



Climate Data In JORDAN

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JORDAN METEOROLOGICAL DEPARTMENT

Jordan

- The total land area of Jordan is 90,000 square kilometers,
- Most of the area (about 90%) receives less than 200 mm of annual rainfall.
- The most important critical factor is low rainfall.

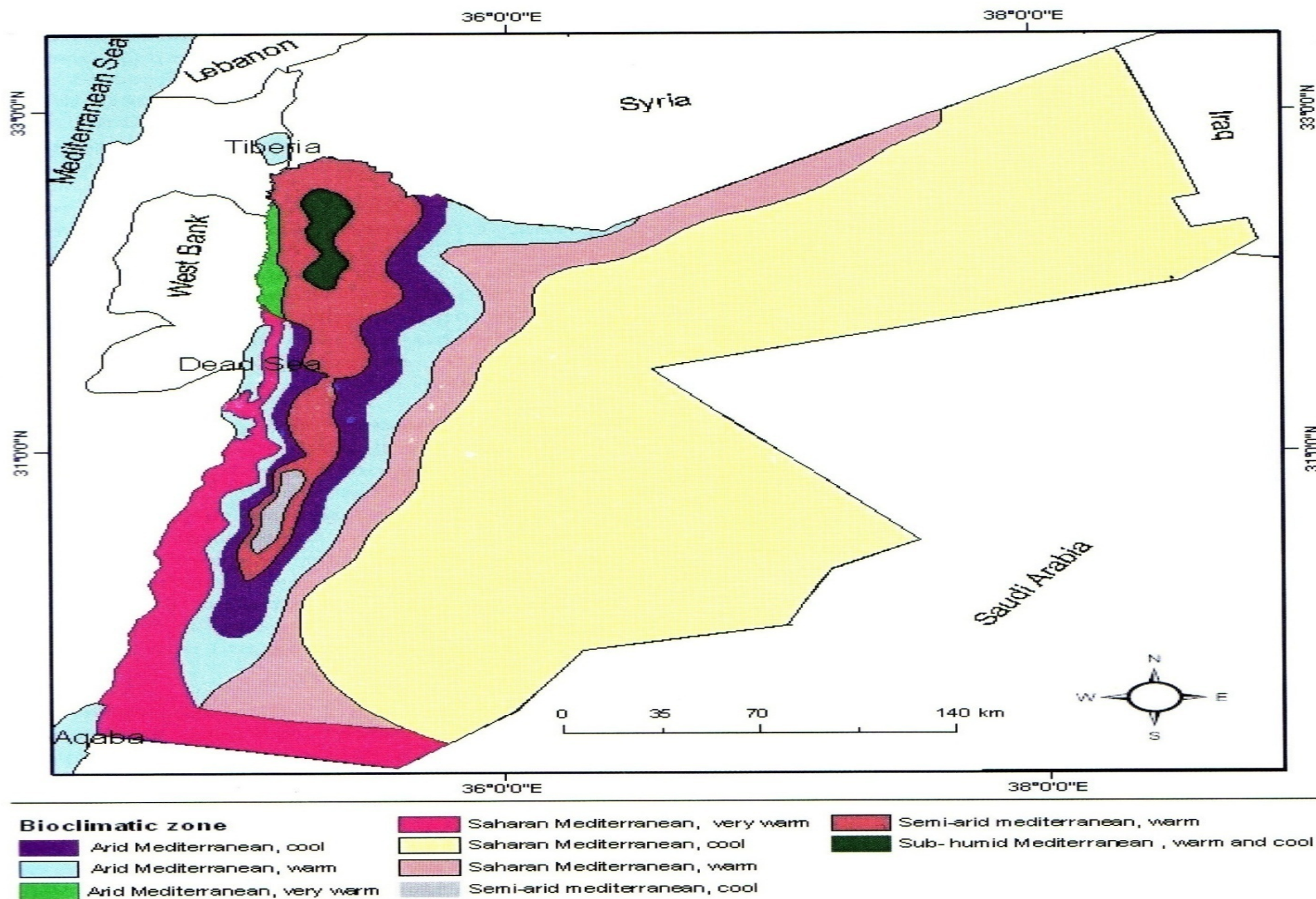


Climate in Jordan

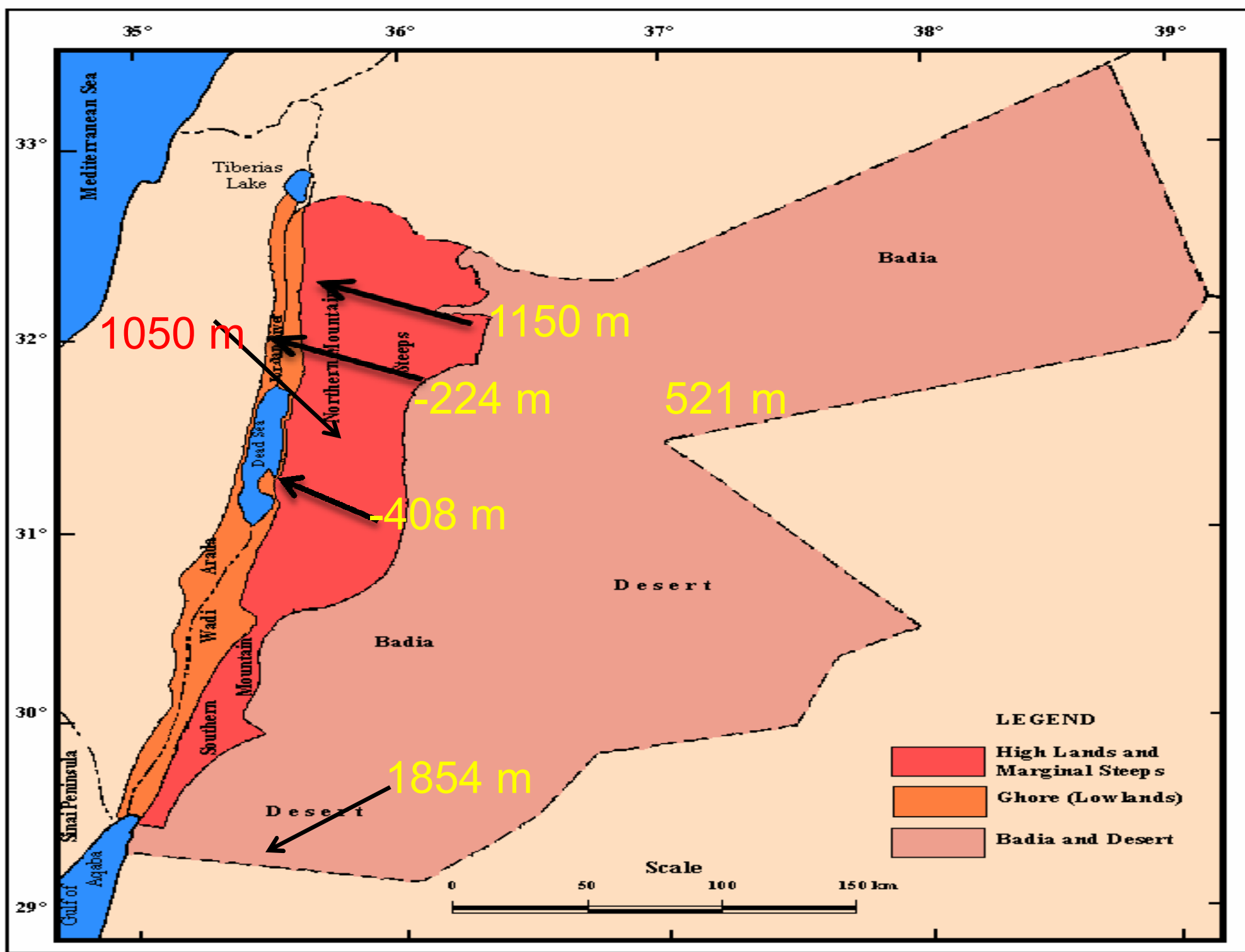
- The climate of Jordan is marked by sharp seasonal variations in both temperature and precipitation. Hot dry summer and cool wet winter characterize it. Summer starts around mid-May and winter starts around mid-November, with two short transitional periods in between (autumn and spring).

- The climate of Jordan could be divided into 4 main types according to the topography of the country, which has very well marked longitudinal zones in spite of its small area:
 - Hilly Regions: cool dry summer and cold wet winter characterize the climate in these regions with good amount of rainfall.
 - The Ghor: very hot summer and warm winter characterize the climate in these regions with rainfall amount around 77-392 mm.
 - The Badia: very hot dry summer and cold winter characterize the climate in these regions with very little precipitation and clear sky during most of the year.
 - The Gulf of Aqaba: very hot summer and warm winter characterize the climate in this region with extremely little amount of precipitation

Figure 3: Main bioclimatic zones of Jordan (after Al-Eisawi, 1985).

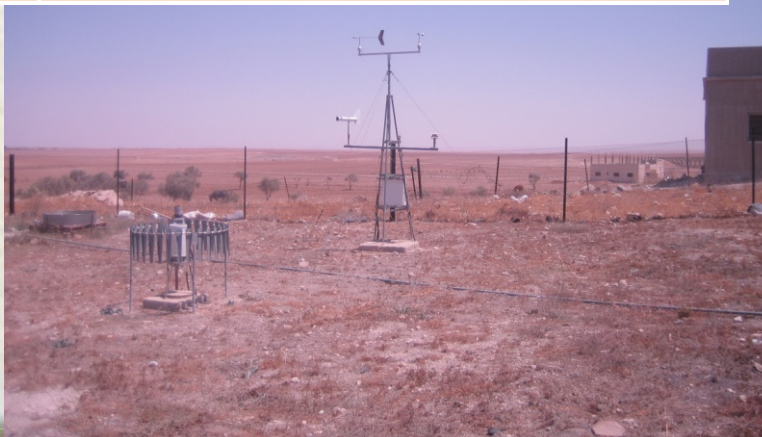


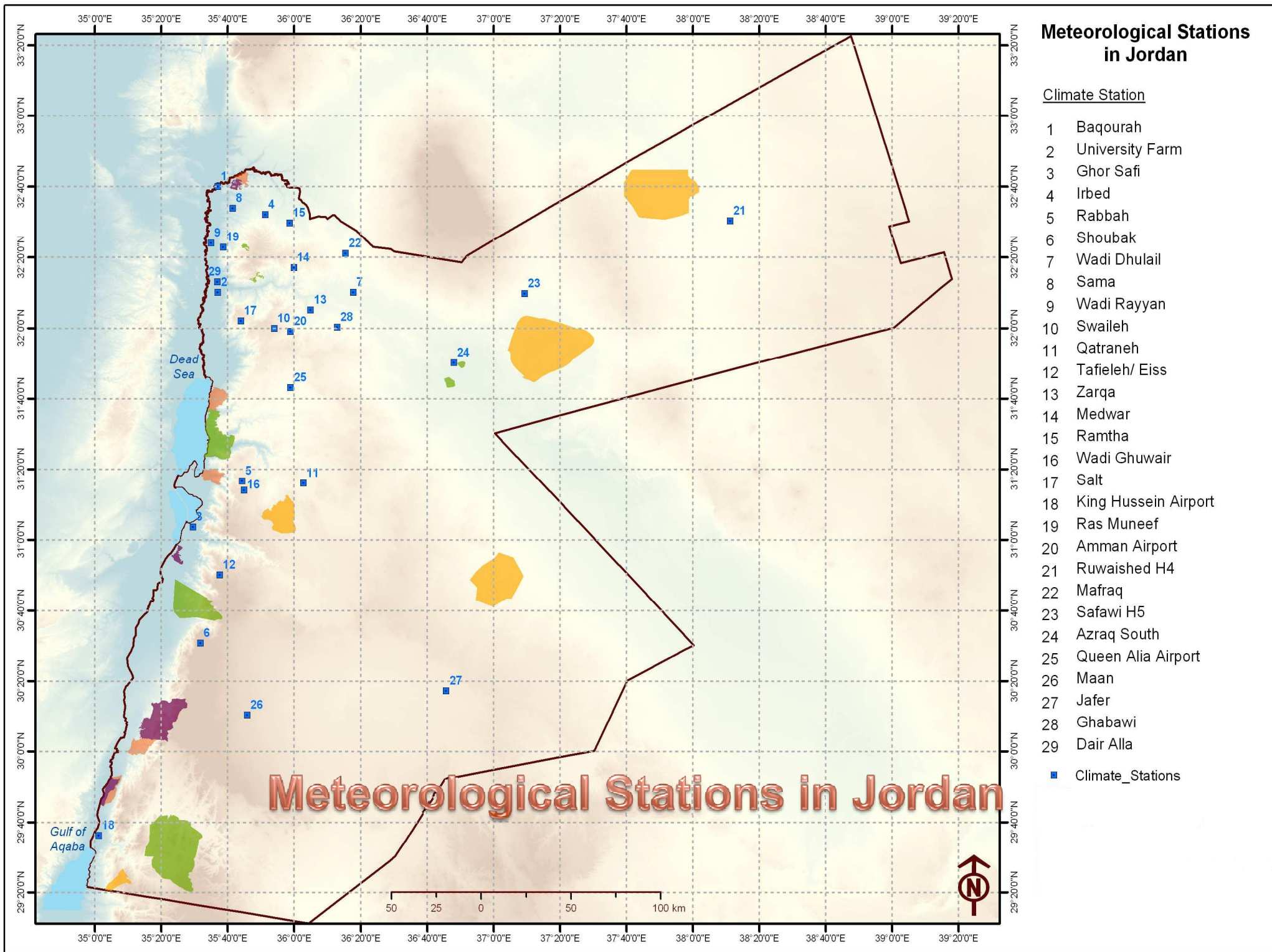
Jordan Topography



Climate Data at JMD

Period	Meteorological Stations type
1921– present	Synoptic Stations
1970 – present	Agricultural Meteorological stations
1970– present	Climatological Stations
2005 – present	AWS
1964	Upper Air



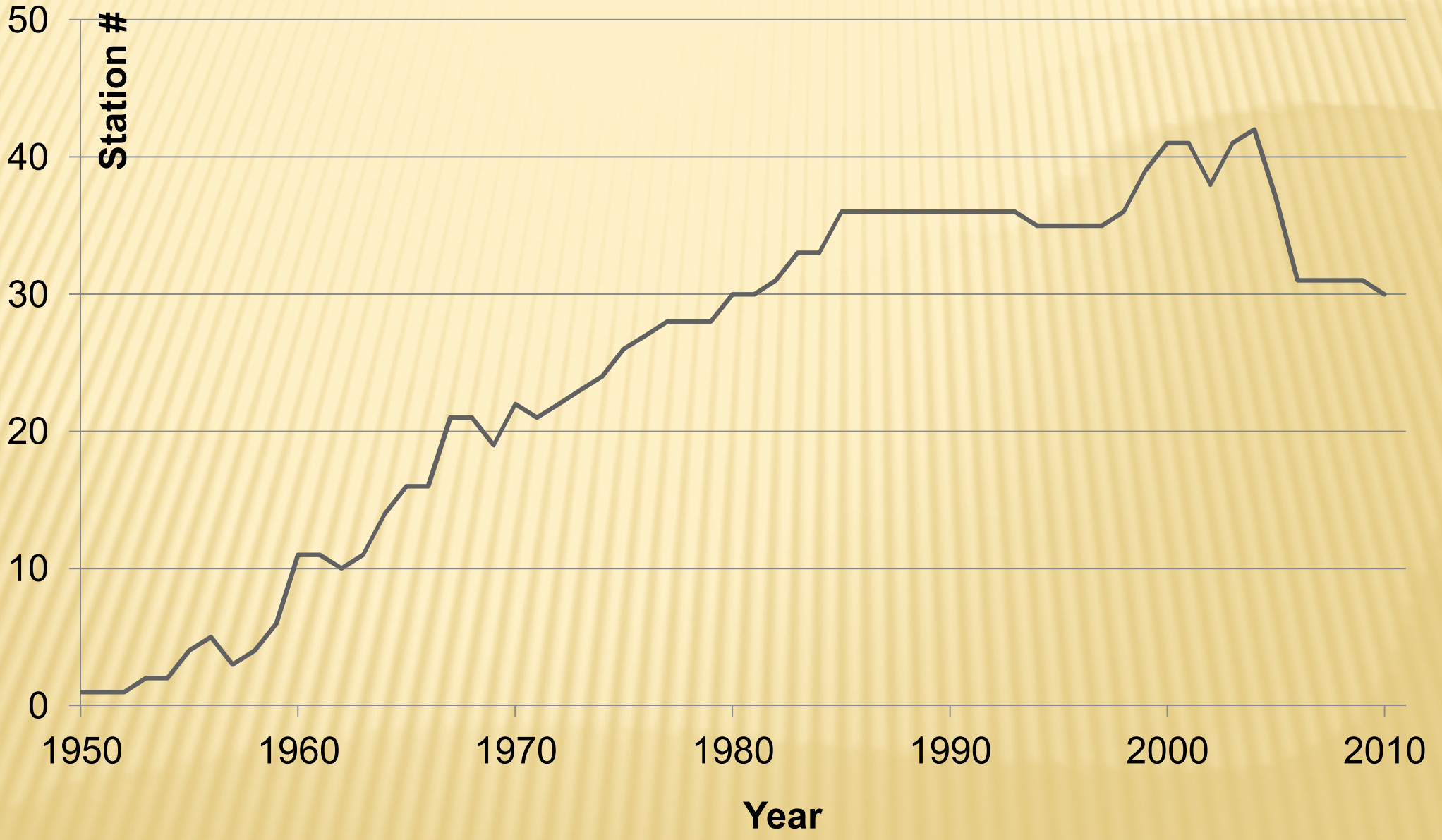


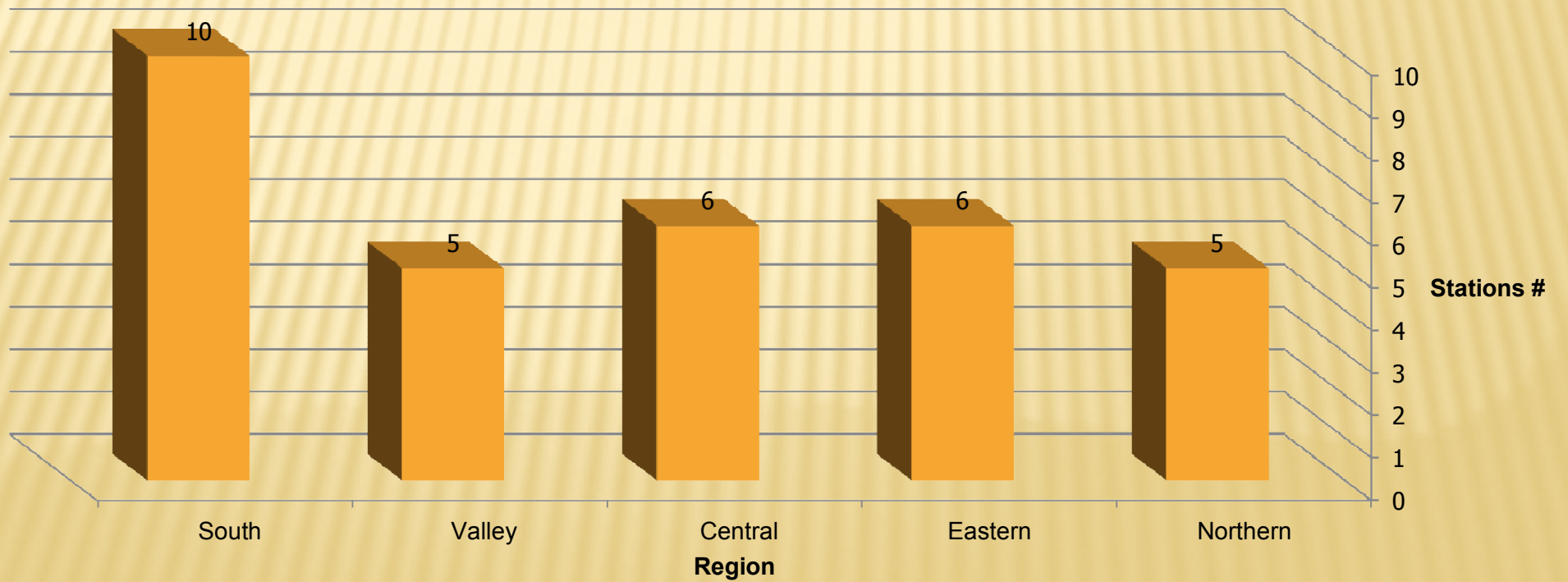
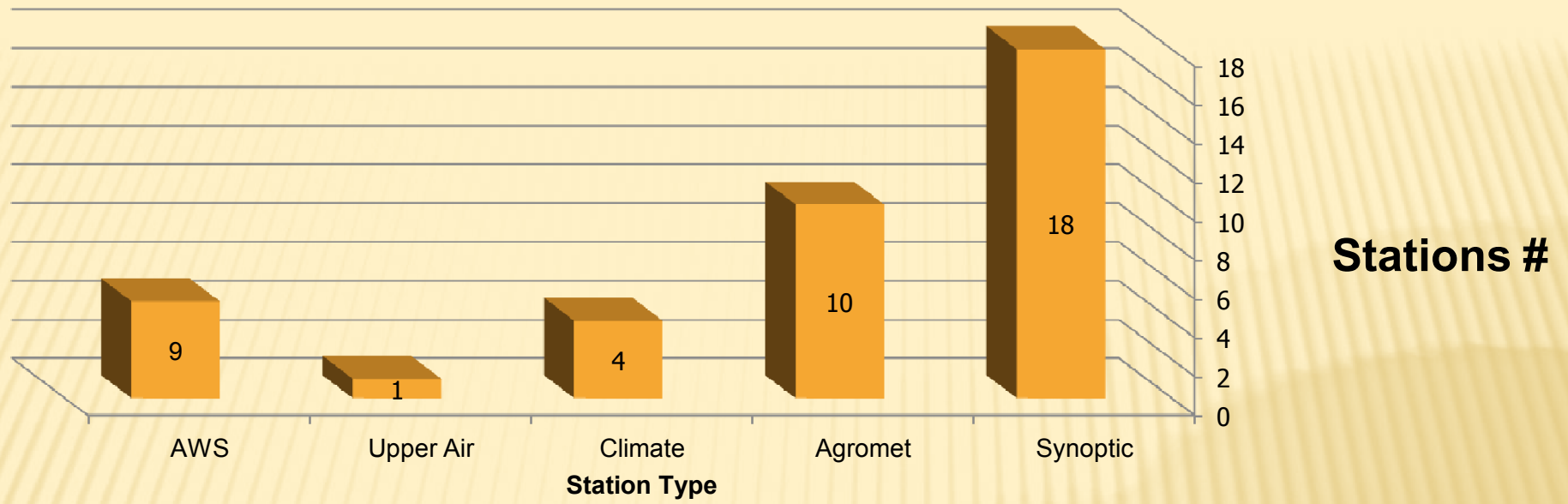
Meteorological Stations in Jordan

Climate Station

- 1 Baqourah
 - 2 University Farm
 - 3 Ghor Safi
 - 4 Irbed
 - 5 Rabbah
 - 6 Shoubak
 - 7 Wadi Dhulail
 - 8 Sama
 - 9 Wadi Rayyan
 - 10 Swaileh
 - 11 Qatraneh
 - 12 Tafieleh/ Eiss
 - 13 Zarqa
 - 14 Medwar
 - 15 Ramtha
 - 16 Wadi Ghuwair
 - 17 Salt
 - 18 King Hussein Airport
 - 19 Ras Muneef
 - 20 Amman Airport
 - 21 Ruwashed H4
 - 22 Mafrq
 - 23 Safawi H5
 - 24 Azraq South
 - 25 Queen Alia Airport
 - 26 Maan
 - 27 Jafer
 - 28 Ghabawi
 - 29 Dair Alla
- Climate_Stations

Meteorological Stations in Jordan

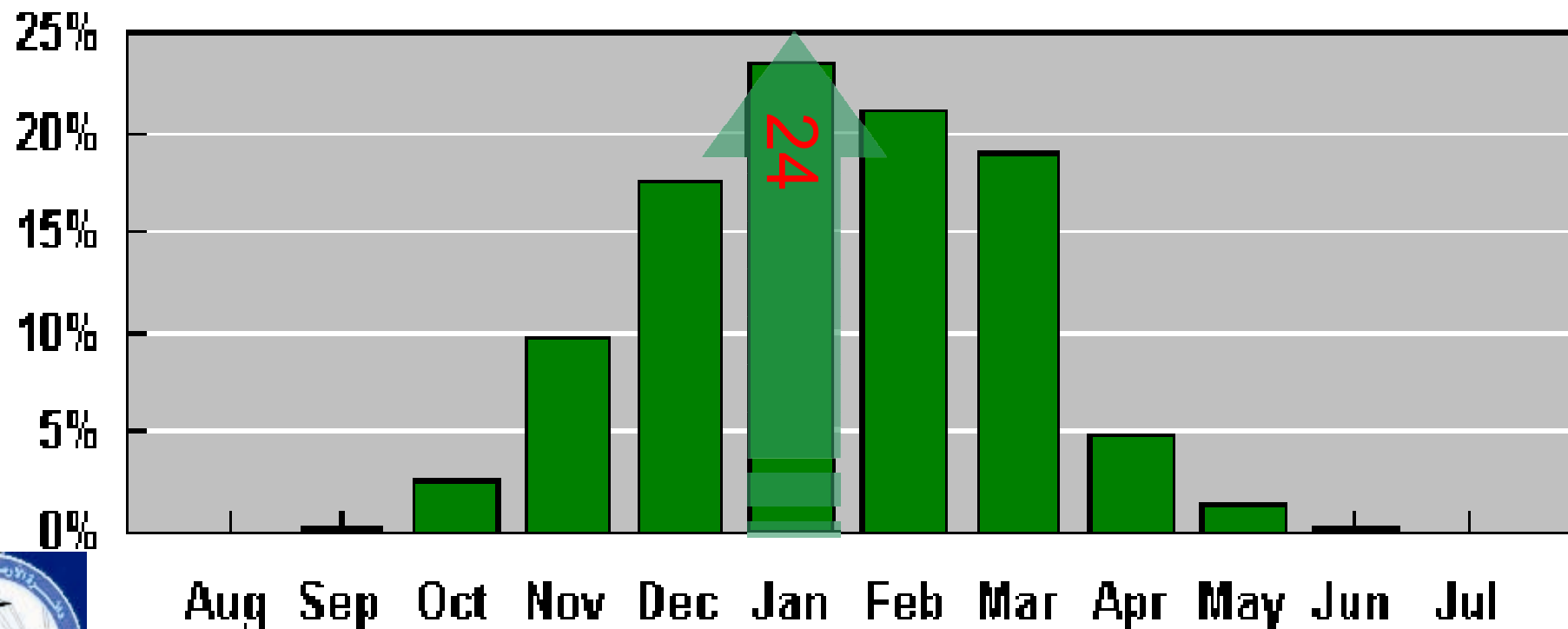




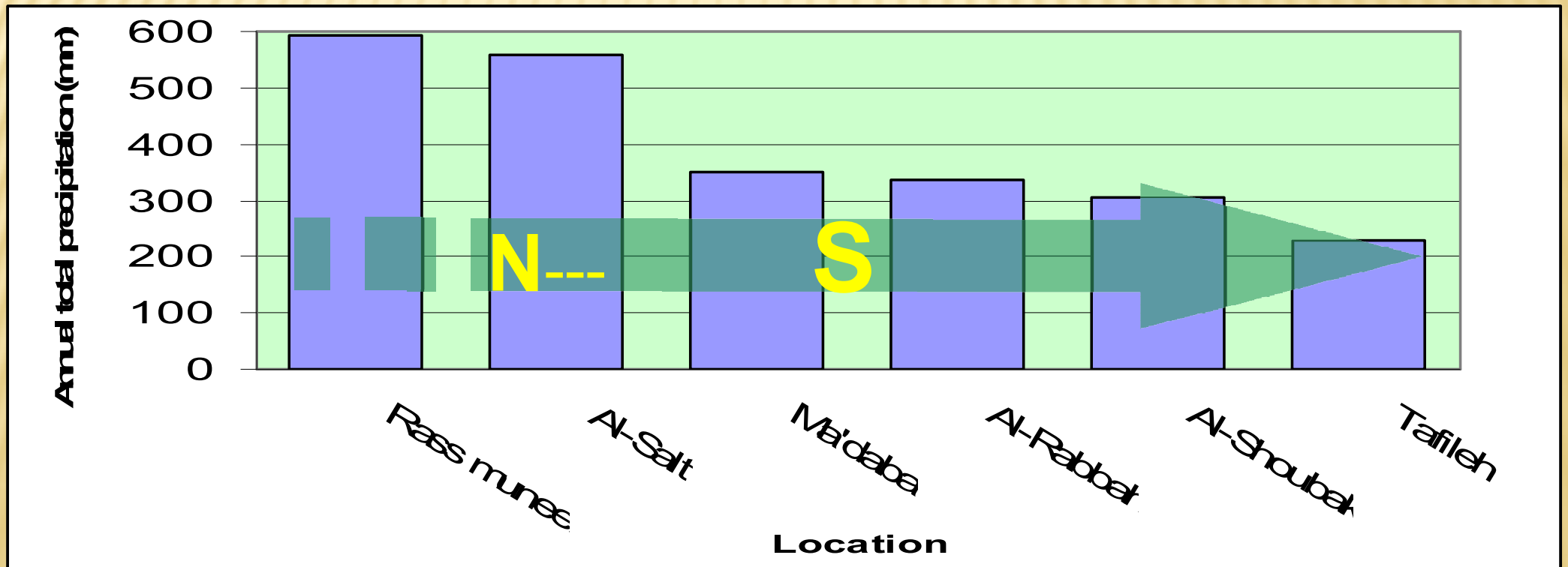
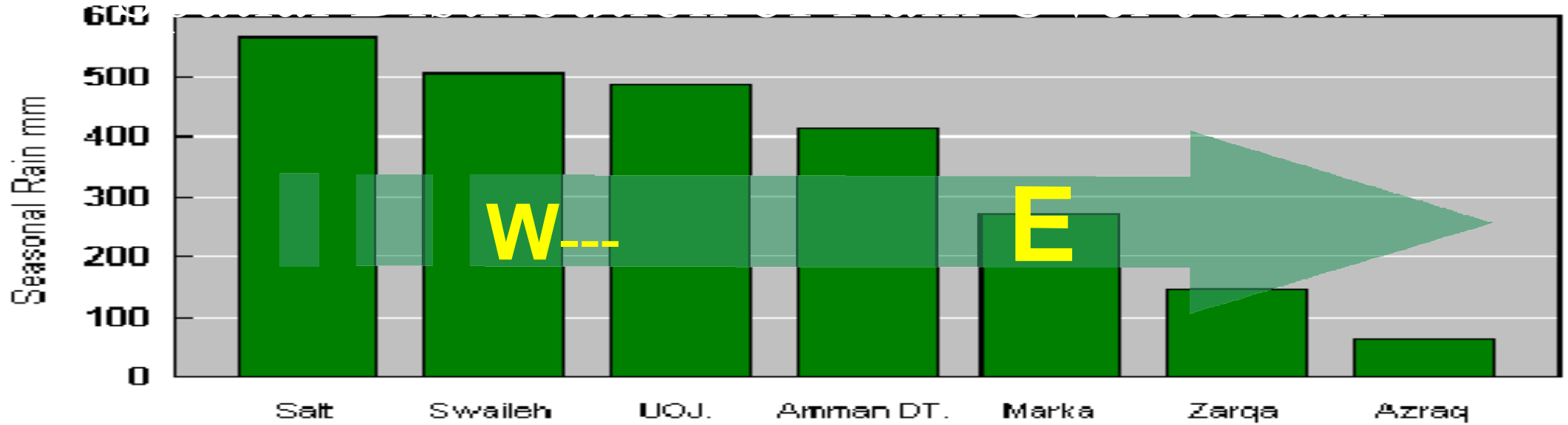
Climate Feature in Jordan

❖ Rainey season (mid-Oct **to** mid-May)

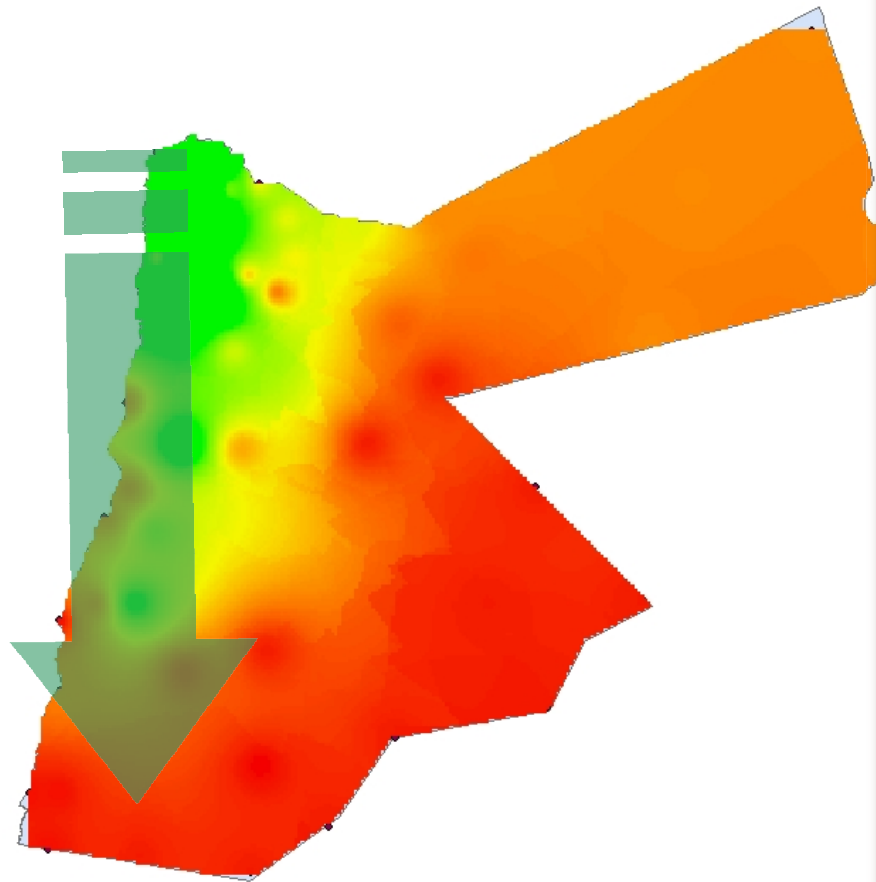
Temporal Distribution of Rain
Over Jordan



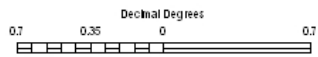
PRECIPITATION CHARACTERISTICS



Annual Normal Rainfall Jordan

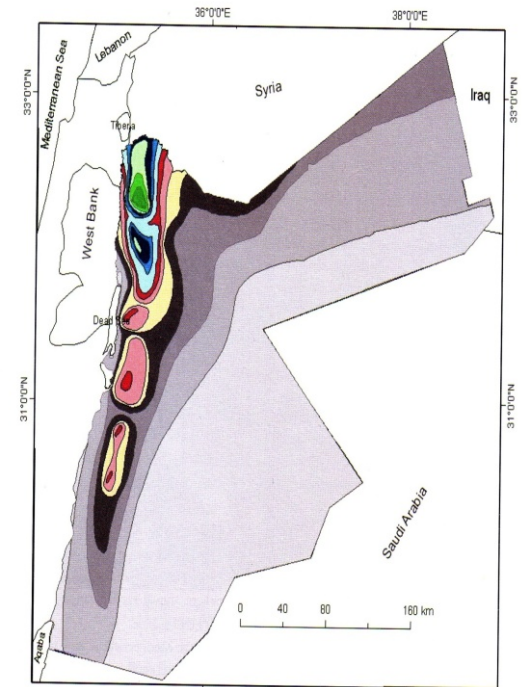


High : 585.707
Low : 26.8609



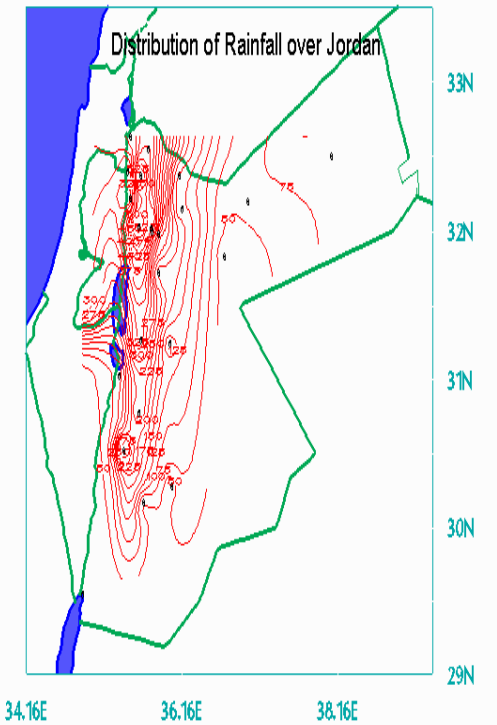
(%) of total area	Rainfall "mm"
.15	600-700
.5	500-600
1.3	400-500
2.0	300-400
2.0	200-300
22.0	100-200
30.5	20-100
41.0	20--50

Figure 2: Mean annual rainfall in Jordan.

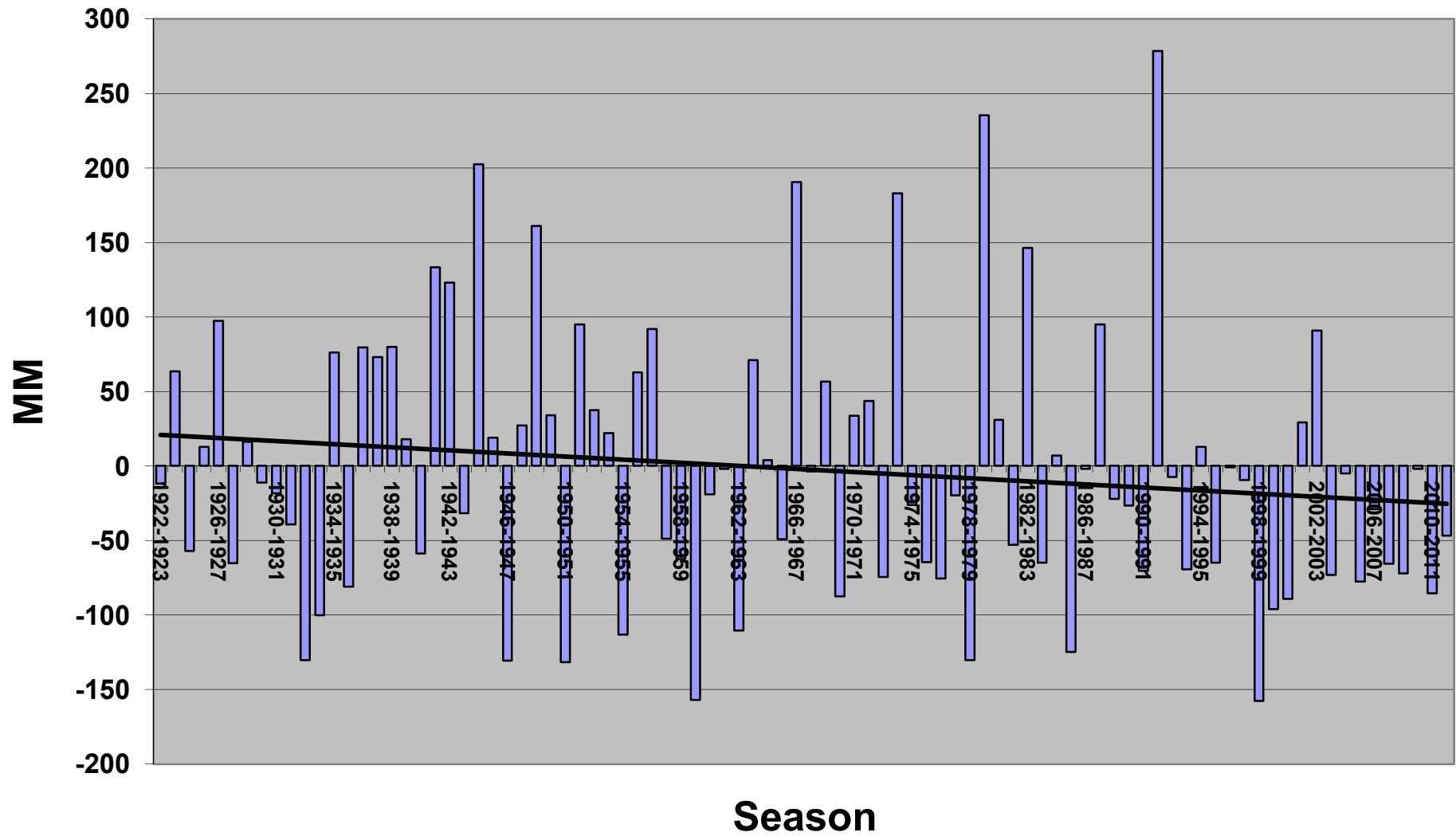


Rainfall (mm)

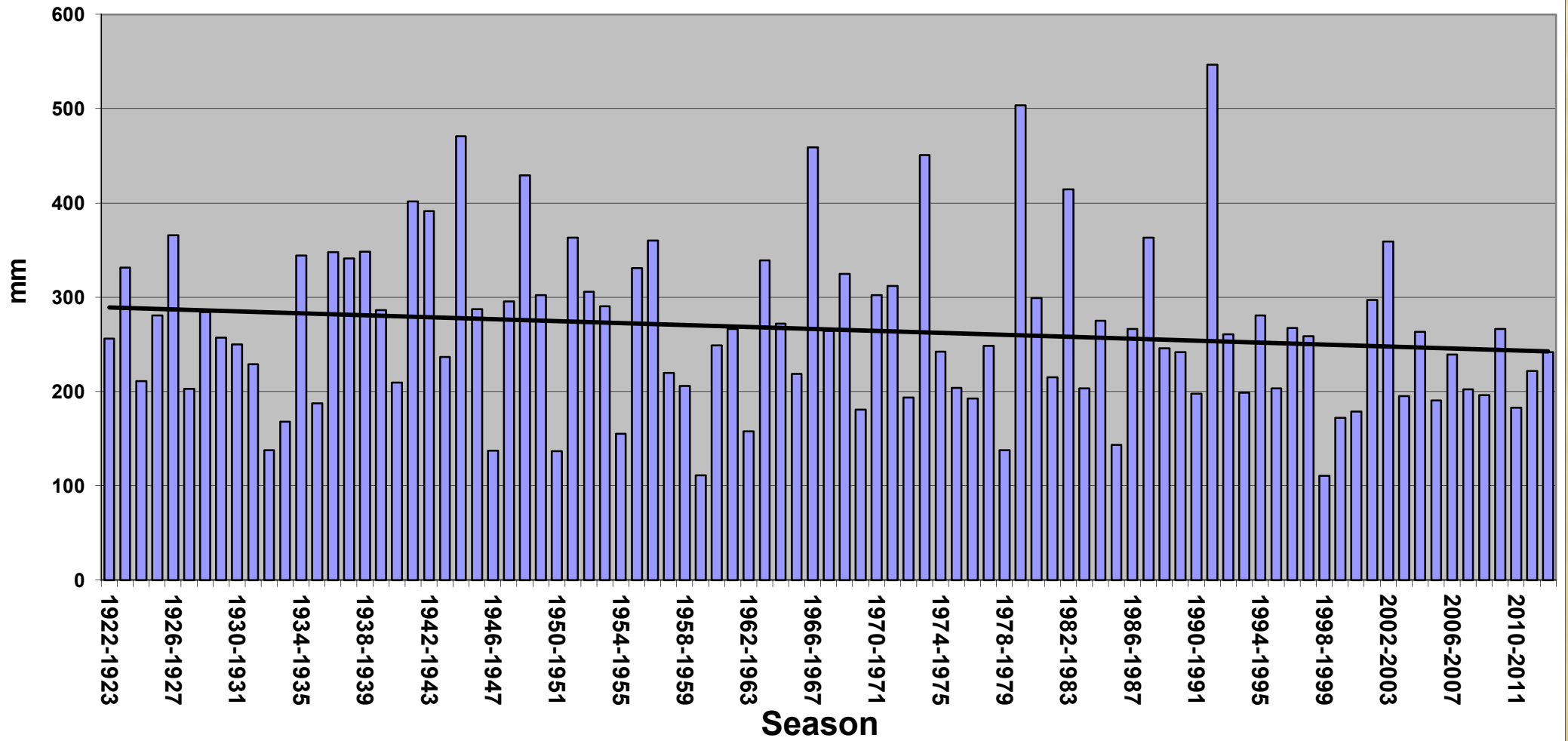
توزيع الأمطار في الأردن



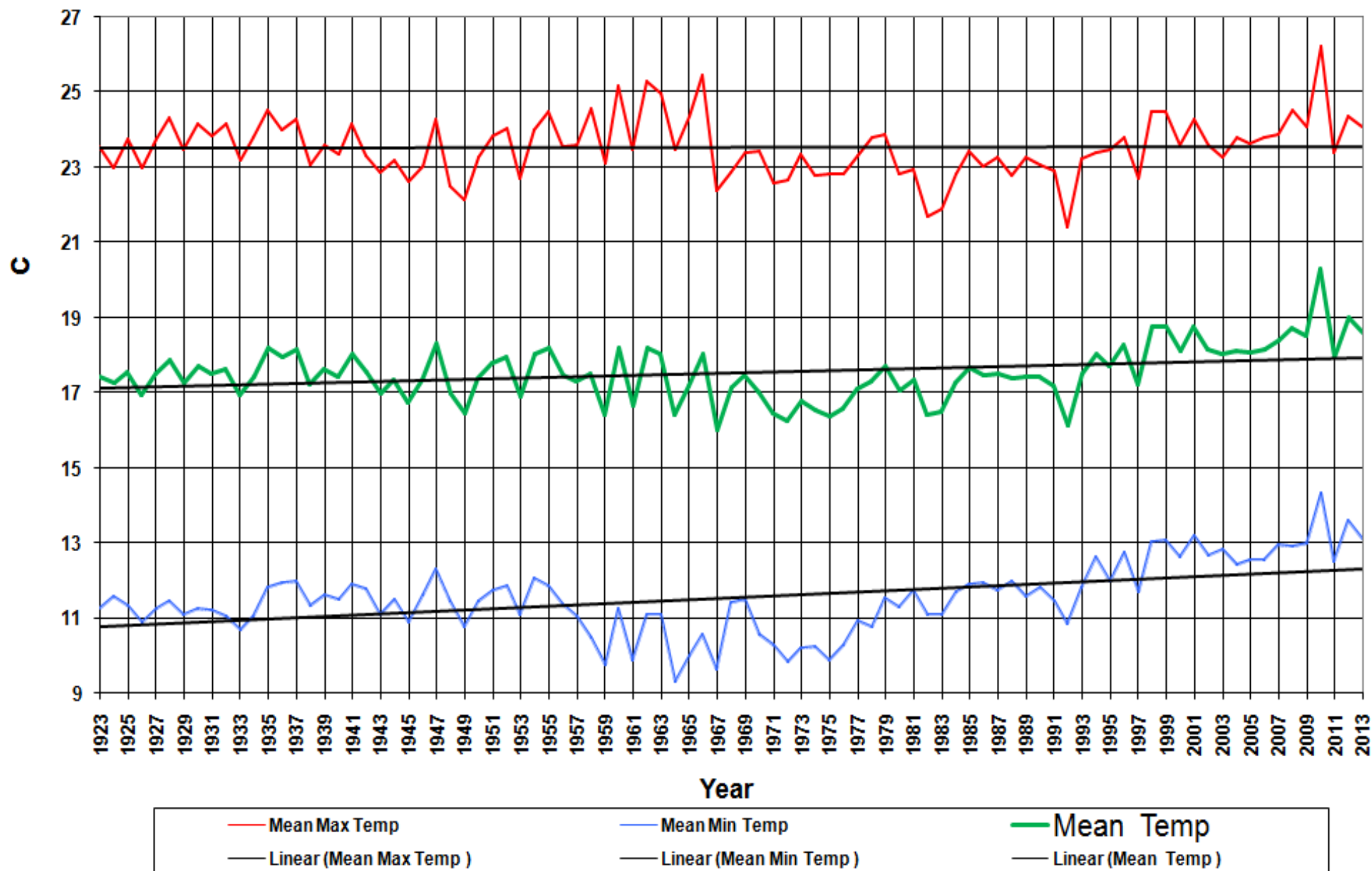
Amman seasonal rainfall Anomalies (1922/1923-2012/2013)



Amman seasonal rainfall (1922/1923-2012/2013)



Trend of Mean Temp ,Max Temp and Min Temp
Amman Airport Station
(1923-2013)



DATA PROCESSING

**Receiving Data
and
Documents**



**Manual
Auditin**



**Data
Entry**



Flagging



COMPUTERIZED

COMPUTERIZED

USER NAME

ADMIN

PASSWORD

System

Meta Data

Data Entry

Climate Data

Reports

Exit



Jordan Climate Data Management System

Jordan Meteorological Department

Climate Division
meteo@jmd.gov.jo

01:53:31

07/05/2014

USER NAME

ADMIN

PASSWORD

System

Country

Definition

Instrument

Meta Data

Load Daily Data

Load Synoptic Data

Gen. DLY from SYN

Data Entry

User_Privilege

Climate Data

Reports

Exit

Jordan Climate Data Management System

Jordan Meteorological Department

Climate Division

meteo@jmd.gov.jo

02:03:07

07/05/2014

USER NAME

ADMIN

PASSWORD

System

Meta Data

Station_Info

Station Instruments

Elements

Data Entry

Station Elements

Station Update

Climate Data

Reports

Exit

Jordan Climate Data Management System

Jordan Meteorological Department

Climate Division

meteo@jmd.gov.jo

02:06:01

07/05/2014

USER NAME

ADMIN

PASSWORD

System

Meta Data

Data Entry

Entry Upper Air Data

Entry Daily Data

Entry Synoptic Data

Climate Data

Reports

Exit

Jordan Climate Data Management System

Jordan Meteorological Department

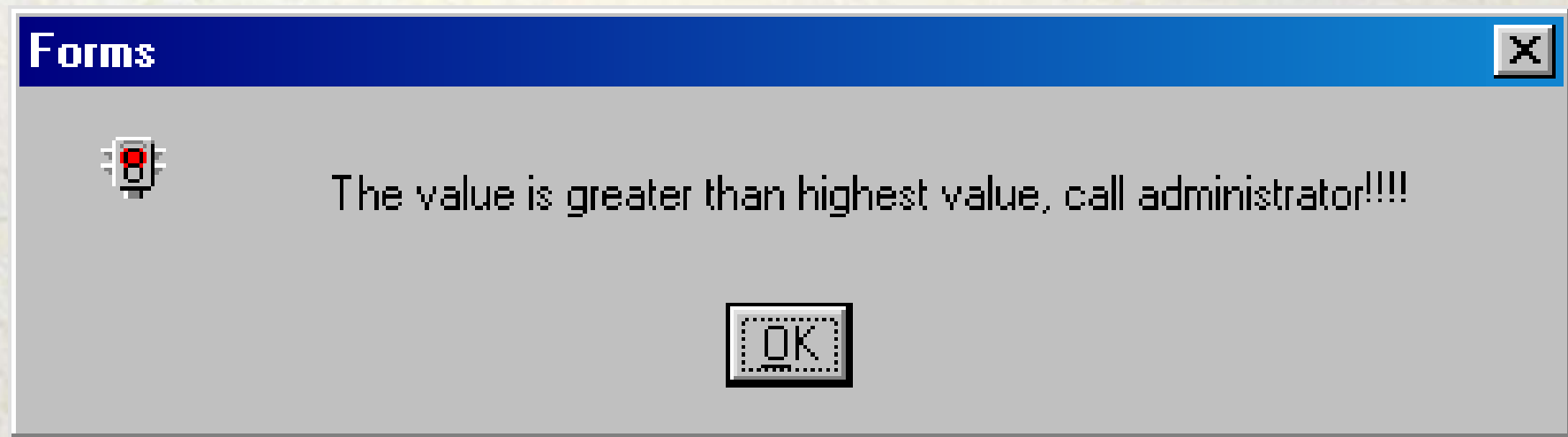
Climate Division

meteo@jmd.gov.jo

02:11:03

07/05/2014

The CDMS have quality control depending the extreme values, during Data entry many alerts will be displayed during wrong data entry (e.g. This alert raise when the value of the maximum temperature entered in the maximum temperature field is greater than the extreme value form this element and the specified month of the station.



Total	623.6	300.2	168.3	.0	232.9	6806.1	628		143.9	0	0	0	0	0
Mean	20.8	10.0	5.6	.0	7.8	226.9	20.933		4.8	.0	.0	.0	.0	.0
Highest	30.4	19.8	15.0	.0	12.0	464.0	32		7.8	.0	.0	.0	.0	.0
Lowest	11.4	6.4	.0	.0	.0	93.0	14		.7	.0	.0	.0	.0	.0
Count	30	30	30	30	30	30	30	0	30	30	30	30	30	30

In the Daily data form you can see the monthly summary block as shown above, which shows the (mean, highest, lowest and count) summary for the month.

USER NAME

ADMIN

PASSWORD

System

Meta Data

Data Entry

Climate Data

Daily Element Extreme

Synoptic Element Extreme

Monthly Data

View Daily Data

View Synoptic Data

Reports

Exit

Jordan Climate Data Management System

Jordan Meteorological Department

Climate Division

meteo@jmd.gov.jo

02:12:31

07/05/2014

USER NAME

ADMIN

PASSWORD

System

Meta Data

Data Entry

Climate Data

Reports

Climate Data

Meta Data

Normals

Exit

Jordan Climate Data Management System

Jordan Meteorological Department

Climate Division

meteo@jmd.gov.jo

02:14:15

07/05/2014

OUTPUTS

OUTPUTS

The Hashemite Kingdom of Jordan

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Meteorological Department

????????? ?????????? ????????

Phone +962 6 4892 408

Fax +962 6 4894 409

Normal Monthly Mean

Month Station	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.	Yearly	Period
<u>Mean Maximum Air Temperature (°C)</u>														
Amman Airport	12.4	13.8	17.5	22.7	27.8	30.9	32.1	32.5	30.7	27.1	20.4	14.5	23.5	1923 2013
<u>Mean Minimum Air Temperature (°C)</u>														
Amman Airport	3.7	4.4	6.4	9.8	13.7	16.9	18.9	18.9	16.8	14.1	9.4	5.3	11.5	1923 2013
<u>Mean Air Temperature °c (max+min)/2</u>														
Amman Airport	8.1	9.1	12.0	16.3	20.8	23.9	25.5	25.7	23.8	20.6	15.0	9.9	17.6	1923 2013
<u>Total Rainfall Amount (mm)</u>														
Amman Airport	64.3	63.0	41.0	13.5	3.3	0.0	0.0	0.0	0.3	6.1	26.4	48.6	266.6	1922 2013
<u>Maximum Rainfall Amount in 24 Hours mm</u>														
Amman Airport	75.6	80.0	66.2	52.4	24.1	1.1	0.2	0.0	15.4	40.5	79.4	73.6	80.0	1923 2013
<u>Mean Relative Humidity (%)</u>														
Amman Airport	73.8	70.7	64.3	52.9	44.1	42.9	45.6	49.6	54.0	55.6	62.0	71.8	57.3	1966 2013
<u>Mean Wind Speed 'knot'</u>														
Amman Airport	5.0	5.8	5.8	5.6	5.6	6.3	6.6	5.4	4.1	3.3	3.8	4.4	5.2	1977 2013

The Hashemite Kingdom of Jordan

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Meteorological Department

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Daily Climatological Data

Station Amman Airport

Year- Month 2013-12

Date	Temperature °C		Mean	Precipitation		Relative Humidity %	Wind Speed Knots
	Maximum	Minimum		Rainfall mm			
01	19.0	11.5	15.3	.0		55	6.3
02	20.0	9.8	14.9	.0		55	2.3
03	26.0	14.6	20.3	.2		46	3.3
04	19.5	13.0	16.3	5.9		70	7.8
05	11.7	10.0	10.9	11.1		88	6.0
06	12.5	9.5	11.0	.2		88	5.5
07	15.5	8.5	12.0	.0		73	5.8
08	12.8	9.5	11.2	2.6		86	9.3
09	11.5	4.4	8.0	.0		76	6.3
10	10.3	.5	5.4	4.0		80	4.0
11	7.8	2.6	5.2	41.0		83	16.0
12	3.9	1.7	2.8	18.3 *		95	10.5
13	6.5	.0	3.3	12.8 *		91	13.3
14	3.5	.5	2.0	.5 *		96	10.8
15	8.2	-.9	3.7	.0		86	1.5
16	9.7	-.6	4.6	.0		75	2.8
17	9.6	-.5	4.6	.0		60	2.3
18	12.0	2.3	7.2	.0		65	1.0

Thank You For Attention
