

Climate Change Impacts on Israel and the Middle East

Israeli Climate Change Forecasts (2100)

- * Mean temperature increase of 1.6° to 1.8°C;
- * Reduction in precipitation by (-8)% to (-4)%, and increased rain intensity/changes in rainfall patterns;
- * Increase in evapotranspiration by nearly 10%;
- * Greater seasonal temperature variability;
- * More severe weather events, such as droughts and floods;
- * Mediterranean biomes expected to shift 300-500 km northward, if a 1.5°C warming were to occur, which could mean that Mediterranean ecosystems in Israel, PA and Jordan would become more desert-like.
- * Some models predict as much as a 50 percent reduction in mean annual precipitation in the Jordan River Basin.

Environmental Effects of Climate Change on Middle East

- * Severe water shortages
- * More severe weather events, such as droughts and floods
- * Desertification, loss of arable land
- * Shifting of ecosystems, species loss
- * Coral reef Bleaching
- * Increase in Jellyfish population

Socioeconomic Effects of Climate Change on Middle East

- * Severe water shortages
- * Agricultural losses
- * Migration in search of resources
- * Refugees from inundated lands
- * Economic crisis

Political Ramifications

- * Increased tension between countries sharing water resources
- * Difficulties for governments to provide for their country's needs-> internal instability, likelihood of failed states
- * "Exacerbated marginal living conditions- foster extremist and radical ideologies and conflicts" U.S.Army General Anthony Zinni

Security Implications

- * Fewer Water Resources Available for Existing Agreements
 - Israel/Jordan more difficult to comply with Jordan River water sharing arrangement - 50 mcm/pa
 - Jordan/Israel more difficult to comply with Yarmouk River water sharing arrangements – 27 mcm/pa
 - Israel/PA future needs recognized 70-80 mcm/pa. In final agreement PA demands will be higher.

- * Fewer Water Resources Available for Future Agreements
 - Israel/Lebanon sharing of the Jordan River tributaries
 - Israel/Syria sharing of the Jordan and sources of the Sea of Galilee

- * Less rainfall impacts the economy
 - PA economy heavily dependent on rain fed agriculture for income and employment
 - Jordan Valley bread basket of Jordanian food production and rural support backbone of Kingdom's political stability
 - Israeli agricultural lobby powerful across political divide

- * Sea Level Rise will impact the Israel PA coastal aquifer
 - Further increase salinity of drinking water for Gaza
 - Further contaminate Israel's coastal aquifer

Sources:

* Israel's First National Communication on Climate Change – Submitted under the UN Framework Convention on Climate Change, Jerusalem (Nov., 2000), 1-27 (Executive Summary), available at:
http://www.sviva.gov.il/Environment/Static/Binaries/index_pirsumim/p0110en_1.pdf

* Tielbörger 2006.