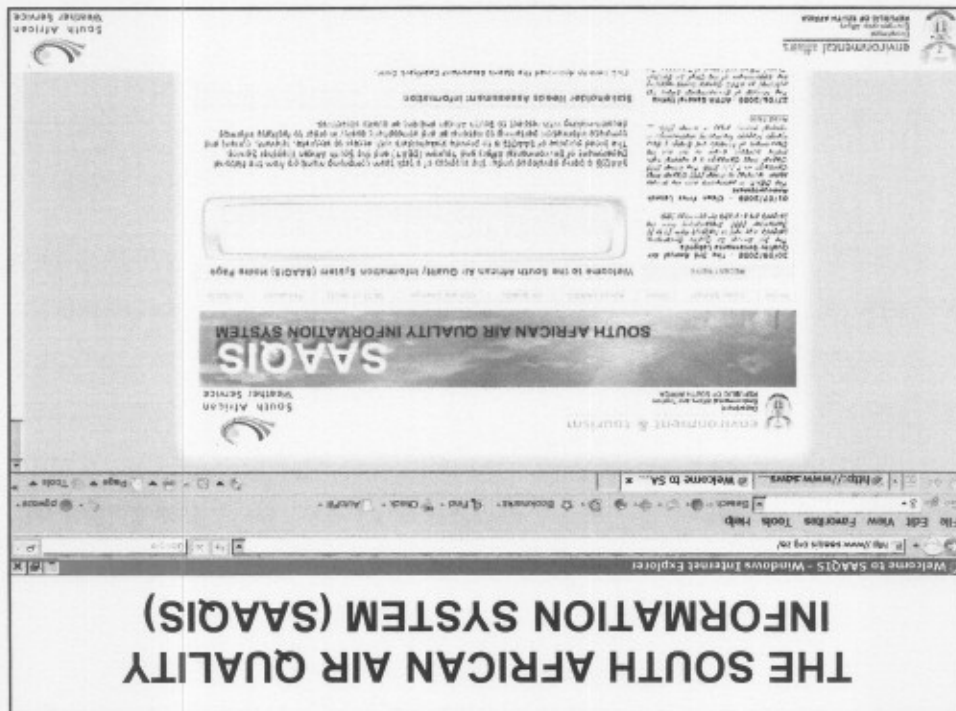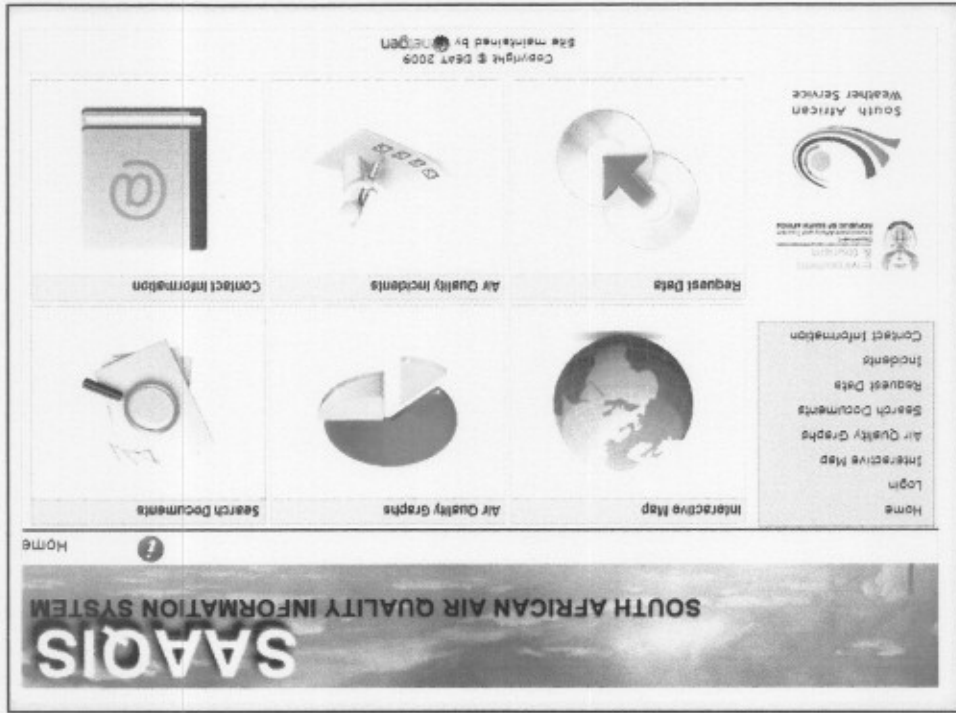
South African
Weather Service

## INFORMATION AND THE GOVERNANCE CYCLE

- Air quality standards provide the objective for all interventions

- Air quality information –
  - identifies where standards are not being met – i.e. the areas where interventions are required
  - identifies the sources of emissions in problem areas – i.e. informs what type of interventions are most appropriate
  - Measures the efficacy of interventions – i.e. measures whether the interventions are resulting in the desired air quality improvements

environmental affairs
Department
Environmental Affairs
REPUBLIC OF SOUTH AFRICA

South African
Weather Service

---



SAAQIS AT A GLANCE

environmental affairs
Department
Environmental Affairs
REPUBLIC OF SOUTH AFRICA

South African
Weather Service

## SAAQIS (Cont.)

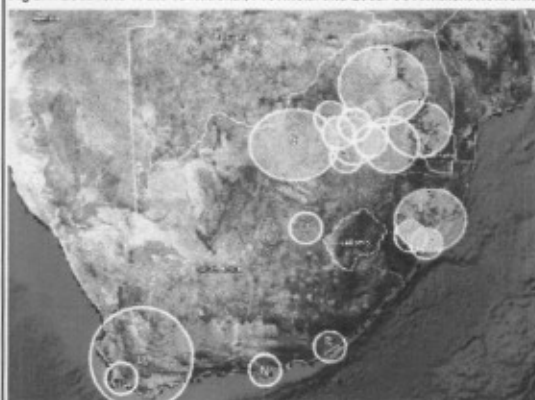- The Interactive Map based on Google Earth

## SAAQIS (Cont.)

- The current functionality of the SAAQIS includes:
  - **Interactive Map** – (Google Earth) showing monitoring stations (~30 stations are reporting data to the SAAQIS in real time).
  - **Graphs** – a tool for generating graphs of ambient air quality measured by the stations reporting to SAAQIS
  - **News** – including the quarterly NAQO news, announcements, invitations, updates, etc.
  - **Air Quality Related Documents for Download** - Government Gazettes, legislation, presentations, report, etc.
  - **Incident reports** – a tool for reporting air pollution incidents
  - **DEA Projects** – links to specific websites relating to, for example, national Priority Areas
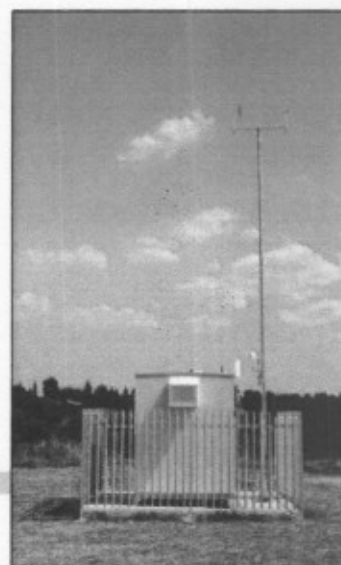- Everyone is encouraged to explore the SAAQIS on –

  www.saaqis.org.za

environmental affairs
Department
Environmental Affairs
REPUBLIC OF SOUTH AFRICA

South African
Weather Service

---

## THE NATIONAL AMBIENT AIR QUALITY MONITORING NETWORK (NAAQMN)

Fig 2.1: Locations of the 18 National, Provincial and Local Government Networks



A - DEAT Vaal Triangle Priority Area
B - DEAT Highveld Priority Area
C - Gauteng Province
D - Western Cape Province
E - Kwazulu Natal Department of Agriculture and Environmental Affairs
F - Mpumalanga Department of Agriculture and Land Administration
G - North West Province
H - Rustenburg Municipality
I - Limpopo Province

J - City of Johannesburg
K - Ekurhuleni Municipality
L - City of Cape Town
M - aThekwini Municipality
N - Nelson Mandela Bay
O - Tshwane
P - Msunduzi Municipality
Q - Mangaung Municipality
R - Buffalo City, East London

---

# SAAQIS PHASE I AND BEYOND

- With the completion of the 1st phase of SAAQIS development, we now, for the first time, have universal access to –
  - a large and growing portion of South Africa's ambient air quality data in a useful and understandable format
  - tools that facilitate the generation of tailor-made ambient air quality information graphs for decision-makers and decision-shapers
  - all available air quality legislation, news letters, progress reports, etc
  - Information on the priority areas

environmental affairs
Department
Environmental Affairs
REPUBLIC OF SOUTH AFRICA

South African
Weather Service

---

# SAAQIS PHASE I AND BEYOND (Cont.)

- The SAAQIS is a dynamic system this is, and will continue, growing in scope, scale, detail and utility over the next 10 years
- In the short-term (now to end 2012) –
  - The National Atmospheric Emission Monitoring and Reporting component will be added (including greenhouse gas emissions)
  - The system will be fully anchored within SAWS
  - Further stations (at least 3) will be added to the NAAQMN
  - The on-line Atmospheric Emission Licensing facility will be designed

environmental affairs
Department
Environmental Affairs
REPUBLIC OF SOUTH AFRICA

South African
Weather Service

## SAAQIS PHASE I AND BEYOND (Cont.)

- In the longer-term (2012 to 2020) –
  - The on-line Atmospheric Emission Licensing facility
  - National ambient air quality monitoring coverage
  - Air pollution forecasting
  - National air quality indicator
  - Access to air quality modelling tools
  - Access to all air quality-related research
  - Automated "State of the Air" reports

environmental affairs
Department
Environmental Affairs
REPUBLIC OF SOUTH AFRICA

South African
Weather Service



Forward to a sustainable energy future

**THANK YOU FOR YOUR KIND ATTENTION**

environmental affairs
Department
Environmental Affairs
REPUBLIC OF SOUTH AFRICA

South African
Weather Service