Chapter II - Climate and Environment

1. Climate

Location of weather stations

Atarot Airport

35 ^{0}13' E, 31^{0}51' N

Coordinates 170141

Altitude 757 m

City Center (Generali Building, 1 Shlomtsiyon Hamalka St.)

35 ^{0}22' E, 31^{0}78' N

Coordinates 171131

Altitude 815 m

Average temperatures

Daily maximum - Monthly average of daily maximum temperatures.

Daily minimum - Monthly average of daily minimum temperatures.

Daily temperature - Monthly average of daily maximum and minimum temperatures.

Highest average annual temperature – Annual average of monthly averages of the highest temperature.

Lowest average annual temperature – Annual average of monthly averages of the lowest temperature.

Absolute temperature

Monthly maximum - The highest temperature measured in a particular month.

Monthly minimum - The lowest temperature measured in a particular month.
Data on temperature are presented according to calendar years.

Precipitation

Rainfall is measured at 08.00 am, Israel time. The rainfall day refers, therefore, to the 24-hour period ending at 08.00 am Israel time, on a given date.

The rainy season in Israel usually begins in October and ends in May. Precipitation data are presented for rain years, i.e., from September to August, and not for calendar years.

2. Environment

Pollutants

Air pollution

Air pollutants typically include gases emitted to the atmosphere, usually as a result of human activity. These include gases released as a result of complete or incomplete combustion of hydrocarbon fuels and other gases (SO_2 -ו NO_x, for example).

When these gases exceed a certain level of concentration in the air over a given period, they cause environmental damage and are hazardous to humans.

Environmental standard/Air quality - The threshold concentration of a pollutant permitted in the air, inhaled by humans, at a given time.
There are regulations for permissible concentrations of air pollutants, known as "environmental standards for Israel" (1992). A distinction is made between two types of environmental standards:

1. Statistical standard (standard of 99.75%): This standard applies to the pollutant sulfur dioxide (SO_2), and defines the maximum permitted concentration of the pollutant for 99.75% of the time.

2. Absolute standard (standard of 100%): This standard applies to all pollutants and defines the maximum concentration of a pollutant permitted at all times. In Israel a

maximum half-hour value and a maximum daily value were determined according to this standard.

CO (Carbon Monoxide) - This pollutant is emitted mainly by vehicles. The absolute standard permitted for half an hour is a maximum of 60 milligrams per cubic meter.

SO_2 (Sulfur Oxides) - Emitted mainly by vehicles. Toxic to humans and plants; have the potential to become hothouse gases and cause increased acidity in precipitation. The absolute standard permitted for half an hour is 1,000 Micrograms per Cubic Meter.

NOx (Nitrogen Oxides) - Gaseous compounds containing Nitrogen and Oxygen (Including NO, NO_2). Emitted mainly from power stations, industrial plants and vehicles; have the potential to become hothouse gases. The absolute standard permitted for half an hour is 940 Micrograms per Cubic Meter.

O_3 (Ozone) - This gas is produced by chemical reactions between Hydrocarbons, Nitrogen Oxides and solar radiation. It is a central component in photochemical smog and causes respiratory problems. The absolute standard permitted for maximum half an hour is 230 Micrograms per Cubic Meter.

Benzene- Organic chemical compound of Carbon and Oxygen (C_6H_6) originated in oil refinery industry. Maximum expusure values in Israel are 2.5 ppm or 0.5 ppm for aggregated expusure.

PM2.5/ PM10- Breathable Carbon based atmospheric particles, in two sizes: Particles smaller than 10 Micrometre, usually originated from natural caused (such as dust and sandstorms) and particles smaller than 2.5 Micrometre originted in factories, vehicles and home heating systems.

Location of Stations for the Measurement of Pollutants

Station	Latitude	Longitude
Safra Sq.	31.78052854	35.22471394
Bar Ilan St.	31.79501272	35.22040892

Baq'a	31.75752077	35.2182598
Dvora HaNevi'a St.	31.78427131	35.22387011
Malkhi Israel St.	31.791673	35.212422

Solid Waste

The remains of man-made activities, collected by the regional municipalities which contains low quantity of liquid substance.

3. List of Sources for the Tables

Tables II/1-5: Ministry of Transport, Meteorological Service, *The database of the Meteorological Service*

Table II/6 Ministry of Ministry of Environmental Protection, Air monitoring in Israel

Table II/7: Waste and Purification Plant of Jerusalem, Inc.

Table II/8: CBS, *Statistical Abstract of Israel* for relevant years (Int.)