

Public Commission for the Protection of Marine
Resources, Environment & Wildlife
General Directorate for Environment & Wildlife



Bahrain's Second National Communication

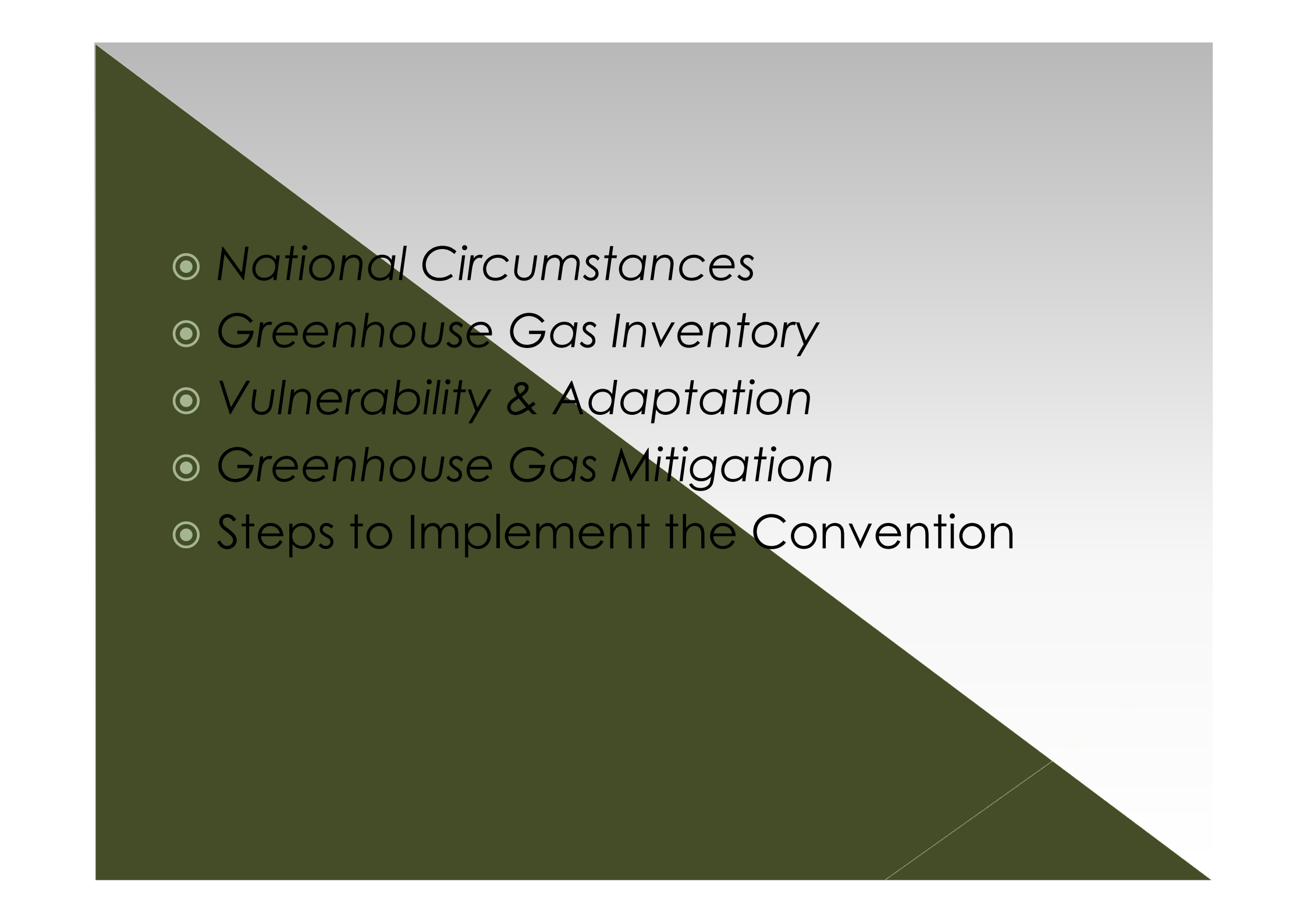
Eng. Zahwa M Al-Kuwari

Director of DEAP

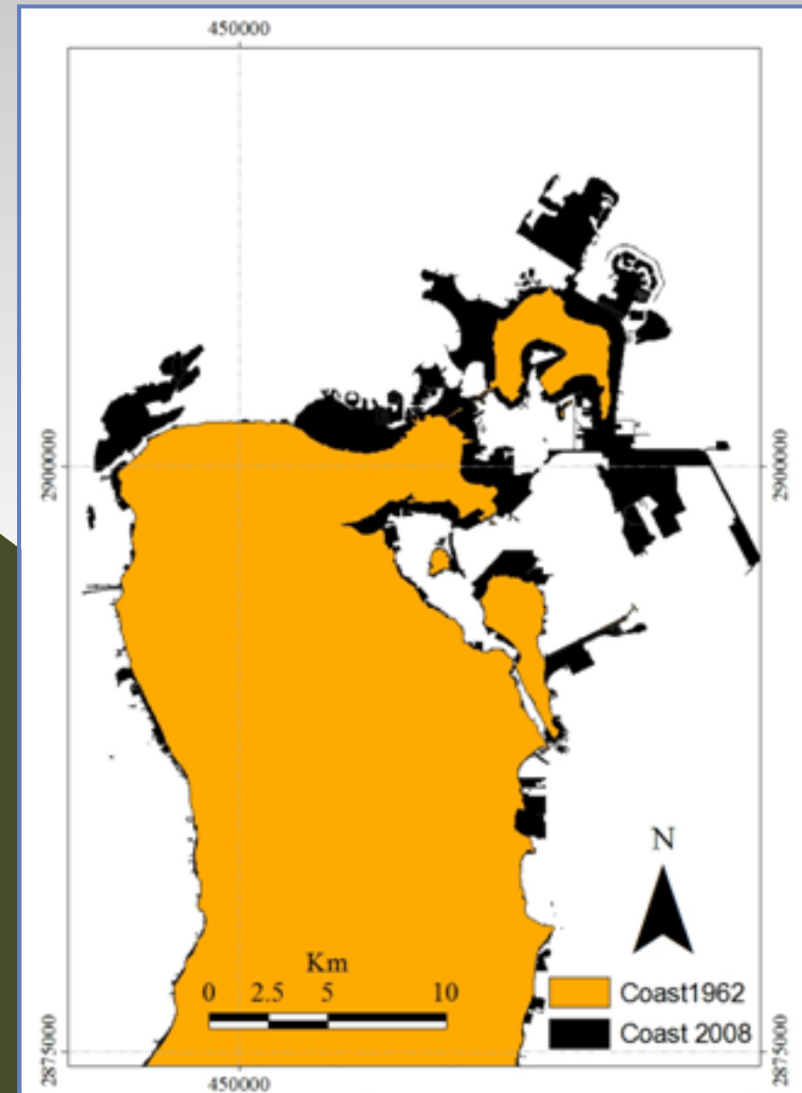
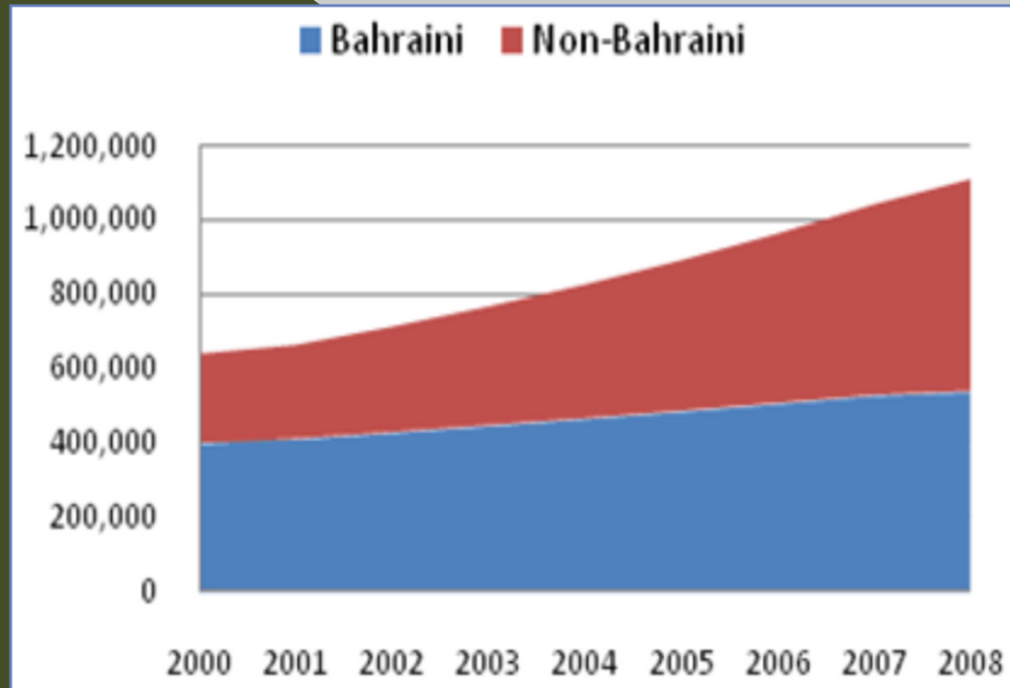
UNFCCC –NFP

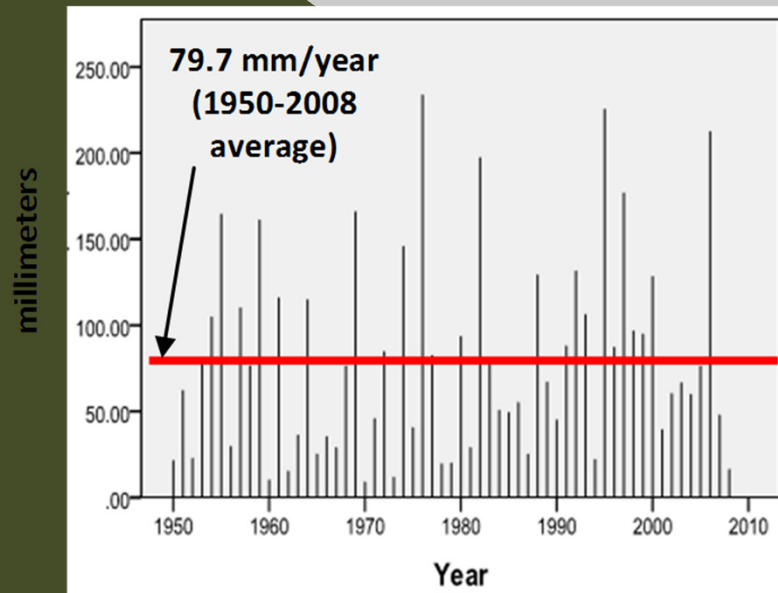
Project Manager of SNC



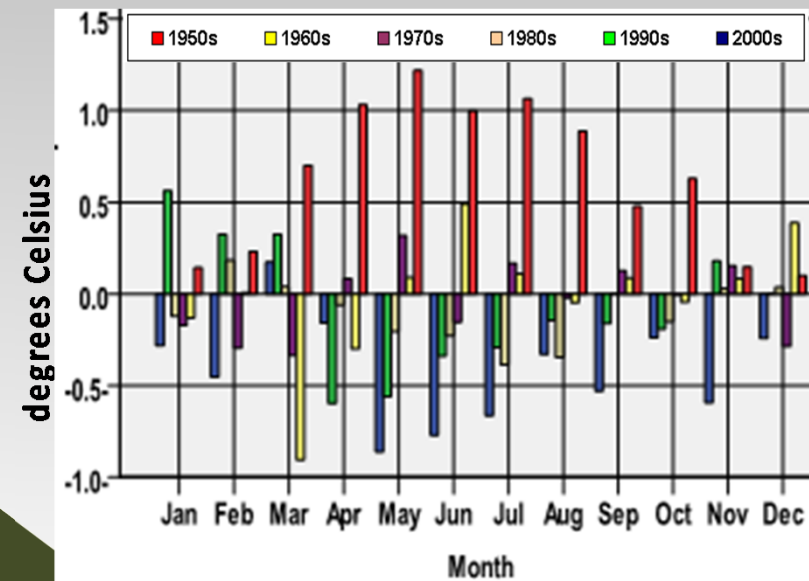
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- ◉ *National Circumstances*
 - ◉ *Greenhouse Gas Inventory*
 - ◉ *Vulnerability & Adaptation*
 - ◉ *Greenhouse Gas Mitigation*
 - ◉ *Steps to Implement the Convention*

National Circumstances

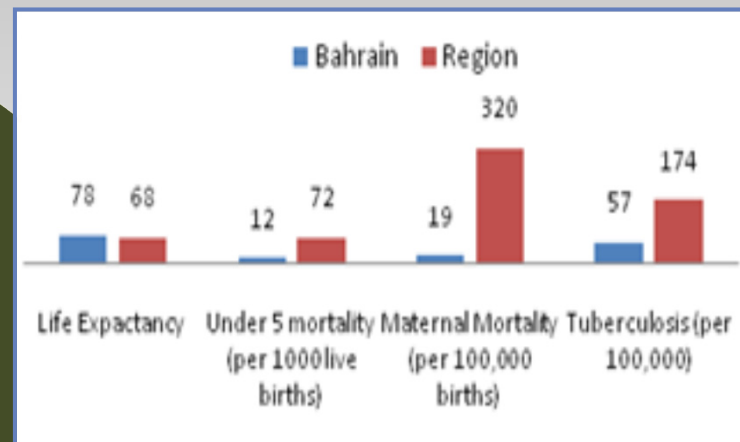




change in yearly rainfall
over the past 6 decades in
Bahrain relative to the
annual mean of the overall
period (58 years) Source:
*Meteorological Directorate,
Civil Aviation Affairs*



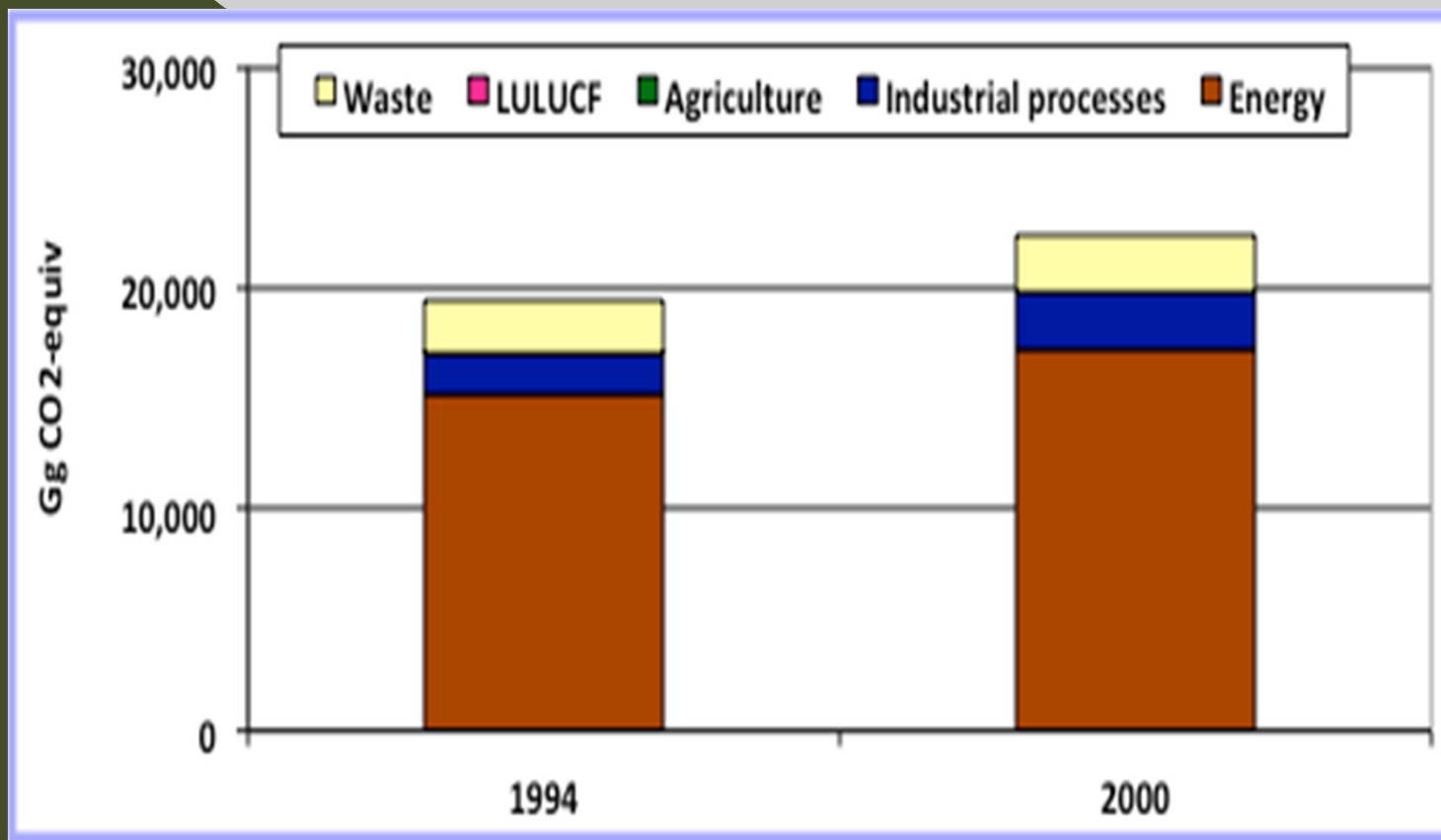
change in average
monthly temperatures
over the past 6 decades
in Bahrain relative to the
monthly means of the
overall period (59 years)
Source: *Meteorological
Directorate, Civil
Aviation Affairs*



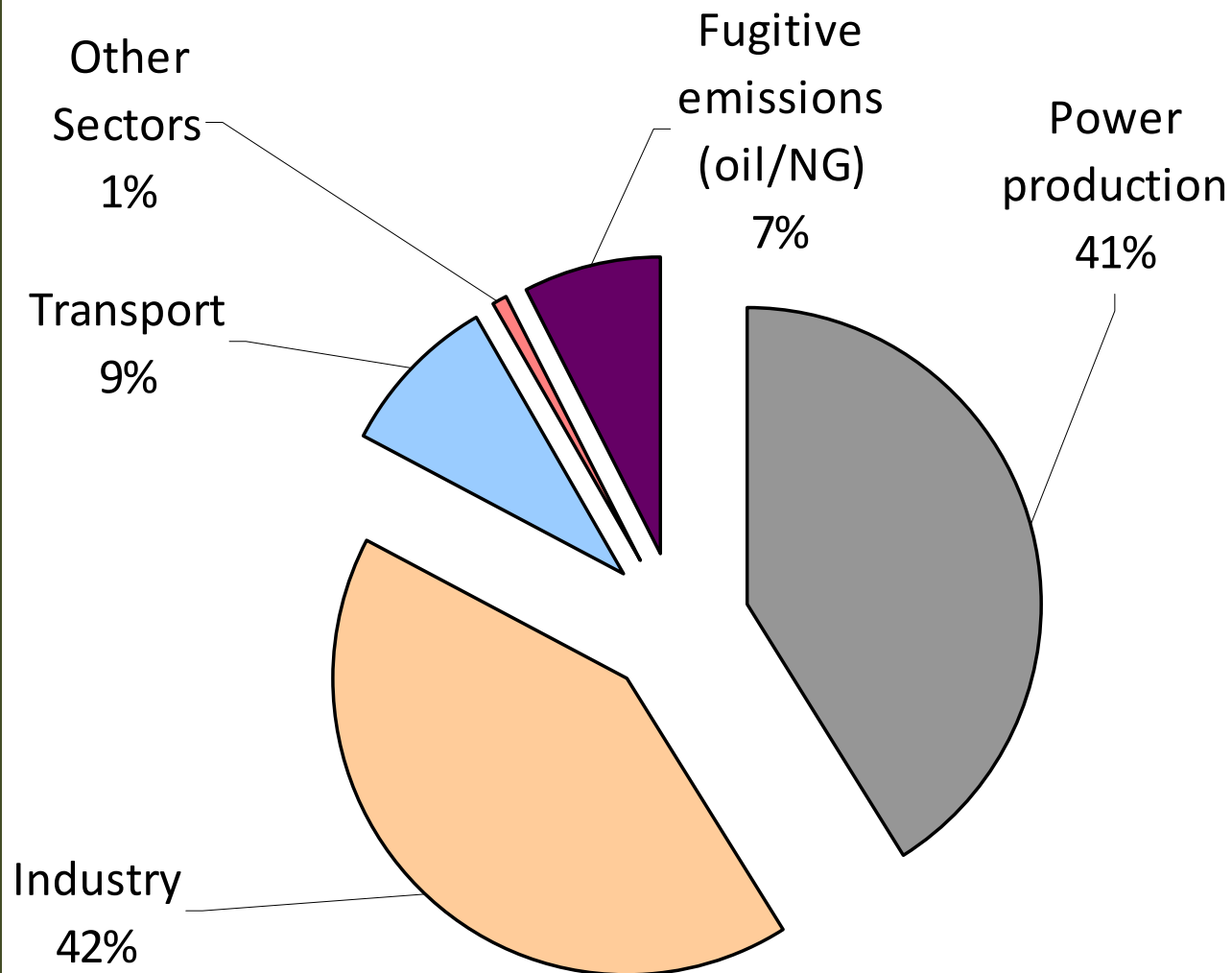
Key human health indicators for Bahrain and the GCC region

Greenhouse gas emissions

Total GHG emission trends, 1994 & 2000

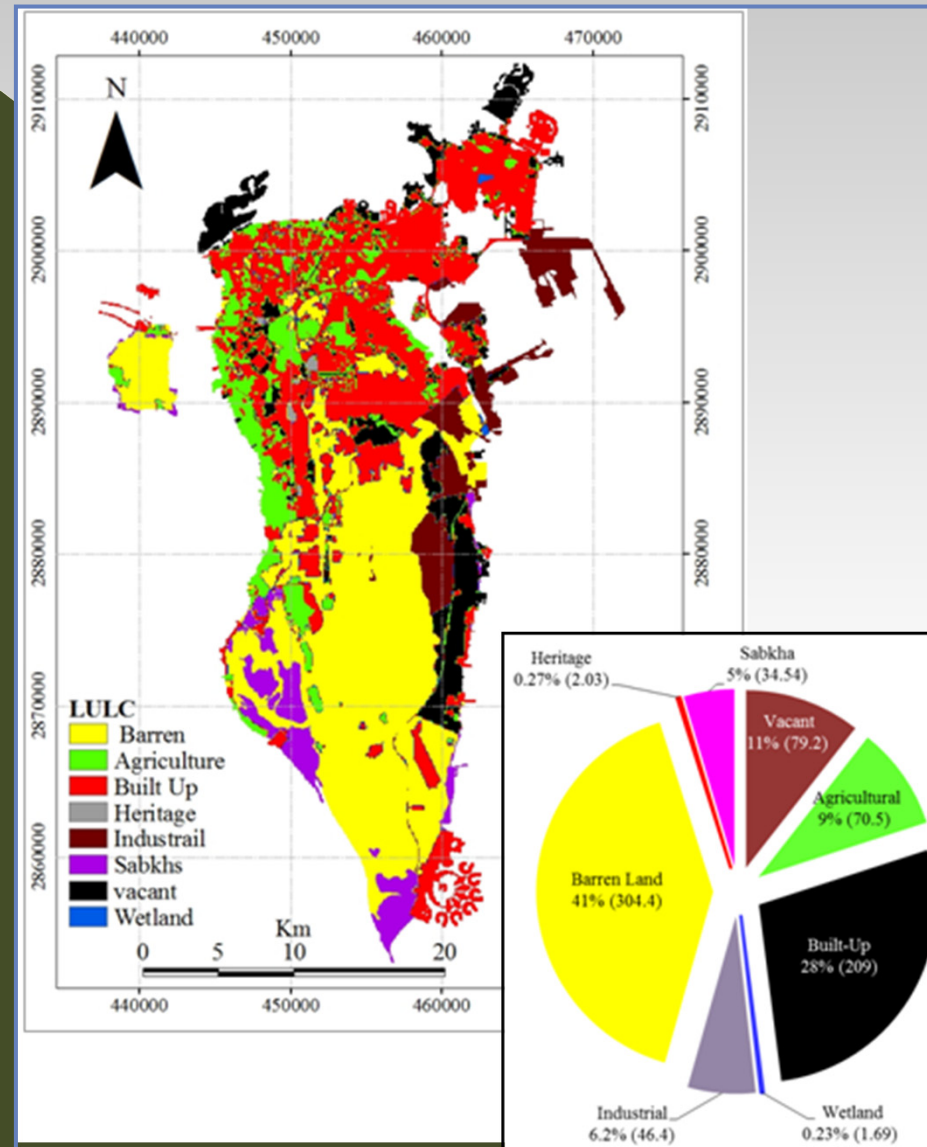


Breakdown of GHG emissions associated with energy activities, 2000

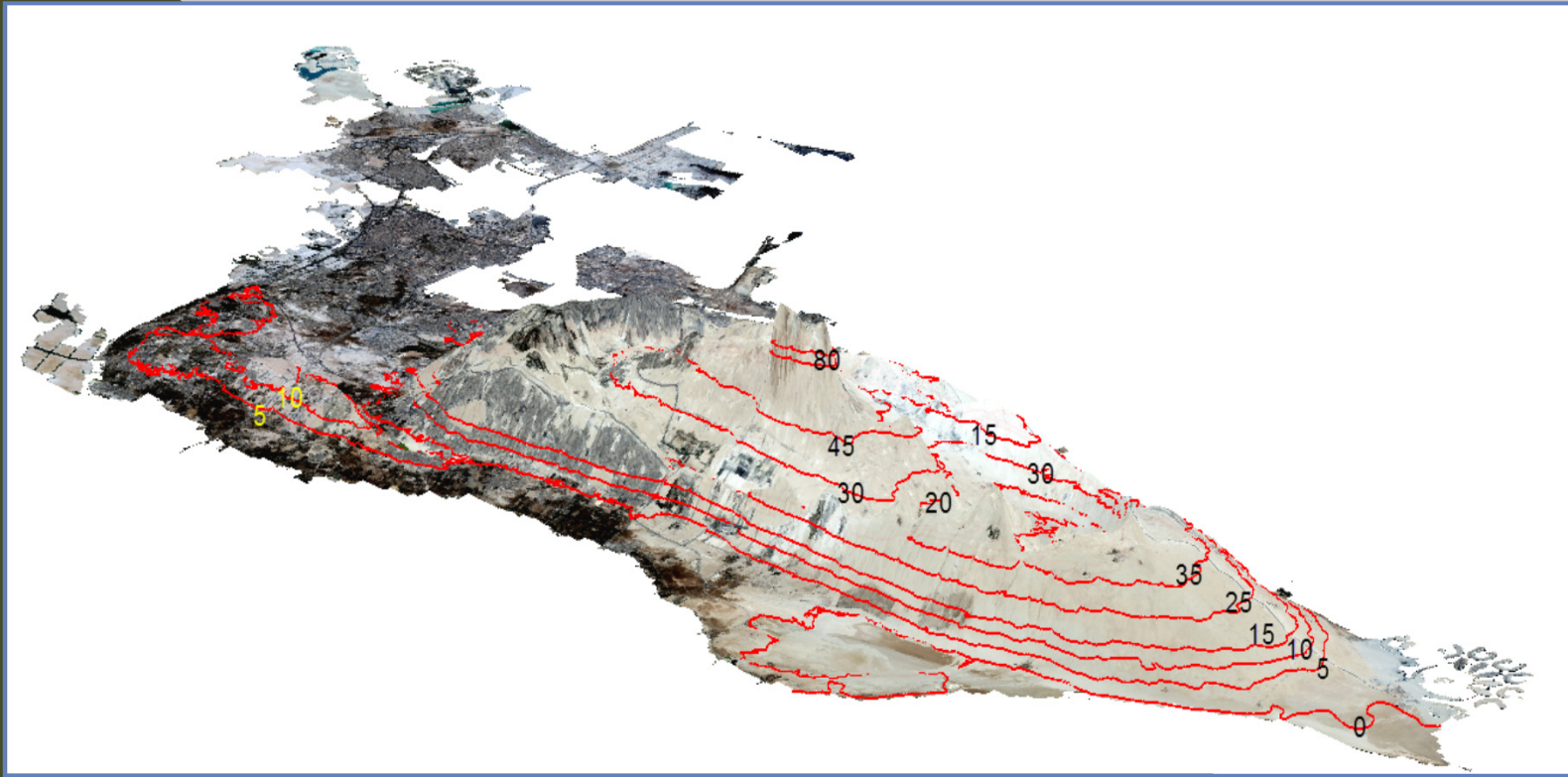


3.Vulnerability and adaptation

Land Use

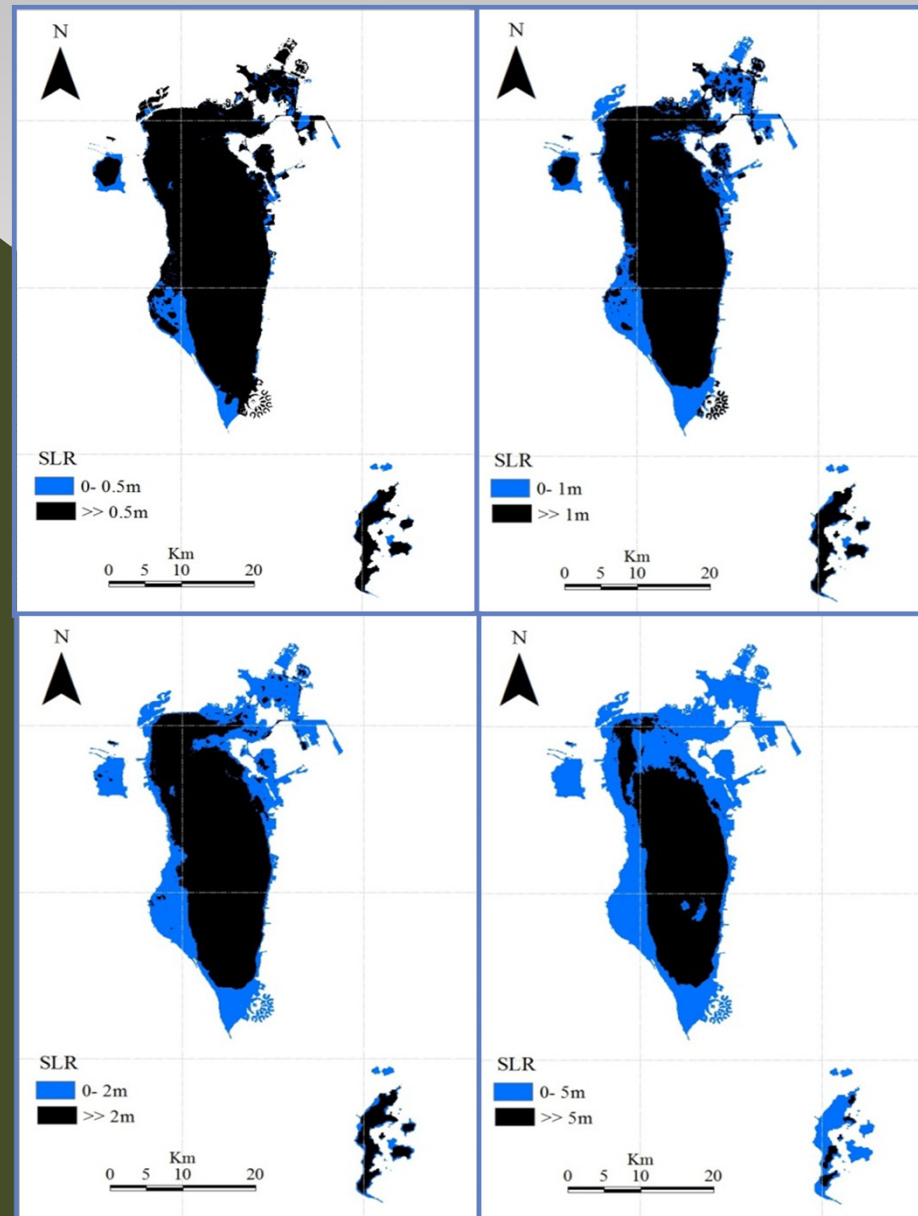


Contour map of Bahrain's main island

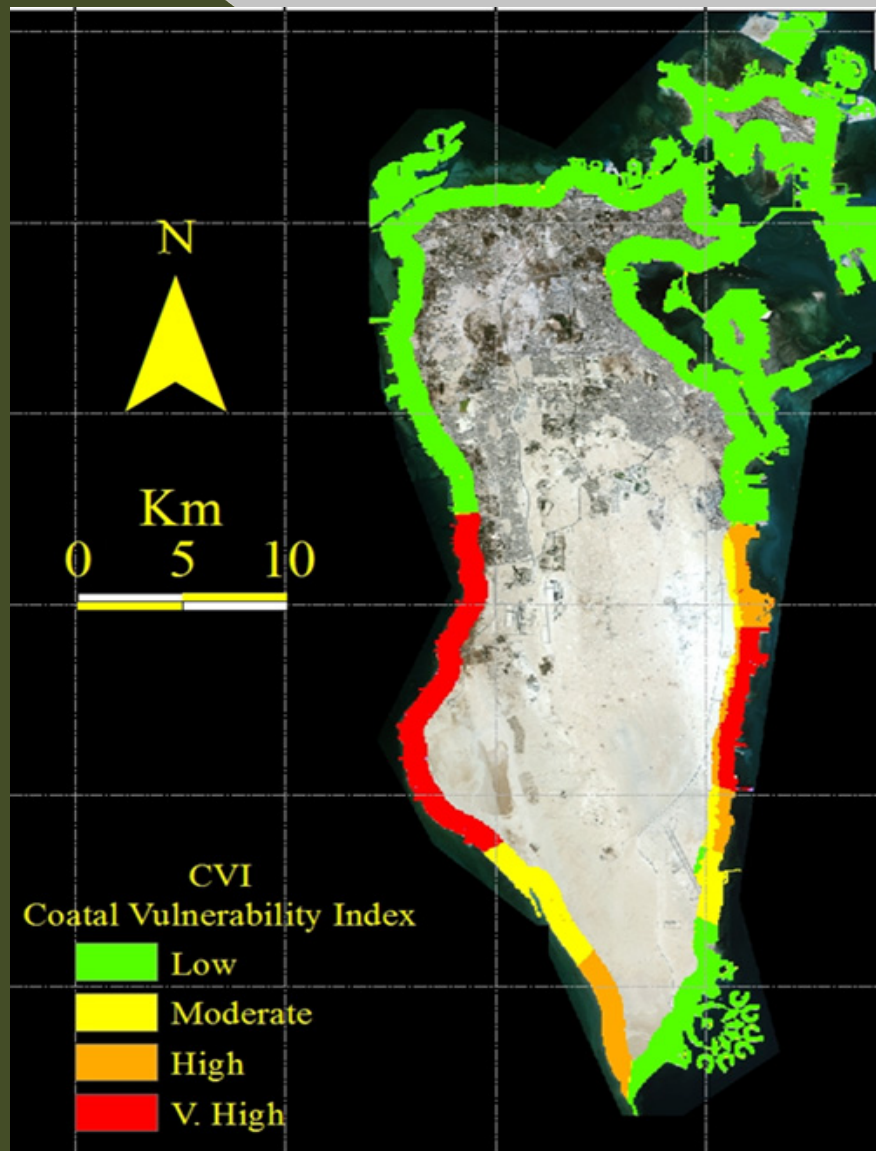


Bahrain's coastal areas are highly vulnerable to sea level rise as elevations are typically between 0.5 to 2 m above mean sea level. Contour lines on the map below show the results of digital elevation modeling assembled from 350,000 spot elevations

Sea Level Rise

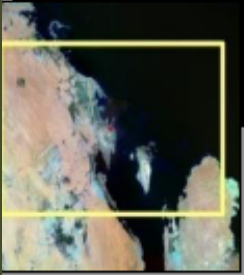
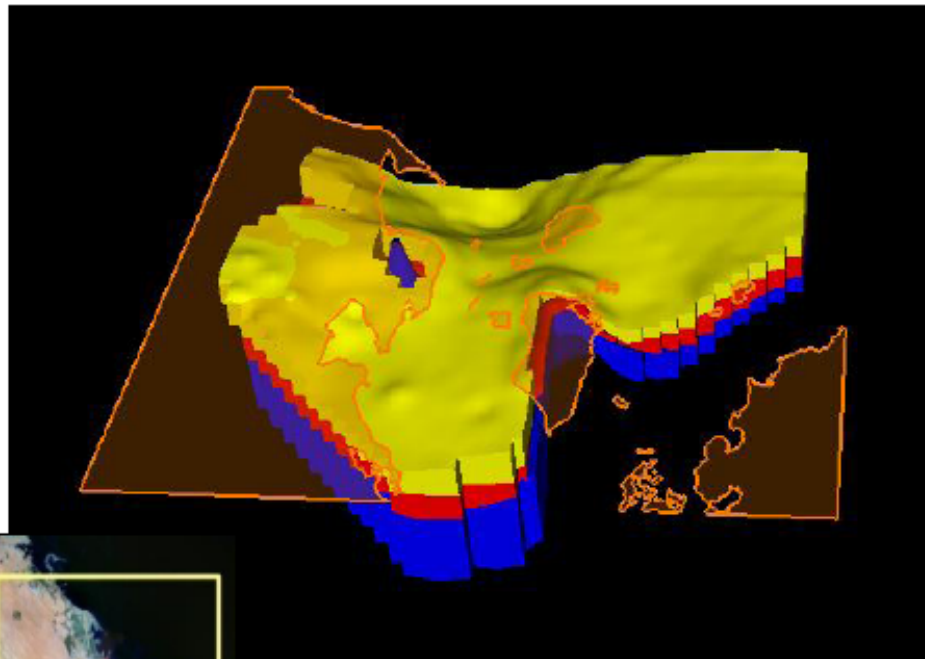


Mapping of coastal vulnerability hot spots in Bahrain



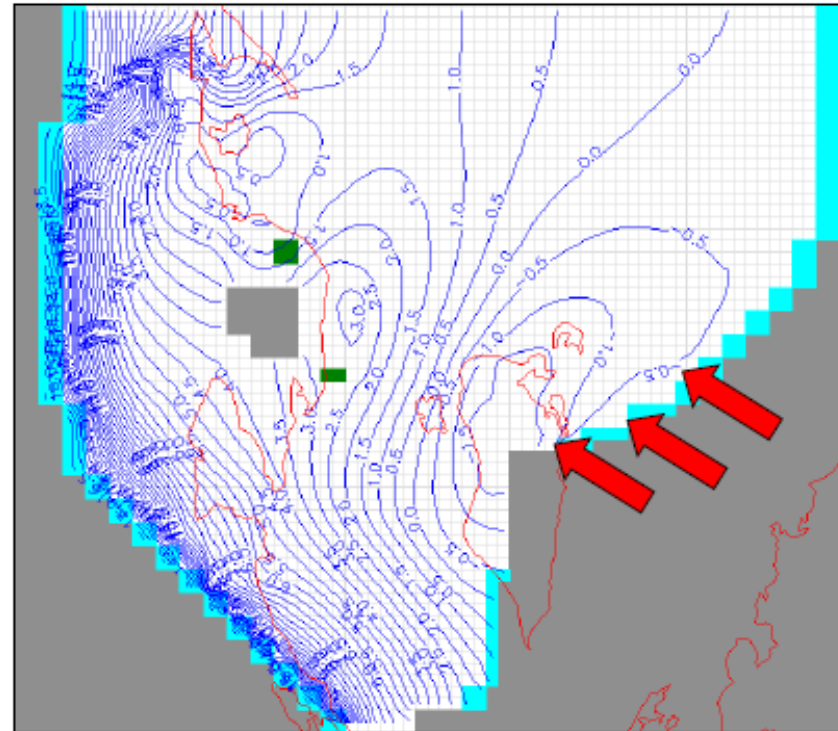
Bahrain's coastal vulnerability based on the CVI range. Low vulnerability (green) corresponds to CVI values between 7 and 14; moderate vulnerability (yellow) for values between 14 and 21; high vulnerability (brown) for values between 21 and 28; and very high vulnerability (red) for values greater than 28. Coastal vulnerability hot spots are indicated in red.

GW Vulnerability to Sea Level Rise & Adaptation Strategies

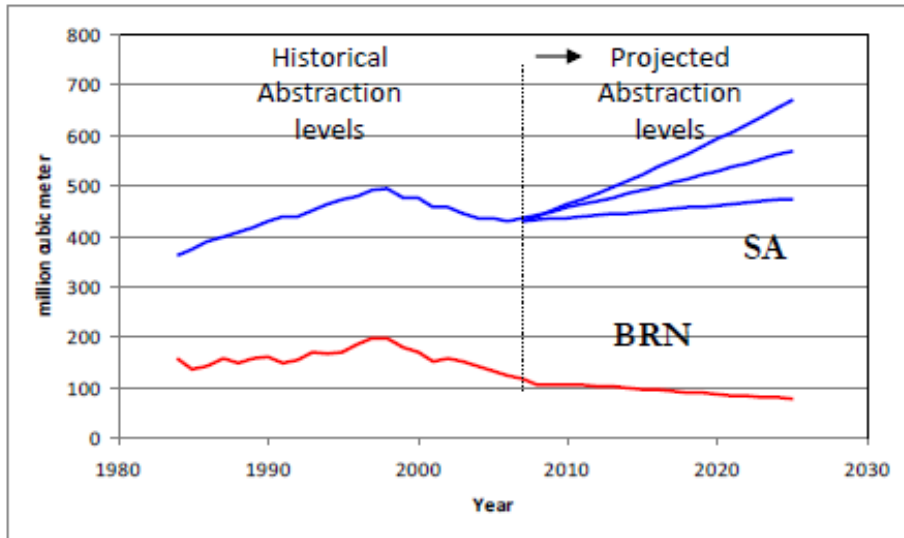


Dammam Aquifer
Simulated Water Levels
(2006)

Developed Regional
Groundwater Model

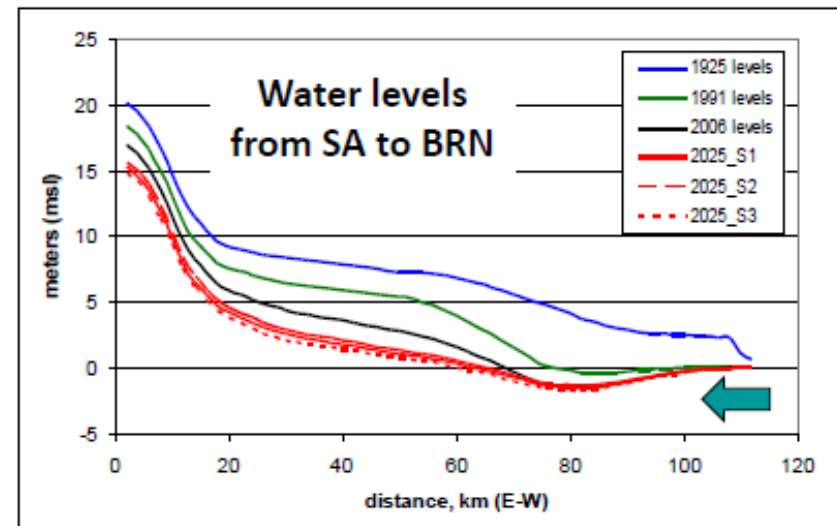


Seawater intrusion in the Bahrain aquifer, with and without sea level rise

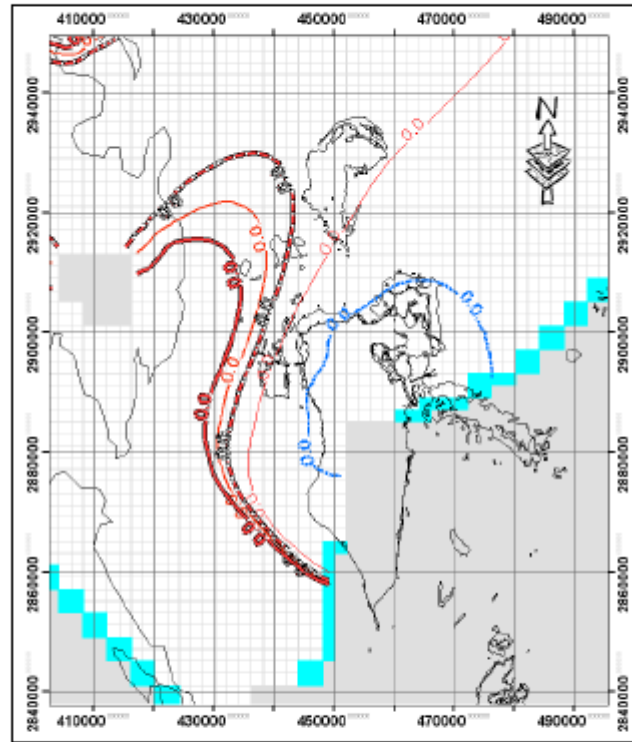


Three Groundwater Development Scenarios in Eastern Saudi Arabia and Bahrain

Groundwater levels trends in Eastern Saudi Arabia and Bahrain

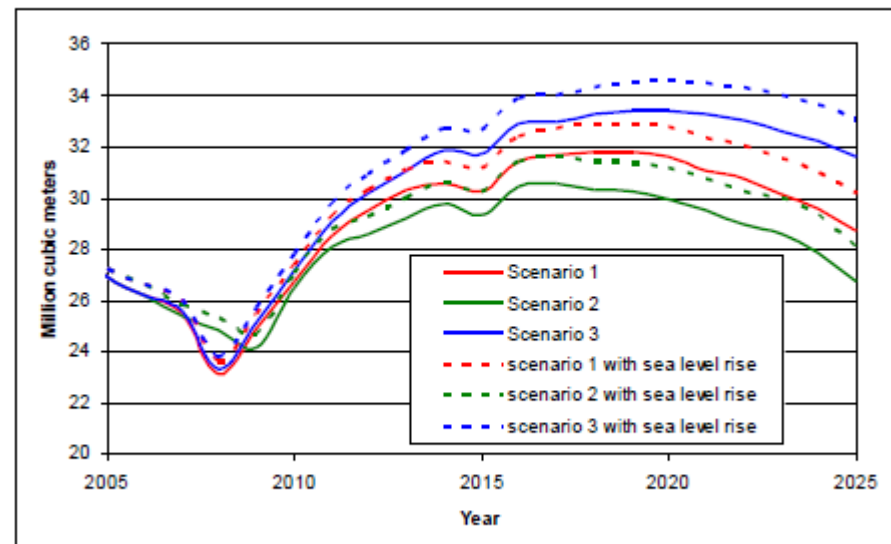


Cont., GW Vulnerability to Sea level rise ...



**Impact of sea level rise on
three Groundwater
Development Scenarios
(0.6 m/100 yrs; IPCC (2007))**

**Projected zero water level line for
the three Groundwater
Development Scenarios in Eastern
Saudi Arabia and Bahrain**



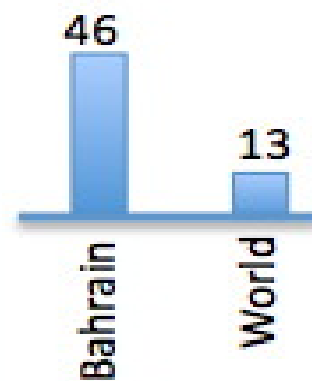
Mitigation and reducing the emission of greenhouse gases

Production intensity

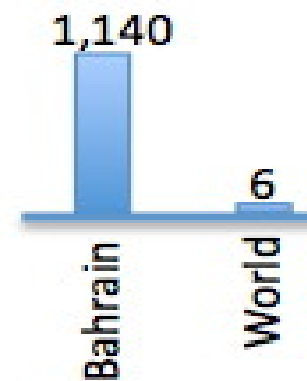


Bahrain's production intensity for key export industries is much higher than most countries

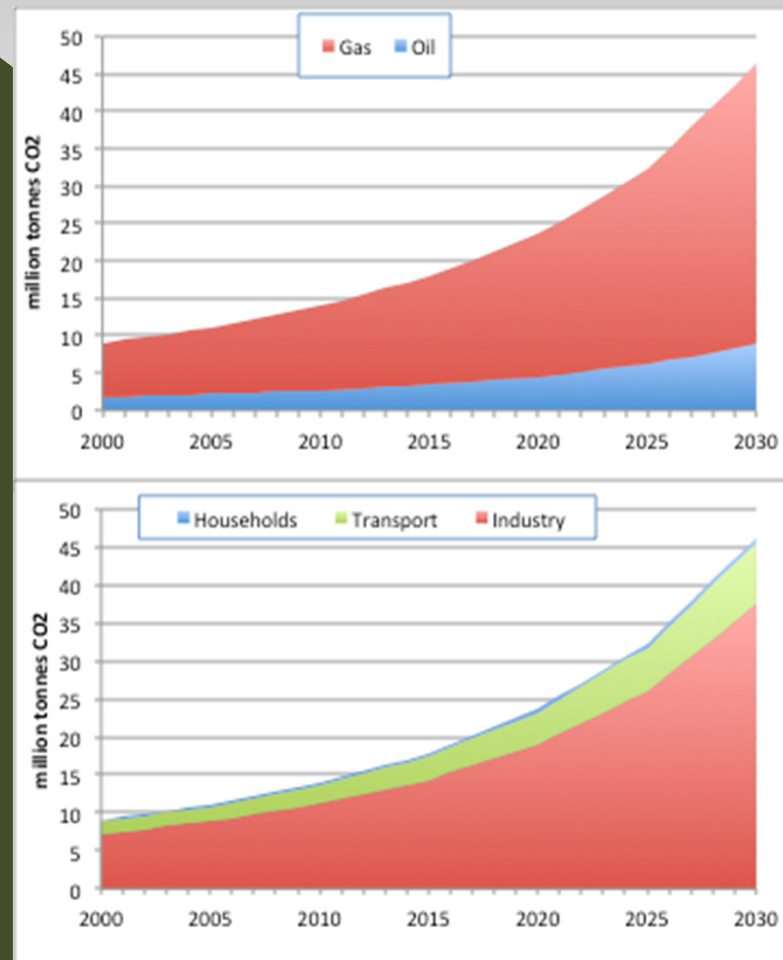
Oil
bbl/day/1000 cap



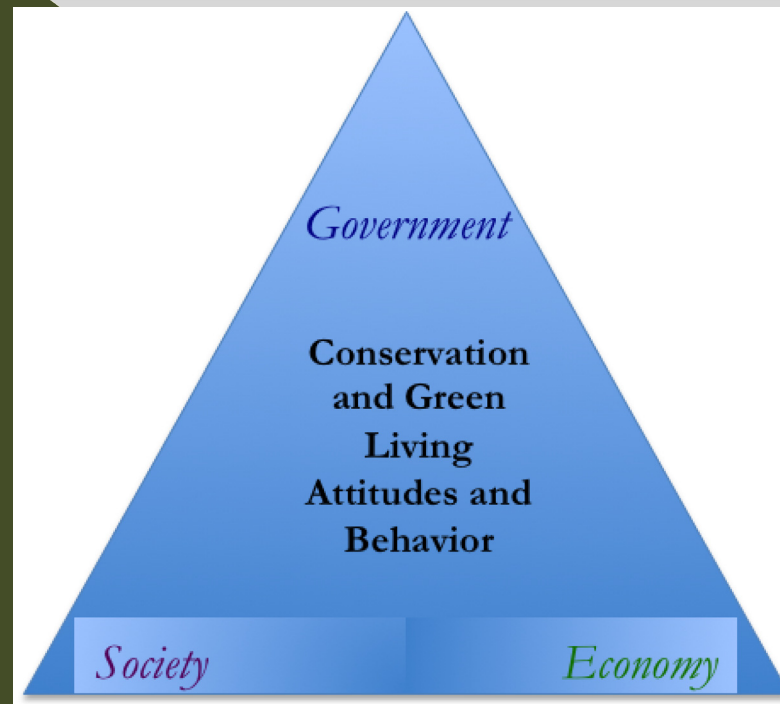
Aluminum
kg/cap



Baseline GHG emission projections for the energy sector by fuel (top) and by sector (bottom) (Source: Gelil, 2010)



Key pillars and aim for implementing the Convention



Steps to implement the Convention



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