

**METEOROLOGICAL FACTORS OVER BENGHAZI,
LIBYA***

1. *Geographical location*—Benghazi is the second largest city of Libya situated on the northeast of the country. The Mediterranean Sea is on the north and Al-Jabal Al-Akhter is the south of the city. The geographical location (30.2° N, 20.04° E) of the city makes its climate very comfortable, which is moderated by Mediterranean Sea. The maritime influence is more in winter while the Saharan influence is in summer. Benghazi experiences four seasons, namely, winter (December to February), summer (June to August,) spring (March to May) and Autumn (September to November).

2. *Temperature*—The temperature of Benghazi is moderated by the Mediterranean Sea. The highest temperature 42°C during the last ten years (1980-1989) was observed in August 1982 while the lowest temperature 1°C was recorded in February 1985. The warmest months are June July and August when Benghazi experiences average monthly temperatures of 18°C to 30°C and the coldest months are January and February with average monthly temperatures of 8°C to 17°C . The temperatures of summer are more stable than the other seasons. In summer, the standard deviations as well as the coefficient of variation are smaller for both minimum and maximum temperatures compared to other seasons. Minimum temperatures are more fluctuating in winter and maximum average

*Data for this note was collected by the author from the Treatment Plant Laboratory, Benghazi, Libya with the permission of the Laboratory Chief.

TABLE 1

Average minimum, maximum, absolute minimum, maximum temperatures (°C) with their standard deviation and coefficient of variation for the period 1980-1989

Month	Average min. temp. (°C)	Std. dev.	Coeffi. of vari.	Average max. temp. (°C)	Std. dev.	Coeffi. of vari.	Absolute temp. (°C)	
							Minimum	Maximum
Jan	7.84	0.85	10.84	16.79	1.25	7.44	3.5	24.0
Feb	7.94	1.10	13.85	17.25	0.95	5.57	1.0	25.0
Mar	9.53	1.24	13.01	19.72	1.96	9.94	3.5	33.0
Apr	12.77	1.24	9.71	24.07	2.07	8.60	6.0	37.0
May	15.42	1.84	11.93	27.04	2.36	8.72	8.0	39.0
Jun	18.08	0.47	2.60	29.99	1.20	4.00	11.5	40.5
Jul	20.47	0.69	3.37	30.20	1.26	4.17	16.0	40.5
Aug	20.47	0.53	2.58	29.71	1.17	3.94	17.0	42.0
Sep	18.56	0.95	5.52	29.35	1.21	4.12	13.0	39.0
Oct	15.96	1.05	6.58	27.20	1.39	5.11	11.0	36.5
Nov	11.51	1.43	12.42	22.30	1.60	7.33	4.5	33.0
Dec	9.55	0.78	8.17	18.53	1.18	6.37	3.5	26.0

TABLE 2

Annual and monthly rainfall totals with their means, standard deviations (mm) and coefficient of variations over Benghazi for the period 1980-1989

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	Average	Std. dev.	Coeffi. of vari.
Jan	26.20	45.79	13.30	44.20	41.00	91.70	27.00	25.00	53.00	73.80	44.00	22.60	51.36
Feb	36.50	76.20	44.90	15.20	27.60	6.90	19.40	5.90	36.40	26.10	28.91	18.37	63.54
Mar	7.60	2.60	41.00	12.50	22.54	1.70	20.09	22.00	27.90	65.00	22.29	18.26	81.15
Apr	7.50	—	10.10	1.90	9.70	20.00	4.00	20.70	1.20	—	7.51	—	—
May	2.00	0.40	—	—	0.40	2.60	—	—	—	—	—	—	—
Jun	—	—	—	1.60	—	—	—	—	—	—	—	—	—
Jul	—	—	—	—	—	—	—	—	—	—	—	—	—
Aug	1.64	—	—	1.80	—	—	—	—	—	—	—	—	—
Sep	—	—	—	10.60	2.00	—	—	—	—	—	—	—	—
Oct	9.41	5.70	3.00	92.60	5.00	2.48	13.13	5.60	19.50	42.80	19.90	26.80	134.50
Nov	2.69	153.30	24.20	36.82	36.50	5.00	3.40	35.80	23.20	13.90	33.48	41.98	123.39
Dec	53.14	29.70	75.60	75.50	41.10	7.36	7.15	7.00	159.10	50.63	50.63	42.20	83.36
Total	146.68	307.69	212.10	292.72	185.84	137.73	95.07	122.00	318.45	272.23			

(—) Not available

temperatures in spring. Specially, in summer, sometimes dry climate is exacerbated by Ghibly, a hot arid wind that blows from the south. The wind carries large quantities of sand dust which turns the sky into red and reduces visibility to less than even 20 yards. The heat of wind is increased by rapid drop of relative humidity.

3. *Rainfall* — Plantation of many crops, vegetables and plants are closely related with first rainfall. In Benghazi, first rainfall generally occurs in the month of October and the last rainfall in April with monthly average 7.5 mm. Heavy rainfall with strong winds generally occurs in winter. The standard deviation and coefficient of variation of rainfall is less in winter as compared to other seasons.

The distribution of rainfall has direct impact on agriculture as the plantation and growth of crops, vegetables and plants depend on amount of water in different stages of their growth. Rainfall is the main sources of water for Benghazi area, specially for the winter crops. Table 1 gives the annual, monthly rainfall totals with their means, standard deviations in milimetre and coefficient of variations for the period 1980-1989.

4. *Relative humidity* — Benghazi experiences high relative humidity in winter which varies on an average from 62% to 65% (Table 2). Relative humidity is more or less stable in summer.

5. *Conclusions* — The following conclusions can be made from the available data for Benghazi:

- (i) The warmest months are July and August when Banghazi experiences mean monthly temperatures of 18° C to 30° C, whereas the coolest months are January and February with mean monthly temperatures of 8° to 17° C.
- (ii) First rainfall generally occurs in October and last occurs in April. Heavy rainfall normally occurs in the months of December and January with average amount of 50.6 mm and 44.0 mm respectively.

MANINDRA KUMAR ROY

University of Chittagong,

Bangladesh

3 May 1991