



PRECIPITATION DATA OF LIBYA

Climate Department

Libyan National Meteorological Center (LNMC)

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Introduction:

North of Libya is influenced by Mediterranean depressions during winter season as a result of its geographical location, most of the precipitation falls as showers that produced from cumuliform clouds which moved along the coastal line(about 1 800 km long).

Thunderstorms and Intensive showers (rain storms) are observed in various places with fall of hail in sometimes as well, especially on the mountainous areas in the west and the east. Sometimes the snow was falling when the country affected by Atlas' mountains and Siberian depressions.



Snow at Shahat (eastern highlands) with 50cm depth, 18 Feb. 2008

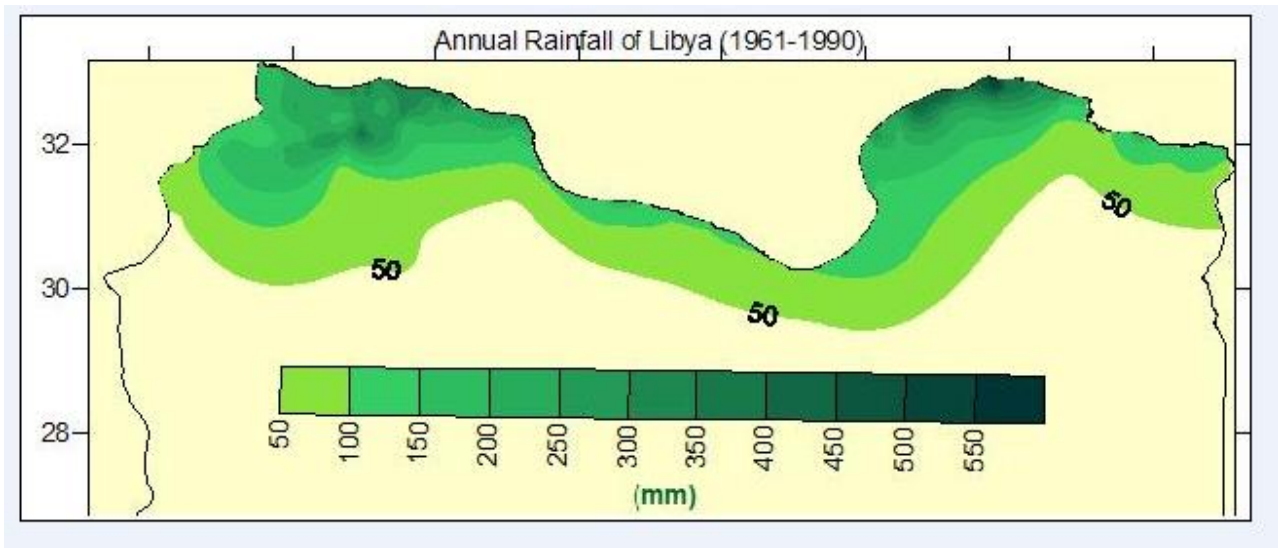
Some coastal areas and highlands are exposed sometimes for blowing of strong storms (winds reach upward of 70 knots) accompanied by heavy showers and sudden falling in atmospheric pressure reach to 4 hPa.it is known as “pressure jump storm” and lead to many serious damages.



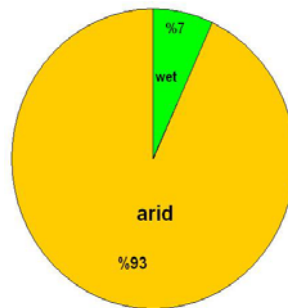
Rain storm at Tripoli city, winter 2003

Rainfall averages ranged in these areas (north of Libya) from about 200 to 500 mm, with a maximum of recording on the regions of Jabal Al Akhdar "the Eastern Highlands" where was about 850 mm, and to about 750 mm on Jabal Nafusah areas "Western Highlands". While the number of rainy days ranged between the month and three

months. The maximum rainfall in a day reaching to about 150 mm, especially at the closest regions of west and east of Tripoli “capital city”.



In general the precipitation extends to cover about 7% of total surface area of the country which is considered about 1.683 million square kilometers.



Percentage of covered rain areas

Otherwise, precipitation has been begun measured by instruments in Libya since the end of the nineteenth century by the Italian and French embassies at that time in Tripoli city (at the west) and in Benghazi city (at the east), Benghazi is a second capital city, However some irregular observations for some weather parameters (rainfall included) for some locations in Libya were made by some travelers (Science Missions) before this period but they are not documented.

The regular observation (full network) of the rain started in various regions of the country since the beginning of Italian occupation until during of the British Mandate in the mid of the fifties of the last century and then resumed and continued later on till this day.

Rain data is considered as an oldest set of data that available at climatic archive shelves (Climate Department) of Libyan National Meteorological Center (LNMC).

History Of Libyan Rainfall Network Measurement:

The first (oldest) network of precipitation observations was established since twenties of last century at Italians duration for Libya, the number of installed stations reached to 214 which 66 of them considered as climatic stations (measure all the weather parameters) and the others as a rain gauges, these stations distributed and concentrated in the following regions:

- Along coastal strip places.
- Western mountains (Nafusah Mountains) and Jafara plane.
- Eastern mountains (Jabal Al Akhdar) and Benghazi plane.



Net work stations at Italian time

While the recent network has been established since the beginning of the sixties of the last century, where it consists of 300 stations as following:

- 45 as Meteorological stations,
- 255 as a rain gauges;

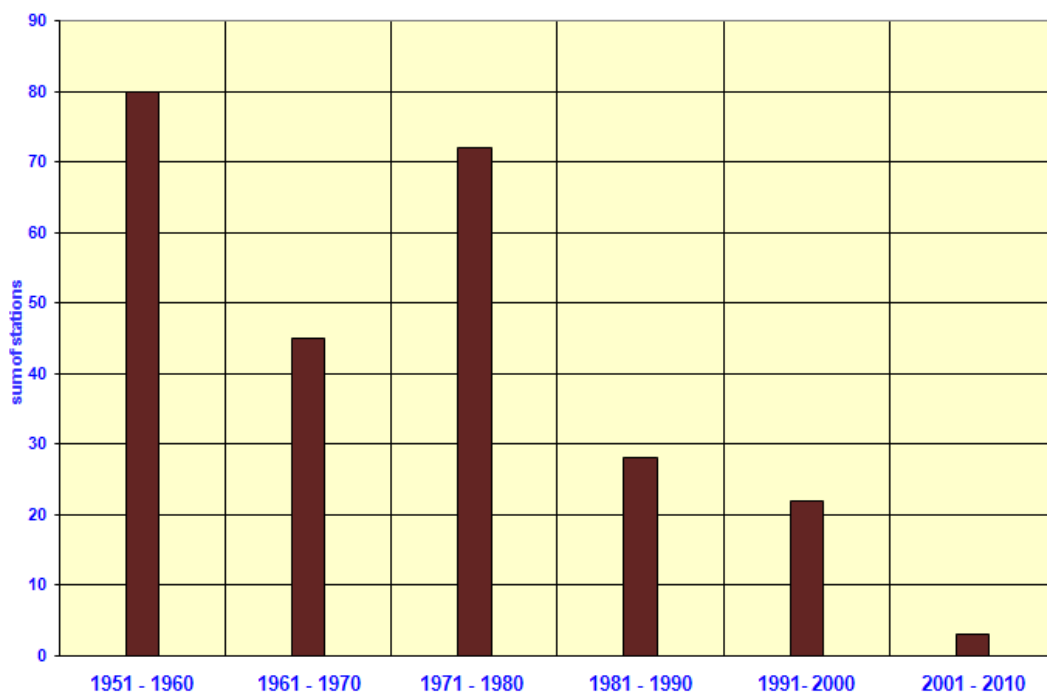
With the maximum density coverage at the north western parts of the country and at the eastern parts respectively.



Recent rainfall network



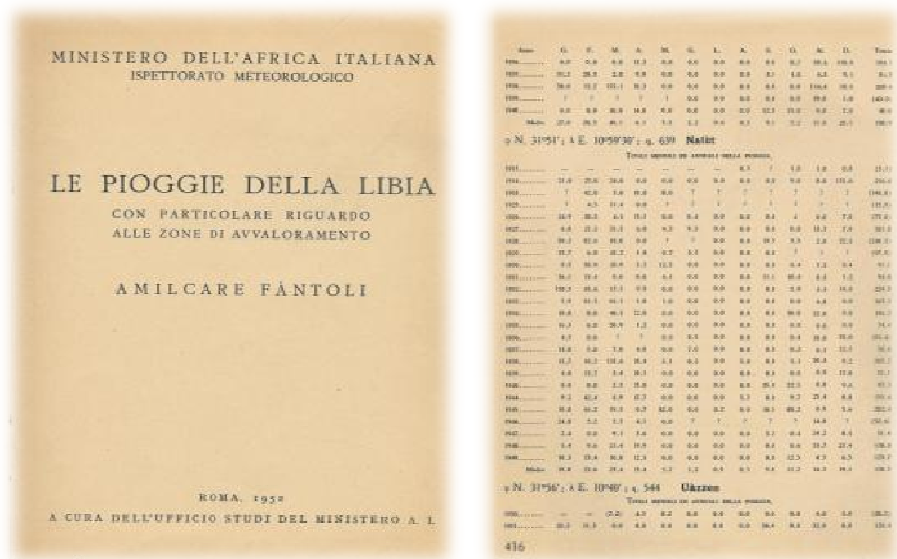
Density coverage percentage in each climatic region



Evolution of rainfall network stations

Inventory Of Precipitation Data In Libya:

There are some precipitation data sets for two locations, at Tripoli (capital city, at the west) and Benghazi (second capital city, at the east) since 1879 and 1881 respectively, the data based on monthly values which published in some Italian documents (i.e. *LE PIOGGIE DELLA LIBIA*, bi FANTOOLI, 1952), it is considered as an oldest instrumental data for the rain measured in Libya and it is available.



Rainfall of Libya, by Fantoli , 1952

Similarly, rain data for about 214 stations that based on monthly values between the periods of (1915-1949) and published at “*CONTRIBUTO ALLA CLIMATOLOGIA DELLE REGIONI INTERNI DELLA LIBYA*, bi FANTOLI, 1969) is already available.

However the daily observations of the rainfall of about 66 climatic stations for the periods of (1915-1949) are available in the form of Meteorological registers (paper recorders) which stored at the premises of the climate department of Libyan National Meteorological Center (LNMC).

Recent stations, their rainfall data on daily and monthly bases is available at least since 1956 and on in regular recorders.

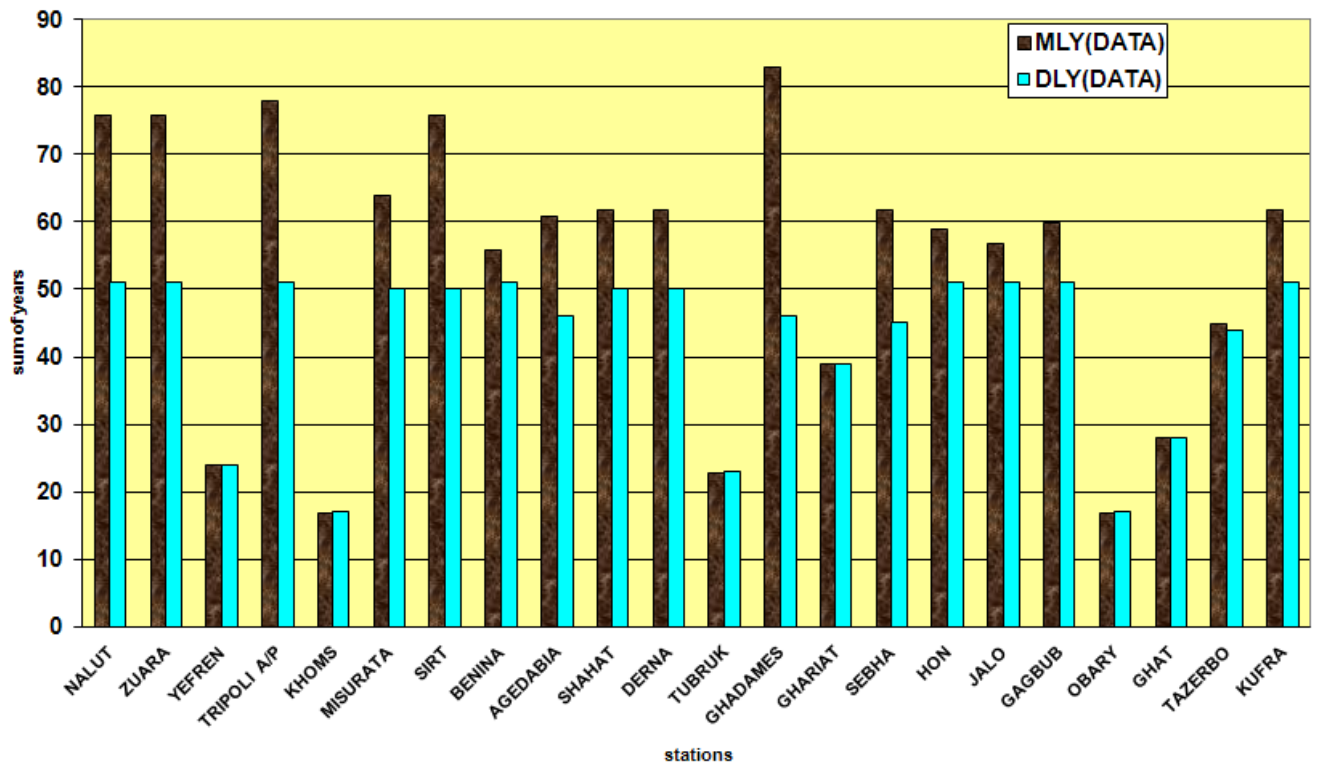
National Initiatives For Precipitation Data Recovery:

1. Digitization

All historical data sets of the rain (daily + monthly) for recent networks stations (255 rain gauges + 45 Met. stations) has been digitized by percent of 95% for the period of (1956-2008), see appendix 1.

Further that, old historical rainfall data sets for previous network (214 stations) also have been digitized on monthly base during the period of (1915-1949) by the percent of 100%, see appendix 2. But daily rainfall data sets for 66 climatic stations for the same network have been not digitized yet.

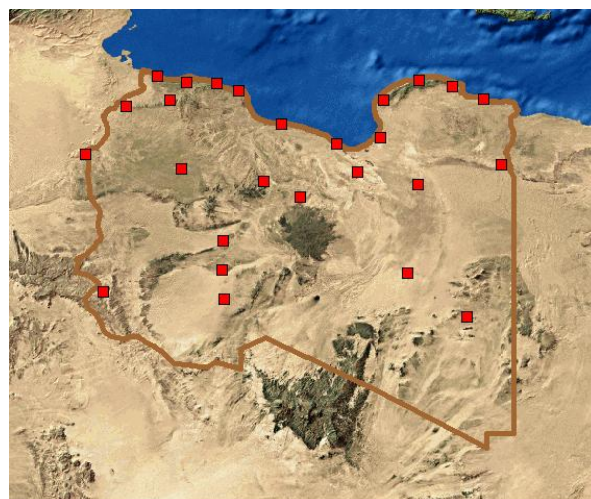
However the vintage rainfall data sets of two locations in Tripoli and Benghazi since 1879 & 1881 respectively already digitized on monthly base as well.



Digitized Rainfall Data for Synoptic stations (see appendix 1)

2. Automatic Weather Stations “AWS” Network:

Recently the modernizing project to improving the Meteorological services in Libya has been taken place since 2000, under the umbrella and supervision of World Meteorological Organization (WMO), this project aims among its objectives to install many AWS in order to upgrading the observation network in Libya. The following stations already have been installed around the country as indicated below:



Automatic Weather Stations “AWS” Network

- **Synoptic Stations:**

19 AWS (XARIA with CABOS application, France) installed around the country for synoptic purposes with 7 channels (2 airport AWS with 9 channels) to measure different weather parameters which rainfall parameter among of them to be measured each 6 minutes, all data disseminated directly by phone means (PSTN) to be received by collection data system (CDs), as a real time data, at the Climate Department premises.

St. name	long.(E)	lat.(N)	elev.(m)	installation date	St. name	lon.(E)	lat.(N)	elev.(m)	Installation date
NALUT	10 59	31 51	620.31	03/2006	SHAHAT	21 35	32 48	650	07/2004
HON	15 27	24 08	266.83	12/2006	GHADAMES	09 491	30 1108	348	07/2004
BENINA	20 16	32 05	134.5	03/2006	AGEDABIA	20 10	30 43	9	07/2004
TOBRUK	23 55	32 06	50	02/2006	MISURATA	15 036	32 407	33	04/2004
SEBHA	14 27	29 01	423	12/2006	ZUARA	12 099	32 931	4	04/2004
GHAT	10 08	25 08	692	09/2006	TRIPOLI /AIR	13 151	32 666	85	06/2004
JALO	21 32	29 01	45.46	05/2006	KUFRA	23 18	24 13	436	03/2006
GAGBUB	24 32	29 45	- 1	02/2006	SERIT	16 35	31 12	13	11/2008
YEFREN	12 32	32 04	690.84	11/2006	DERNA	12 32	32 04	690.84	11/2008
TAZERBO	21 05	25 40	261.15	11/2008					

- **Desert Stations:**

5 full AW Desert stations (XARIA, France) installed in various places of the Libyan Saharan for the synoptic purposes as well, with 7 channels as previous one but its data disseminated each 3 hourly by DCP to EUMETSAT then to be received by CDs.

St. name	long.(E)	lat.(N)	elev.(m)	Installation date	St. name	long.(E)	lat.(N)	elev.(m)	Installation date
MRADA	19 20	29 28	37	05/2006	ZALLA	17 17	28 35	336	11/2008
TRAGEN	14 27	25 56	421	09/2006	GATRON	14 35	24 55	468.5	11/2008
ALHAMADA	12 57	29 35	625	07/2004					

- **Maritime Stations:**

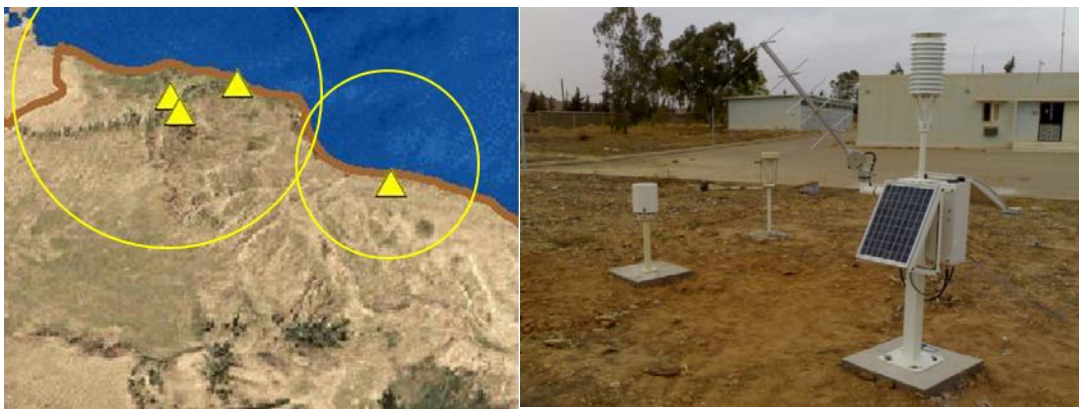
2 AWS (XARIA with CABOS application, France + TRIAXYS™ Directional Wave Buoy & Applications Software, Canada) installed at two different locations of the coast for synoptic and marine observations purposes with additional 2 channels for the sea state parameters, their data collected directly by PSTN means in the same system (DCs) as a real time data.

St. name	long.(E)	lat.(N)	elev.(m)	installation date	St. name	long.(E)	lat.(N)	elev.(m)	Installation date
KHUMS	14 14	32 40	25	02/2009	RASLANUF	18 35	30 29	22	02/2009

Rainfall Stations:

4 AWS (XARIA, France) with two channels (rainfall + temperature) installed around Tripoli city and one of them around Sirt city (in the middle of the coast) for climate purposes essentially to monitoring the rainfall parameter and compared it with Rader observations, their data received each 3 hourly based on hourly observation by DCP to EUMETSAT then to CDs.

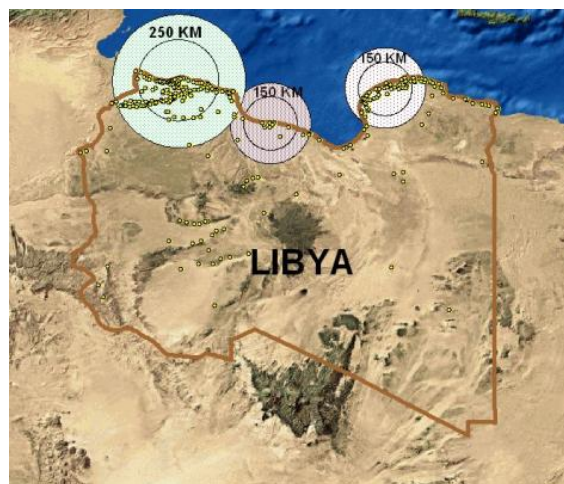
St. name	long.(E)	lat.(N)	elev.(m)	Installation date	St. name	long.(E)	lat.(N)	elev.(m)	installation date
ABOHADE	16 39	31 04		12/2008	SD WADE LEBDA	14 17	32 36	48	12/2008
SD WADE GAN	13 15	32 25	378	11/2008	ALORBAN .w	13 23	32 10	572	11/2008



2 Channels AWS locations with radars range coverage

3. Radars Network:

This net work consists of 3 radars distributed along the coast (west, middle and east) as shown below and used mainly by Rainfall Enhancement Department for its operational activities but Climate and Forecasts Departments benefit partly from their products, and we can describe the net with the following details:



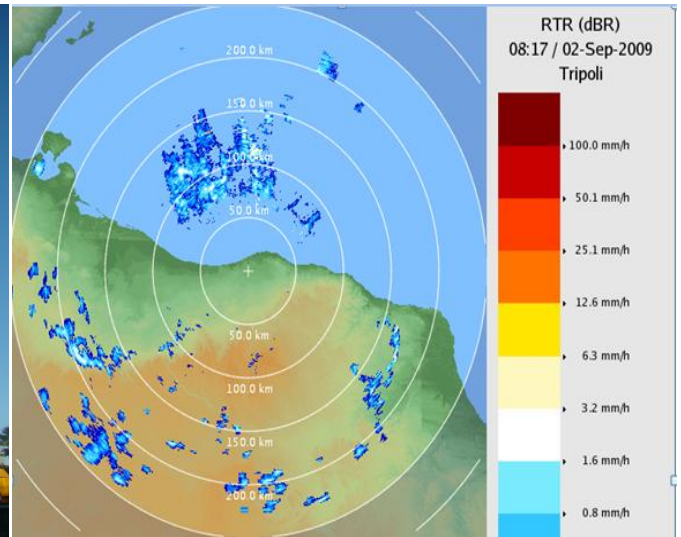
Radars net work

- **Weather Radar of Tripoli:**

The type is METEO. 500C of Doppler model (single C band) manufactured by GMTRONIC, Germany which was installed by the mid of 2008. It's located at (lat.32 46 N, 13 04 E) with 40 meters of tower's height and radius coverage of 250 km as long range scanning (effective radius is 125 km as short range scanning) and far about 18 km from closest sea shore point. Rainbow software used for its applications, see appendix 3 for radar products.



METEO. 500C weather Radar (Tripoli, 2008)



Rain fall tracking

- **Weather Radar of Sirt:**

The type is ENTERPRISE of Doppler model (single C band) manufactured by ENTERPRISE company, Canada which was installed by 1992 and upgraded by 2007. It's located at (lat.31 13 N, 16 17 E) with 12 meters of tower's height and radius coverage of 200 km as long range scanning (effective radius is 150 km as short range scanning) and far about 300 m from closest sea shore point. Titan software (south Africa) used for its applications (used for clouds activity only).

- **Weather Radar of Al Marj:**

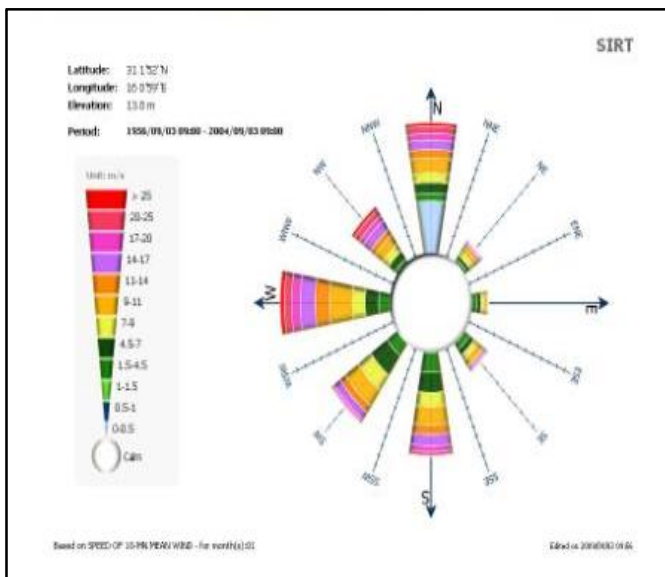
The type is ENTERPRISE of Doppler model (single C band) manufactured by ENTERPRISE company, Canada which was installed by 1985 and upgraded by 2007. It's located at (lat.32 31 N, 20 53 E) with 8 meters of tower's height and radius coverage of 200 km as long range scanning (effective radius is 150 km as short range scanning) and far about 19 km from closest sea shore point. Titan software (south Africa) used for its applications (used for clouds activity only).

4. **Climate Database Management System (CDMS):**

New system of climatic data management and applications which uses Oracle Rational Database (RD) called Clisys (France) recently installed and just now under full operational phase. This system concerns with historical and real time data of all stations. All data at current time is available with high resolution, reliable efficiency and ability for well retrieving (recovering) and processing operations.



Clisys main interface



The data loading supervision board is displayed as follows:

Database Loading Supervision

< 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 >

Clear Table Refresh

Input File	Records Number	Conversion Processing - Start Date	Conversion Processing - End Date	Status	Rejected Records	Rejected Record File
2_HSYN_20090130121401	0	2009/01/30 12:14:20	2009/01/30 12:14:20	✓	0	None
2_HSYN_20090130121431	0	2009/01/30 12:14:31	2009/01/30 12:14:31	✓	0	None
2_HSYN_20090130121431	15	2009/01/30 12:14:31	2009/01/30 12:14:31	✗	15	2_HSYN_20090130121431_0410-12
2_HSYN_20090130121401	1186	2009/01/30 12:14:01	2009/01/30 12:14:01	✗	512	2_HSYN_20090130121401_0410-12
2_HSYN_20090130121431	0	2009/01/30 12:14:31	2009/01/30 12:14:31	✓	0	None
2_HSYN_20090130121401	0	2009/01/30 12:14:01	2009/01/30 12:14:01	✓	0	None
2_HSYN_20090130121431	76	2009/01/30 12:14:31	2009/01/30 12:14:31	✗	49	2_HSYN_20090130121431_0410-12
2_HSYN_20090130121401	1185	2009/01/30 12:14:01	2009/01/30 12:14:01	✗	511	2_HSYN_20090130121401_0410-12
2_HSYN_20090130121431	0	2009/01/30 12:14:31	2009/01/30 12:14:31	✓	0	None
2_HSYN_20090130121401	0	2009/01/30 12:14:01	2009/01/30 12:14:01	✓	0	None
2_HSYN_20090130121431	76	2009/01/30 12:14:31	2009/01/30 12:14:31	✗	49	2_HSYN_20090130121431_0410-12
2_HSYN_20090130121401	1156	2009/01/30 12:14:01	2009/01/30 12:14:01	✗	482	2_HSYN_20090130121401_0410-12
2_HSYN_20090130121431	0	2009/01/30 12:14:31	2009/01/30 12:14:31	✓	0	None
2_HSYN_20090130121401	0	2009/01/30 12:14:01	2009/01/30 12:14:01	✓	0	None
2_HSYN_20090130121431	76	2009/01/30 12:14:31	2009/01/30 12:14:31	✗	49	2_HSYN_20090130121431_0410-12
2_HSYN_20090130121401	990	2009/01/30 12:14:01	2009/01/30 12:14:01	✗	418	2_HSYN_20090130121401_0410-12
2_HSYN_20090130121431	0	2009/01/30 12:14:31	2009/01/30 12:14:31	✓	0	None
2_HSYN_20090130121401	0	2009/01/30 12:14:01	2009/01/30 12:14:01	✓	0	None
2_HSYN_20090130121431	75	2009/01/30 12:14:31	2009/01/30 12:14:31	✗	48	2_HSYN_20090130121431_0410-12

You can download a .bad file by clicking on its name in the **Rejected record file** column.

Clisys Products

5. Upcoming Project:

Climatic archive of (LNMC) contains of about 7 millions pages and instrument charts of various climatic recorders and parameters respectively, serious and extreme of the need needs to preserve all climatic recorders to different states (from paper to electronic format) in order of data recovering ability.

Electronic archive project planned to be implemented soon for scanning all recorders and charts in the frame of data rescue strategy that executed by (LNMC).



Climatic Archive

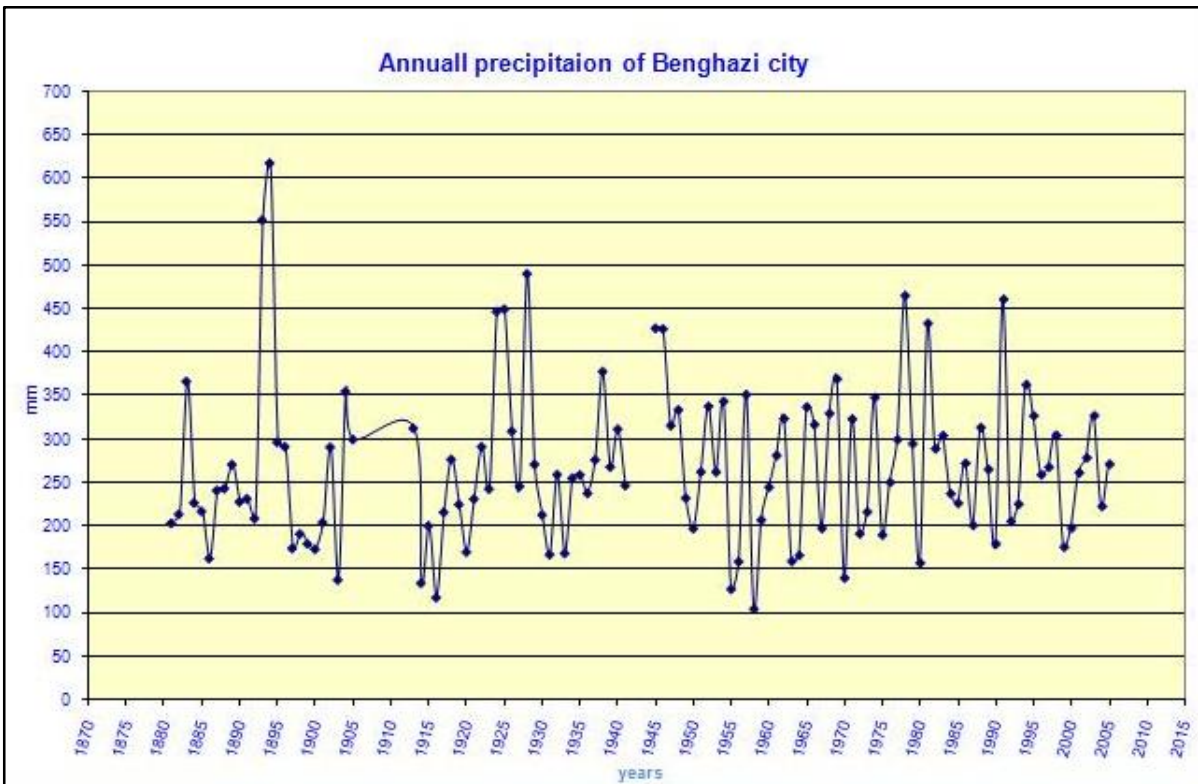
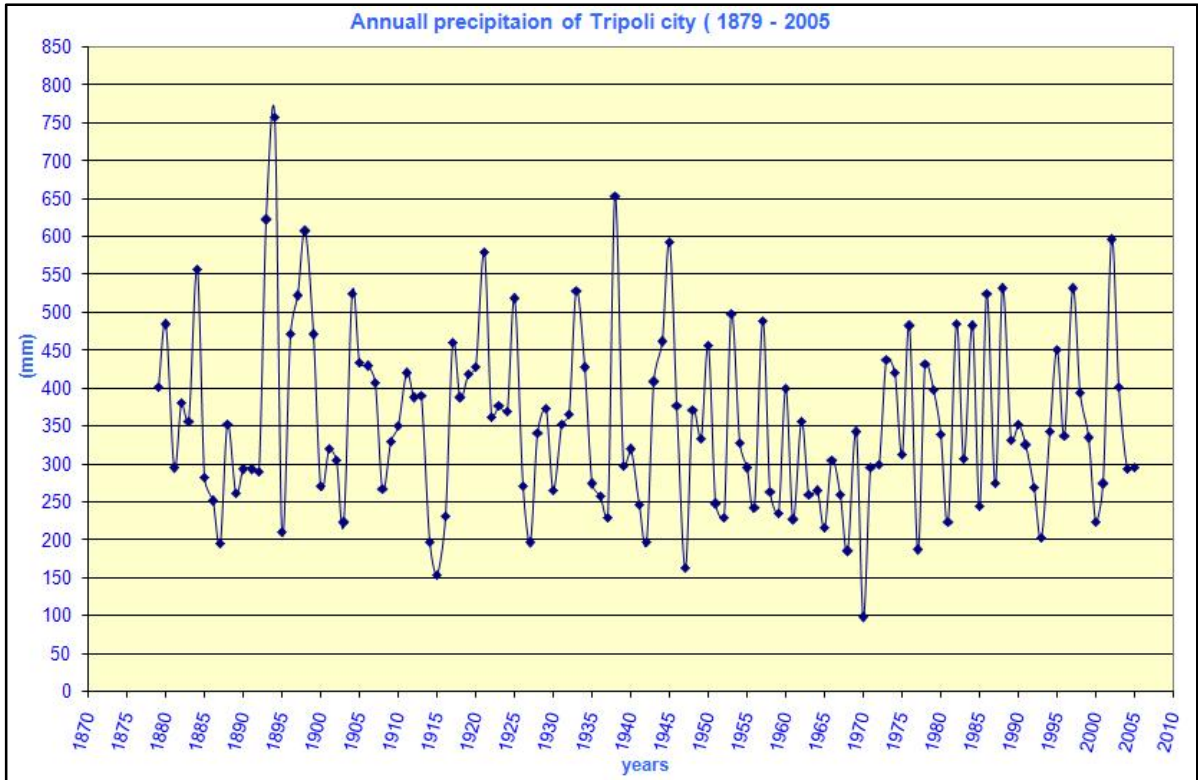
Time series of precipitation data in Libya:

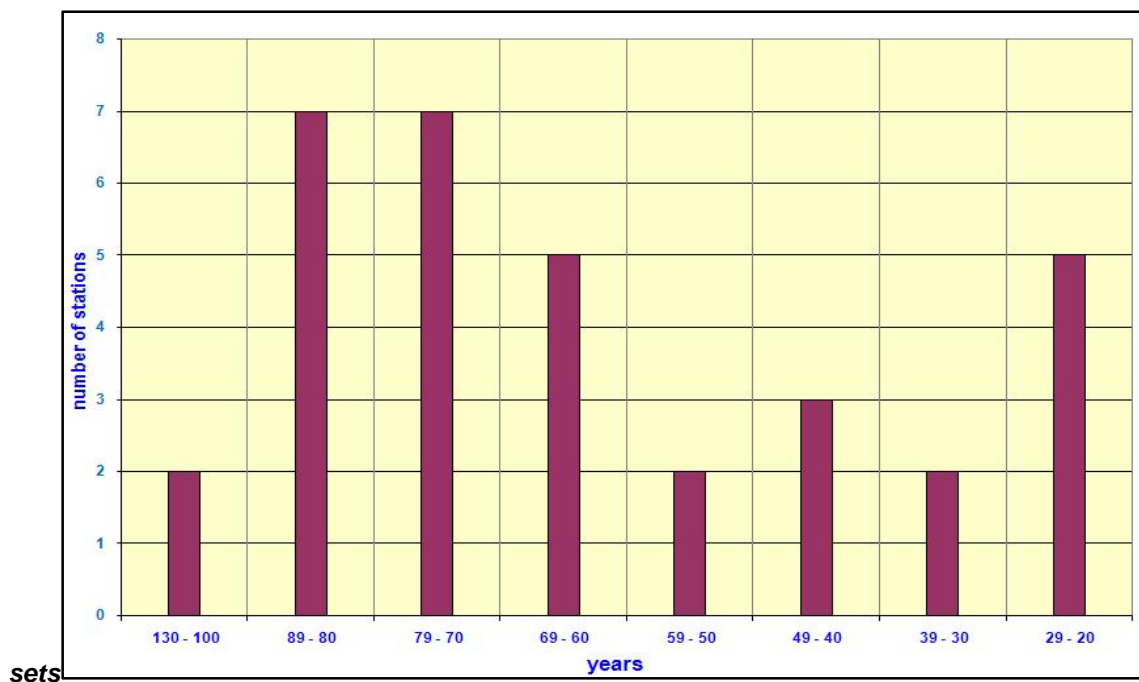
When we examine carefully to the all different sets of precipitation data (Time Series) that described above, the following can be noted:

- Most of rain data sets of old network (at Italian period) have been experienced from the interruptions, shortages and cuts of the data as a result of the conditions of occupation and war, but at some stations its data extended to the present time,
- Recent data of the rain (Rainfall network) also suffered from data shortages (irregular data) where this net completely operated by police stations, but a little of stations have a regular sets of data,
- Present data sets of the rain for Synoptic and Agro climatic networks can be considered as an ideal time series that available with low level of missing intervals.

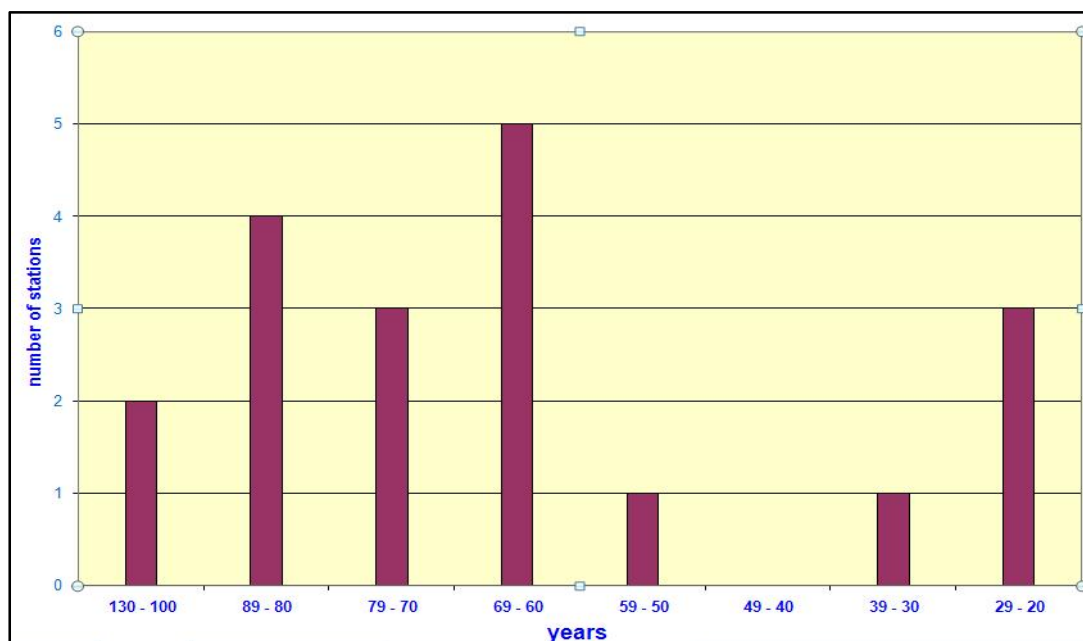
After some filtration and purification operations that applied and conducted on the data sets of the rain for some above stations resulted below table which represents the oldest and more ratability Time Series of precipitation data in Libya.

Stations	Lat.(N)	Lon.(E)	Elv.(M)	Records Period	Digitized Period	No. OF YEARS
TRIPOLI CITY	32 54	13 11	25	1/1879 - 12/2007	1/1931 - 12/2007	129
BEINGASI	32 05	20 03	25	1/1881 - 12/2007	1/1881 - 12/2007	127
KHOMS	32 37	14 17	22	1/1920 - 12/2007	1/1920 - 12/2007	88
GARIAH	32 04	13 01	741	1/1920 - 12/2007	1/1920 - 12/2007	88
GHADAMES	30 06	09 29	346	3/1924 - 12/2007	3/1924 - 12/2007	84
MIZDA	31 27	12 59	476	10/1924 - 12/2007	10/1924 - 12/2007	84
BENI WALEED	31 44	14 01	259	11/1924 - 12/2007	11/1924 - 12/2007	84
YEFREN	32 04	12 32	691	1/1925 - 12/2007	1/1925 - 12/2007	83
GAGBUB	29 45	24 32	-1	1 /1927- 12/2007	1 /1927- 12/2007	81
TRIPOLI AIRPORT	32 42	13 05	63	1/1929- 12/2007	1/1929- 12/2007	79
ZUARA	32 53	12 05	0.03	1/1931 - 12/2007	1/1931 - 12/2007	77
HALUT	31 52	10 59	621	1/1931 - 12/2007	1/1931 - 12/2007	77
SIRT	31 12	16 35	13	1/1931 - 12/2007	1/1931 - 12/2007	77
SEBHA	27 01	14 27	432	1/1931 - 12/2007	1/1931 - 12/2007	77
HON	29 07	15 57	267	1/1931 - 12/2007	1/1931 - 12/2007	77
KUFRA	24 13	23 18	436	2 /1933 -12/ 2007	2 /1933 -12/ 2007	75
MISURATA	32 25	12 03	32	3/1943 - 12/2007	3/1943 - 12/2007	65
BENINA	32 05	20 16	132	1/1945 - 12/2007	1/1945 - 12/2007	63
SHAHAT	32 48	21 53	648	3/1945 - 12/2007	3/1945 - 12/2007	63
DERNA	32 24	22 43	26	5/1945 - 12/2007	5/1945 - 12/2007	63
AGEDABIA	30 43	20 10	7	5/1946 - 12/2007	5/1946 - 12/2007	62
SORMAN	32 45	12 35	23	6/1949 - 12/2007	6/1949 - 12/2007	59
JALO	29 01	12 32	59	5 /1950 - 12/2007	5 /1950 - 12/2007	58
TAZERBO	25 48	12 08	260	1 /1962 - 12/ 2007	1 /1962 - 12/ 2007	46
GHARIAT	30 13	13 35	496	1/1968 - 12/2007	1/1968 - 12/2007	40
ZIITAH	31 56	12 14	713	6/1968 - 12/2007	6/1968 - 12/2007	40
TRAGGEN	25 56	14 27	421	5/1975 - 12/2007	5/1975 - 12/2007	33
HADBA KHADRA	32 48	13 10	49	3/1977 - 12/2007	3/1977 - 12/2007	31
GHAT	25 08	10 09	699	1 /1979 - 12/ 2007	1 /1979 - 12/ 2007	29
BIEDA	32 45	21 42	537	1/1979 - 12/2007	1/1979 - 12/2007	29
FATAIAH	32 46	22 36	253	5/1980 - 12/2007	5/1980 - 12/2007	28
ROJBAH	31 57	12 06	688	5/1982 - 12/2007	5/1982 - 12/2007	26
TUBRUK	32 06	23 56	50	8/1984 - 12/2007	8/1984 - 12/2007	24





Age of rainfall data sets for oldest stations



Age of rainfall data sets for oldest coastal stations

References:

- *Libyan climatic archives, Climate Department, Libyan National Meteorological Center (LNMC).*
- *LE PIOGGIE DELLA LIBIA, bi FANTOLI, 1952.*
- *CONTRIBUTO ALLA CLIMATOLOGIA DELLE REGIONI INTERNI DELLA LIBY, bi FANTOLI, 1969.*
- *Rivista Ligure di Meteorologia 05 - Climatologia, El-Aziz?a, Libia, di Roberto Pedemonte.*
- *TRIAXYSTM Applications Software Manual, 0313400z.doc, Canada.*
- *XARIA USER MANUAL, Ref: T301020E, DEGREANE HORIZON, France.*
- *XARIA300 USER MANUAL, T307009C - User Manual XARIA300.doc, DEGREANE HORIZON, France.*
- *Manual Doppler weather radar system, Meteo. 500C,project 88 lc - Libya, Gemotronic, Germany.*

Appendixes

APPENDIX 1

INVENTORY OF PRECIPITATION DATA OF AGRO-CLIMATIC STATIONS "LIBYA"

no.	station-name	elev. (m)	long. (E)	lat. (N)	period of records	no. of years	digitized period			
							mly. Data	no. of years	Data .dly	no. of years
1	SABRATA	-			1992 – 2009	17	1992 – 2007	15	1992 – 2007	15
2	SORMAN	23	12 35	32 45	1974 – 2009	35	1949 – 2007	58	1980 – 2007	27
3	ZAWIA	35	12 45	32 45	1988 – 2009	21	1988 – 2007	19	1988 – 2007	19
4	AZZAHRA	15	12 52	32 42	1994 – 2009	15	1994 – 2007	13	1994 – 2007	13
5	TRIPOLI SEAPORT	-	13 12	32 55	1989 – 2009	20	1991 – 2007	16	1991 – 2007	16
6	TRIPOLI CITY	25	13 11	32 54	1951 – 2009	58	1975 – 2007	32	1950 – 2007	57
7	HADBA KHADRA	49	13 10	32 48	1977 – 2009	32	1977 – 2007	30	1977 – 2006	29
8	SUANEE	63	13 04	32 44	1991 – 2009	18	1992 – 2001	9		0
9	ESSPEEA	126	13 10	32 32	1992 – 2009	17	1992 – 2007	15	1992 – 2007	15
10	TAJURA mar.		13 21	32 54	1999 – 2009	10	1999 – 2007	8	1999 – 2007	8
11	TAJURA agro..	11	13 26	32 52	2002 – 2009	7	2002 – 2007	5	2002 – 2007	5
12	GARIAN	741	13 01	32 04	1980 – 2009	29	1920 – 2007	87	1980 – 2006	26
13	MIZDA	476	12 59	31 27	1979 – 2009	30	1979 – 2007	28	1979 – 2006	27
14	GASSER KHAIR	78	13 49	32 42	1993 – 2009	16	1993 – 2007	14	1993 – 2007	14
15	ZINTAN	713	12 14	31 56	1980 – 2009	29	1980 – 2007	27	1980 – 2007	27
16	ROJBAN	688	12 06	31 57	1982 – 2009	27	1982 – 2007	25	1982 – 2007	25
17	BENI WALEED	259	14 01	31 44	1974 – 2009	35	1997 – 2007	10	1997 – 2007	10
18	BO. NJEEM	90	15 25	30 35	1991 – 2009	18	1991 – 2007	16		0
19	MARJ	333	20 52	32 31	1998 – 2009	11	1998 – 2007	9	1998 – 2007	9
20	BIEDA	537	21 42	32 45	1981 – 2009	28	1981 – 2007	26	1981 – 2007	26
21	FATAIAH	253	22 36	32 46	1978 – 2009	31	1978 – 2007	29	1978 – 2007	29
22	MORZZG	78	13 55	25 56	1991 – 2009	18	1991 – 2007	16	1991 – 2007	16
23	TRAGGEN	421	14 27	25 56	1984 – 2009	25	1984 – 2007	23	1984 – 2007	23

INVENTORY OF PRECIPITAION DATA OF SYNOPTIC STATIONS "LIBYA"

no.	station-name	elev. (m)	long. (E)	lat. (N)	period of records			no. of years	digitized period						wmo no.		
									mly. Data			no. of years	dly. Data			no. of years	
1	NALUT	621	10 59	31 52	1943	_	2009	66	1931	_	2007	76	1956	_	2007	51	62002
2	ZUARA	3	12 05	32 53	1951	_	2009	58	1931	_	2007	76	1956	_	2007	51	62007
3	YEFREN	691	12 33	32 05	1983	_	2009	26	1983	_	2007	24	1983	_	2007	24	62008
4	TRIPOLI A/P	81	13 09	32 40	1943	_	2009	66	1929	_	2007	78	1956	_	2007	51	62010
5	KHOMS	22	14 18	32 38	1990	_	2009	19	1990	_	2007	17	1990	_	2007	17	62012
6	MISURATA	32	15 03	32 19	1949	_	2009	60	1943	_	2007	64	1957	_	2007	50	62016
7	SIRT	13	16 35	31 12	1946	_	2009	63	1931	_	2007	76	1956	_	2006	50	62019
8	BENINA	130	20 16	32 05	1946	_	2009	63	1945	_	2001	56	1956	_	2007	51	62053
9	AGEDABIA	7	20 10	30 43	1952	_	2009	57	1946	_	2007	61	1961	_	2007	46	62055
10	SHAHAT	650	21 53	32 48	1952	_	2009	57	1945	_	2007	62	1956	_	2006	50	62056
11	DERNA	26	22 35	32 47	1952	_	2009	57	1945	_	2007	62	1956	_	2006	50	62059
12	TUBRUK	50	23 56	32 06	1984	_	2009	25	1984	_	2007	23	1984	_	2007	23	62062
13	GHADAMES	346	09 29	30 06	1961	_	2009	48	1924	_	2007	83	1961	_	2007	46	62103
14	GHARIAT	497	13 35	30 23	1968	_	2009	41	1968	_	2007	39	1968	_	2007	39	62120
15	SEBHA	432	14 27	27 01	1961	_	2009	48	1945	_	2007	62	1962	_	2007	45	62124
16	HON	268	15 57	29 07	1952	_	2009	57	1948	_	2007	59	1956	_	2007	51	62131
17	JALO	63	21 32	29 01	1952	_	2009	57	1950	_	2007	57	1956	_	2007	51	62161
18	GAGBUB	-1	24 32	29 45	1952	_	2009	57	1947	_	2007	60	1956	_	2007	51	62176
19	OBARY	463	12 47	26 36	1982	_	2009	27	1990	_	2007	17	1990	_	2007	17	62200
20	GHAT	692	10 09	25 08	1979	_	2009	30	1979	_	2007	28	1979	_	2007	28	62212
21	TAZERBO	261	21 05	25 40	1962	_	2009	47	1962	_	2007	45	1963	_	2007	44	62259
22	KUFRA	436	23 18	24 13	1952	_	2009	57	1945	_	2007	62	1956	_	2007	51	62271

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no.	station-name	long.(E)	lat.(N)	elev.(m)	period of records	no. of years	digitized period							
							mly. Data		no. of years	dly. Data		no. of years		
1	RAS EGDER	11 34	33 09		1963 – 2009	46	1963	–	2000	37	1963	–	2008	45
2	ABUKAMASH	11 44	33 05		1956 – 2009	53	1956	–	2000	44	1956	–	2008	52
3	ZULTON	11 52	32 57		1963 – 2009	46	1963	–	2000	37	1963	–	2008	45
4	ALASSA	11 38	32 53		1956 – 2009	53	1956	–	2000	44	1956	–	2008	52
5	AGGMEAL	12 03	32 51		1962 – 2009	47	1962	–	2000	38	1962	–	2008	46
6	HELFAVA	12 19	32 46		1976 – 2009	33	1976	–	2000	24	1976	–	2008	32
7	AGDAIDA WEST	17 12	46 32		1963 – 2009	46	1963	–	2000	37	1963	–	2008	45
8	ALAGELAT	12 22	32 46		1956 – 2009	53	1956	–	2000	44	1956	–	2008	52
9	ALHBALEYA	11 46	32 24		1976 – 2009	33	1976	–	2000	24	1976	–	2008	32
10	OKBA BEN NAFEE	11 55	32 31		1980 – 2009	29	1980	–	2000	20	1980	–	2008	28
11	SOUK ALALALGHA	12 28	32 45		1980 – 2009	29	1980	–	2000	20	1980	–	2008	28
12	SORMAN	12 28	32 46		1956 – 2006	50	1956	–	2000	44	1956	–	2008	52
13	SORMAN FOREST	12 34	32 43		1989 – 2009	20	1989	–	2000	11	1989	–	2008	19
14	ALMATRED	12 37	32 46		1984 – 2009	25	1984	–	2000	16	1984	–	2008	24
15	ASSABRYA	12 39	32 45		1988 – 2009	21	1988	–	2000	12	1988	–	2008	20
16	ALZAWIA	12 44	32 45		1956 – 2009	53	1956	–	2000	44	1956	–	2008	52
17	ALHARSHA	12 41	32 45		2002 – 2009	7				0	2002	–	2008	6
18	NASER VILLAGE	12 39	32 26		1992 – 2009	17	1992	–	2000	8	1992	–	2008	16
19	SHUHADA MDAKEM	12 44	32 27		1996 – 2009	13	1996	–	2000	4	1996	–	2008	12
20	ABUSORRA	12 47	32 43		1996 – 2009	13	1996	–	2000	4	1996	–	2008	12
21	BER TERFAS	12 52	32 38		1980 – 2009	29	1980	–	2000	20	1980	–	2008	28
22	JODAYEM	12 49	32 47		1956 – 2009	53	1956	–	2000	44	1956	–	2008	52
23	ALMAYA	12 54	32 48		1956 – 2009	53	1956	–	2000	44	1956	–	2008	52
24	ALHESHAAN	12 56	32 46		1981 – 2009	28	1981	–	2000	19	1981	–	2008	27
25	ALMAAMOURA	12 51	32 43		1963 – 2009	46	1963	–	2000	37	1963	–	2008	45
26	AZZAHRA PR.	12 52	32 42		1994 – 2009	15	1994	–	2000	6	1994	–	2008	14
27	AZZAHRA	12 52	32 41		1956 – 2009	53	1956	–	2000	44	1956	–	2008	52
28	ANNASERYA	12 52	32 38		1956 – 2009	53	1956	–	2000	44	1956	–	2008	52
29	ALAAMEREA	12 57	32 38		1956 – 2009	53	1956	–	2000	44	1956	–	2008	52
30	ALAZIZIA	13 01	32 32		1956 – 2009	53	1956	–	2000	44	1956	–	2008	52
31	ALAZIZIA .pr	12 60	32 33		2000 – 2009	9				0	2000	–	2008	8
32	WADY ALHAI	12 45	32 19		1976 – 2009	33	1976	–	2000	24	1976	–	2008	32
33	BER ALGHANAM	12 34	32 19		1956 – 2009	53	1956	–	2000	44	1956	–	2008	52
34	BER AIAD	12 27	32 07		1982 – 2009	27				0	1982	–	2008	26
35	ABUSHEBA AG.	12 52	32 18		1976 – 2009	33	1976	–	2000	24	1976	–	2008	32

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no.	station-name	long.(E)	lat.(N)	elev.(m)	period of records	no. of years	digitized period							
							mly. Data		no. of years	dly. Data		no. of years		
36	ABUAYSHA	13 19	32 29		1976 – 2009	33	1976	–	2000	24	1976	–	2008	32
37	SD WADE MGENEEN	13 15	32 18		1998 – 2009	11	1998	–	2000	2	1998	–	2008	10
38	ALKHAMEES EMSAHEL	13 13	32 32		1980 – 2009	29	1980	–	2000	20	1980	–	2008	28
39	ALOWATA	13 16	32 18		1995 – 2009	14	1995	–	2000	5	1995	–	2008	13
40	SD WADE GAN	13 08	32 15		1998 – 2009	11	1998	–	2000	2	1998	–	2008	10
41	SIDI ASSAYEH	13 17	32 34		1994 – 2009	15	1994	–	2000	6	1994	–	2008	14
42	GHASER BEN GHASHER	13 11	32 41		1956 – 2009	53	1956	–	2000	44	1956	–	2008	52
43	ASSWANI	13 04	32 43		1956 – 2009	53	1956	–	2000	44	1956	–	2008	52
44	JANZUR	13 01	32 49		1956 – 2009	53	1956	–	2000	44	1956	–	2008	52
45	SHUHADA ABDELJALIL	13 02	32 51		1965 – 2009	44	1965	–	2000	35	1965	–	2008	43
46	HAY ELANDALOUS	13 08	32 53		1956 – 2009	53	1956	–	2000	44	1956	–	2008	52
47	TRIPOL HARBOR	13 12	32 54		1966 – 2009	43	1966	–	2000	34	1966	–	2008	42
48	EMAETEGA A/R	13 17	32 54		2005 – 2009	4				0		–	2008	2008
49	ALHADABA ELKADRA	13 10	32 48		1977 – 2009	32				0	1977	–	2008	31
50	SOUK ALGOMA	13 14	32 53		1956 – 2009	53	1956	–	2000	44	1956	–	2008	52
51	TAJURA	13 21	32 53		1956 – 2009	53	1956	–	2000	44	1956	–	2008	52
52	TAJURA AG. R.	13 22	32 52		1977 – 2009	32	1977	–	2000	23	1977	–	2008	31
53	ALGARABOLLE	13 43	32 45		1956 – 2009	53	1956	–	2000	44	1956	–	2008	52
54	GHASER EKYAR	13 51	32 42		1956 – 2009	53	1956	–	2000	44	1956	–	2008	52
55	ELALLUSE	13 56	32 43		1956 – 2009	53	1956	–	2000	44	1956	–	2008	52
56	GHANEMA	14 03	32 42		1956 – 2009	53	1956	–	2000	44	1956	–	2008	52
57	GHADAMS	09 29	30 07		1961 – 2009	48	1961	–	2000	39	1961	–	2008	47
58	DARG	10 28	30 10		1965 – 2009	44	1965	–	2000	35	1965	–	2008	43
59	SENAWN	10 36	31 01		1963 – 2009	46	1963	–	2000	37	1963	–	2008	45
60	ASHWEREF	14 16	29 59		1965 – 2009	44	1965	–	2000	35	1965	–	2008	43
61	ELGHARIAT WEST	13 34	30 23		1991 – 2009	18	1991	–	2000	9	1991	–	2008	17
62	ASHWEREF	14 16	29 59		1965 – 2009	44	1965	–	2000	35	1965	–	2008	43
63	ELGHARIAT WEST	13 34	30 23		1991 – 2009	18	1991	–	2000	9	1991	–	2008	17
64	NESMA	13 20	31 24		1965 – 2009	44	1965	–	2000	35	1965	–	2008	43
65	FSANO	12 47	31 20		1963 – 2009	46	1963	–	2000	37	1963	–	2008	45
66	WAMES	12 42	31 37		1981 – 2009	28	1981	–	2000	19	1981	–	2008	27
67	ASHGHEGHA	12 45	31 38		1984 – 2009	25	1984	–	2000	16	1984	–	2008	24
68	WAZEN	10 40	31 56		1956 – 2009	53	1956	–	2000	44	1956	–	2008	52
69	ALGHAZAYA	10 50	32 00		1976 – 2009	33	1976	–	2000	24	1976	–	2008	32
70	NALUT	10 59	31 52		2006 – 2009	3								
71	TKOUT	11 03	31 54		1976 – 2009	33	1976	–	2000	24	1976	–	2008	32

Inventory of Precipitation Data of Recent Rainfull Network -Libya

no.	station-name	long.(E)	lat.(N)	elev.(m)	period of records	no. of years	digitized period							
							mly. Data		no. of years	dly. Data		no. of years		
72	ARRWASE	11 10	31 58		1976 – 2009	33	1976	–	2000	24	1976	–	2008	32
73	AWLAD MAHMOUD	10 59	31 52		1980 – 2009	29	1980	–	2000	20	1980	–	2008	28
74	ALMGABRA	11 09	31 52		1981 – 2009	28	1981	–	2000	19	1981	–	2008	27
75	ALHAWAMED	11 11	31 51		1971 – 2009	38	1971	–	2000	29	1971	–	2008	37
76	TIGI	11 22	32 02		1956 – 2009	53	1956	–	2000	44	1956	–	2008	52
77	KABAW	11 20	31 50		1956 – 2009	53	1956	–	2000	44	1956	–	2008	52
78	TANDAMERA	11 30	31 52		1956 – 2009	53	1956	–	2000	44	1956	–	2008	52
79	TOMZIN	11 28	31 51		1976 – 2009	33	1976	–	2000	24	1976	–	2008	32
80	ALHARABA	11 35	31 50		1956 – 2009	53	1956	–	2000	44	1956	–	2008	52
81	ALFIASLA	11 47	31 51		1976 – 2009	33	1976	–	2000	24	1976	–	2008	32
82	BADR	11 31	32 00		1977 – 2009	32	1977	–	2000	23	1977	–	2008	31
83	ALGOSH	11 40	32 00		1956 – 2009	53	1956	–	2000	44	1956	–	2008	52
84	ARRHEBAT	11 53	31 52		1960 – 2009	49	1960	–	2000	40	1960	–	2008	48
85	TMEZDA	11 57	31 55		1980 – 2009	29	1980	–	2000	20	1980	–	2008	28
86	MAZGORA	11 58	31 58		1978 – 2009	31	1978	–	2000	22	1978	–	2008	30
87	JADO	12 02	31 57		1956 – 2009	53	1956	–	2000	44	1956	–	2008	52
88	SHAKSHOUK	11 57	32 01		1965 – 2009	44	1965	–	2000	35	1965	–	2008	43
89	GHASR ELHAJ	12 10	32 03		1965 – 2009	44	1965	–	2000	35	1965	–	2008	43
90	ARROGBAN	12 06	31 57		1960 – 2009	49	1960	–	2000	40	1960	–	2008	48
91	AZZENTAN	12 15	31 56		1956 – 2009	53	1956	–	2000	44	1956	–	2008	52
92	ARYAYNA	12 21	32 00		1956 – 2009	53	1956	–	2000	44	1956	–	2008	52
93	YFREN	12 32	32 04		1976 – 2009	33	1976	–	2000	24	1976	–	2008	32
94	RAS ELWADI	12 35	32 01		1965 – 2009	44	1965	–	2000	35	1965	–	2008	43
95	OM ELGERSAN .	12 33	32 02		1997 – 2009	12	1997	–	2000	3	1997	–	2008	11
96	ALGHALAH	12 34	32 04		1980 – 2009	29	1980	–	2000	20	1980	–	2008	28
97	ALGHWALESH	12 48	31 59		1976 – 2009	33	1976	–	2000	24	1976	–	2008	32
98	KEKKLA	12 42	32 04		1956 – 2009	53	1956	–	2000	44	1956	–	2008	52
99	ARRABTA	12 51	32 10		1965 – 2009	44	1965	–	2000	35	1965	–	2008	43
100	ALASABAA	12 52	32 02		1957 – 2009	52	1957	–	2000	43	1957	–	2008	51
101	ABOZYAN	12 58	32 06		1976 – 2009	33	1976	–	2000	24	1976	–	2008	32
102	TEGHRENNNA	13 00	32 08		1956 – 2009	53	1956	–	2000	44	1956	–	2008	52
103	GHARIAN	13 00	32 10		2000 – 2009	9				0	2000	–	2008	8
104	ALGHWASEM	13 02	32 13		1976 – 2009	33	1976	–	2000	24	1976	–	2008	32
105	ABUGHEALAN	13 03	32 19		1956 – 2009	53	1956	–	2000	44	1956	–	2008	52
106	ALORBAN EAST	13 23	32 10		1957 – 2009	52	1957	–	2000	43	1957	–	2008	51
107	ALORBAN WEST	13 18	32 02		1988 – 2009	21				0	1988	–	2008	20

Inventory of Precipitation Data of Recent Rainfull Network -Libya

no.	station-name	long.(E)	lat.(N)	elev.(m)	period of records	no. of years	digitized period			
							mly. Data		no. of years	dly. Data
108	TARHUNA PR.	13 37	32 15		1976 – 2009	33	1976 – 2000	24	1976 – 2008	32
109	SIDI ASSED	13 29	32 20		1956 – 2009	53	1956 – 2000	44	1956 – 2008	52
110	ALFATEH PR.	13 33	32 24		1956 – 2009	53	1956 – 2000	44	1956 – 2008	52
111	FAMMALGHA	13 21	32 27		1993 – 2009	16		0	1993 – 2008	15
112	TARHOUNA	13 38	32 26		1956 – 2009	53	1956 – 2000	44	1956 – 2008	52
113	SOUK ALAHAD	13 26	32 33		1984 – 2009	25	1984 – 2000	16	1984 – 2008	24
114	GHRIAT ALKHDAMAT				1979 – 2009	30		0		0
115	ARRABT PR.				1985 – 2009	24		0		0
116	ALKHDRA TARHOUNA	13 46	32 27		1956 – 2009	53	1956 – 2000	44	1956 – 2008	52
117	ADDAWOON	13 54	32 27		1956 – 2009	53	1956 – 2000	44	1956 – 2008	52
118	EMSALLATA	14 02	32 35		1956 – 2009	53	1956 – 2000	44	1956 – 2008	52
119	EL AMAMRA	14 06	32 33		1970 – 2009	39	1970 – 2000	30	1970 – 2008	38
120	ALKHOMES	14 16	32 40		1969 – 2009	40	1969 – 2000	31	1969 – 2008	39
121	SOUK ALKHAMIS	14 21	32 36		1956 – 2009	53	1956 – 2000	44	1956 – 2008	52
122	CNTER ALBDOOR	14 25	32 28							
123	WADI KAAM	14 25	32 30		1980 – 2009	29	1980 – 2000	20	1980 – 2008	28
124	ZLETEN ALMRKZ	14 34	32 28		1956 – 2009	53	1956 – 2000	44	1956 – 2008	52
125	SOUK ATTULATA	14 20	32 28		1972 – 2009	37	1972 – 2000	28	1972 – 2008	36
126	SOUK ALGHOMA	14 13	32 53		1984 – 2009	25	1984 – 2000	16	1984 – 2008	24
127	MAGER	14 34	32 22		1991 – 2009	18	1991 – 2000	9	1991 – 2008	17
128	ADDAFNYA	14 50	32 24		1956 – 2009	53	1956 – 2000	44	1956 – 2008	52
129	ZAWIAT ELMAHJOUR	14 59	32 22		1956 – 2009	53	1956 – 2000	44	1956 – 2008	52
130	MISRATA AG. R.	15 02	32 20		1956 – 2009	53	1956 – 2000	44	1956 – 2008	52
131	GHASR AHMAD	15 13	32 23		1971 – 2009	38	1971 – 2000	29	1971 – 2008	37
132	TOMENA	15 05	32 14		1978 – 2009	31	1978 – 2000	22	1978 – 2008	30
133	ELKRAREM	15 05	32 10		1956 – 2009	53	1956 – 2000	44	1956 – 2008	52
134	TAWERGH	15 09	32 02		1956 – 2009	53	1956 – 2000	44	1956 – 2008	52
135	BEN WALID	14 01	31 44		1983 – 2009	26	1983 – 2000	17	1983 – 2008	25
136	TNENAI	13 44	31 24		1980 – 2009	29	1980 – 2000	20	1980 – 2008	28
137	ELHESHA ALGADIDA	15 15	31 27		1965 – 2009	44	1965 – 2000	35	1965 – 2008	43
138	ALGHEDDAHEYA	15 14	31 32		1964 – 2009	45	1964 – 2000	36	1964 – 2008	44
139	ALWESHKA	15 34	31 22		1989 – 2009	20	1989 – 2000	11	1989 – 2008	19
140	ESHMEAKH	13 58	31 26		1994 – 2009	15		0	1994 – 2008	14
141	WADI JAREF	16 23	31 04		1977 – 2009	32	1977 – 2000	23	1977 – 2008	31
142	30 KM WEST SIRT	16 22	31 09		1977 – 2009	32	1977 – 2000	23	1977 – 2008	31
143	17 KM WEST SIRT	16 17	31 13		1987 – 2009	22	1987 – 2000	13	1987 – 2008	21

Inventory of Precipitation Data of Recent Rainfull Network -Libya

no.	station-name	long.(E)	lat.(N)	elev.(m)	period of records	no. of years	digitized period			
							mly. Data		no. of years	dly. Data
144	ALGHRBEYAT	16 31	31 05		1988 – 2009	21	1988 – 2000	12	1988 – 2008	20
145	SIRT AIRPORT	16 36	31 04		1986 – 2009	23	1986 – 2000	14	1986 – 2008	22
146	ASSWAWA	16 45	31 12		1977 – 2009	32	1977 – 2000	23	1977 – 2008	31
147	ABUHADI	16 36	31 04		1977 – 2009	32	1977 – 2000	23	1977 – 2008	31
148	HRAWA	17 18	30 57		1977 – 2009	32	1977 – 2000	23	1977 – 2008	31
149	ANNOFLYA	17 50	30 47		1956 – 2009	53	1956 – 2000	44	1956 – 2008	52
150	BENJAWAD	18 04	30 48		1964 – 2009	45	1964 – 2000	36	1964 – 2008	44
151	BENJAWAD PR.	18 02	30 47		1986 – 2009	23	1986 – 2000	14	1986 – 2008	22
152	ALGHORDABEYA	16 58	30 42		1979 – 2009	30	1979 – 2000	21	1979 – 2008	29
153	WADDAN	16 08	29 10		1978 – 2009	31	1978 – 2000	22	1978 – 2008	30
154	SOKNA	15 44	29 03		1966 – 2009	43	1966 – 2000	34	1966 – 2008	42
155	ALFUGHA	16 22	27 50		1988 – 2009	21		0	1988 – 2008	20
156	ALWESHKA ASSODA	15 35	28 49		1971 – 2009	38	1971 – 2000	29	1971 – 2008	37
157	ZELLAH	17 34	28 32		1968 – 2009	41		0	1968 – 2008	40
158	MRADA	19 12	29 17		1977 – 2009	32	1977 – 2000	23	1977 – 2008	31
159	RASLANUF	18 25	30 35		1985 – 2009	24		0	1985 – 2008	23
160	BESHR	19 29	30 18		1965 – 2009	44		0	1965 – 2008	43
161	BESHR AG. PR.	19 22	30 16		1984 – 2009	25	1984 – 2000	16	1984 – 2008	24
162	ELBRAGHA	19 39	30 24		1958 – 2009	51	1958 – 2000	42	1958 – 2008	50
163	EZWATENA	20 08	30 56		1956 – 2009	53	1956 – 2000	44	1956 – 2008	52
164	SOLTAN	20 13	31 27		1965 – 2009	44	1965 – 2000	35	1965 – 2008	43
165	ELMAGHROUN	20 07	31 28		1955 – 2009	54	1955 – 2000	45	1955 – 2008	53
166	GHMENES	20 02	31 40		1956 – 2009	53	1956 – 2000	44	1956 – 2008	52
167	SLUG	20 15	31 40		1956 – 2009	53	1956 – 2000	44	1956 – 2008	52
168	ALKHDRA BENGHAZI	20 12	31 45		1965 – 2009	44	1965 – 2000	35	1965 – 2008	43
169	ENWAGHYA	20 10	31 55		1965 – 2009	44	1965 – 2000	35	1965 – 2008	43
170	SIDI FARAG R.	20 11	32 03		1970 – 2009	39		0	1970 – 2008	38
171	RAS ABADA	20 04	32 07		1991 – 2009	18		0	1991 – 2008	17
172	ELGHWARSHA	20 04	32 02		1965 – 2009	44	1965 – 2000	35	1965 – 2008	43
173	GHAR YOUNESS	20 02	32 03		1994 – 2009	15		0	1994 – 2008	14
174	ALBERKA	20 04	32 06		1981 – 2009	28	1981 – 2000	19	1981 – 2008	27
175	BENGHAZI ELJADIDA	20 06	32 05		1976 – 2009	33	1976 – 2000	24	1976 – 2008	32
176	BENGHAZI CITY	20 03	32 07		1976 – 2009	33	1976 – 2000	24	1976 – 2008	32
177	BENGHAZI ELOROBA	20 07	32 08		1977 – 2009	32	1977 – 2000	23	1977 – 2008	31
178	ESSABRI	20 05	32 06		1974 – 2009	35	1974 – 2000	26	1974 – 2008	34
179	ABOUATNI	20 30	32 10		1981 – 2009	28	1981 – 2000	19	1981 – 2008	27

Inventory of Precipitation Data of Recent Rainfull Network -Libya

no.	station-name	long.(E)	lat.(N)	elev.(m)	period of records	no. of years	digitized period							
							mly. Data		no. of years	dly. Data		no. of years		
180	ARRAGMA	20 19	32 04		1965 – 2009	44	1965	–	2000	35	1965	–	2008	43
181	ABU MARYAM	20 30	32 09		1985 – 2009	24				0	1985	–	2008	23
182	ALABYAR	20 36	32 11		1958 – 2009	51	1958	–	2000	42	1958	–	2008	50
183	ALMLETANEYA	20 39	32 16		1976 – 2009	33	1976	–	2000	24	1976	–	2008	32
184	DERYANA	20 18	32 21		1958 – 2009	51	1958	–	2000	42	1958	–	2008	50
185	ALHAMDA	20 36	32 25		1976 – 2009	33	1976	–	2000	24	1976	–	2008	32
186	ALAGOREYA	20 35	32 32		1958 – 2009	51	1958	–	2000	42	1958	–	2008	50
187	FARZUGHA	20 43	32 30		1965 – 2009	44				0	1965	–	2008	43
188	ALMSOOS	21 01	31 35		1981 – 2009	28	1981	–	2000	19	1981	–	2008	27
189	ALMARJ AG. PR.	20 24	32 28		1958 – 2009	51	1958	–	2000	42	1958	–	2008	50
190	ALMARJ	20 53	32 31		1982 – 2009	27				0	1982	–	2008	26
191	JARDES LAHRAR	20 55	32 16		1963 – 2009	46	1963	–	2000	37	1963	–	2008	45
192	ELAWELYA	20 57	32 30		1957 – 2009	52	1957	–	2000	43	1957	–	2008	51
193	EDDRSYA	20 57	32 42		1958 – 2009	51	1958	–	2000	42	1958	–	2008	50
194	BTTA	21 06	32 39		1965 – 2009	44	1965	–	2000	35	1965	–	2008	43
195	TAKNESS	21 08	32 28		1963 – 2009	46	1963	–	2000	37	1963	–	2008	45
196	ALBAYADA	21 15	32 34		1958 – 2009	51	1958	–	2000	42	1958	–	2008	50
197	MRAWA	21 24	32 29		1958 – 2009	51	1958	–	2000	42	1958	–	2008	50
198	GHASER LIBYA	21 25	32 38		1965 – 2009	44	1965	–	2000	35	1965	–	2008	43
199	GHANDOULA	21 35	32 32		1972 – 2009	37	1972	–	2000	28	1972	–	2008	36
200	SLANTA	21 42	32 35		1958 – 2009	51	1958	–	2000	42	1958	–	2008	50
201	OMAR ALMOKHTAR	21 41	32 38		1982 – 2009	27	1982	–	2000	18	1982	–	2008	26
202	MASSA	21 37	32 46		1958 – 2009	51	1958	–	2000	42	1958	–	2008	50
203	ALHNEYA	21 32	32 50		1958 – 2009	51	1958	–	2000	42	1958	–	2008	50
204	ALHMAMA	21 42	32 56		1972 – 2009	37	1972	–	2000	28	1972	–	2008	36
205	ZAWIAT ALARGHOB	21 29	32 40		1972 – 2009	37	1972	–	2000	28	1972	–	2008	36
206	ALBEDA	21 44	32 45		1958 – 2009	51	1958	–	2000	42	1958	–	2008	50
207	SOUSA	21 59	32 54		1958 – 2009	51	1958	–	2000	42	1958	–	2008	50
208	ALFAYDEYA	21 55	32 42		1958 – 2009	51	1958	–	2000	42	1958	–	2008	50
209	ALGHAGHEB	22 02	32 44		1965 – 2009	44	1965	–	2000	35	1965	–	2008	43
210	ALABRK	22 03	32 47		1962 – 2009	47	1962	–	2000	38	1962	–	2008	46
211	RAS ELHELAL	22 11	32 52		1959 – 2009	50	1959	–	2000	41	1959	–	2008	49
212	ALGHOBBA	22 15	32 46		1958 – 2009	51	1958	–	2000	42	1958	–	2008	50
213	AIN MARA	22 23	32 45		1963 – 2009	46	1963	–	2000	37	1963	–	2008	45
214	KARSA	22 25	32 51		1977 – 2009	32	1977	–	2000	23	1977	–	2008	31
215	WADI ALBAB	20 32	31 34		1981 – 2009	28				0	1981	–	2008	27

Inventory of Precipitation Data of Recent Rainfull Network -Libya

no.	station-name	long.(E)	lat.(N)	elev.(m)	period of records	no. of years	digitized period				
							mly. Data		no. of years	dly. Data	
216	ALFATAIAH	22 40	32 41		1980 – 2009	29			0	1980 – 2008	28
217	MARTOUBA	44 45	32 35		1958 – 2009	51	1958 – 2000	42		1958 – 2008	50
218	OM ERRZAM	23 01	32 32		1958 – 2009	51	1958 – 2000	42		1958 – 2008	50
219	ATTMEMI	23 05	32 20		1958 – 2009	51	1958 – 2000	42		1958 – 2008	50
220	ALEZZEYAT	22 40	32 14		1963 – 2009	46	1963 – 2000	37		1963 – 2008	45
221	ALMKHELI	22 15	31 10		1965 – 2009	44	1965 – 2000	35		1965 – 2008	43
222	ALGHARDBA	23 25	32 12		1979 – 2009	30	1979 – 2000	21		1979 – 2008	29
223	TOBRUK	23 59	32 05		1958 – 2009	51	1958 – 2000	42		1958 – 2008	50
224	CAMBOUT	24 34	31 52		1958 – 2009	51	1958 – 2000	42		1958 – 2008	50
225	ALHREGHA	24 47	31 52		1964 – 2009	45		0		1964 – 2008	44
226	GHASER ELGADI	24 32	31 55		1962 – 2009	47	1962 – 2000	38		1962 – 2008	46
227	EMSAAD	25 05	31 35		1958 – 2009	51	1958 – 2000	42		1958 – 2008	50
228	OJLA	21 14	29 18		1977 – 2009	32	1977 – 2000	23		1977 – 2008	31
229	EGKARRA	21 35	29 23		1977 – 2009	32	1977 – 2000	23		1977 – 2008	31
230	SEMNO	14 52	27 15		1975 – 2009	34		0		1975 – 2008	33
231	BARAK	14 16	27 32		1965 – 2009	44	1965 – 2000	35		1965 – 2008	43
232	ALGHRDA	13 56	27 25		1975 – 2009	34		0		1975 – 2008	33
233	BERGEN	13 45	27 26		1975 – 2009	34		0		1975 – 2008	33
234	WENZREEK	13 28	27 30		1975 – 2009	34		0		1975 – 2008	33
235	EDRI	13 12	27 33		1975 – 2009	34	1975 – 2000	25		1975 – 2008	33
236	OBARE	12 47	26 47		1975 – 2009	34	1975 – 2000	25		1975 – 2008	33
237	BENT BAYA	13 41	26 42		1975 – 2009	34	1975 – 2000	25		1975 – 2008	33
238	GODWA	14 18	26 26		1975 – 2009	34	1975 – 2000	25		1975 – 2008	33
239	OM ELARANEB	14 45	26 08		1975 – 2009	34	1975 – 2000	25		1975 – 2008	33
240	ZWEELA	15 06	25 11		1975 – 2009	34	1975 – 2000	25		1975 – 2008	33
241	ALBARDI	25 06	31 46		1956 – 2009	53		0		1956 – 2008	52
242	TSAWA	13 15	25 44		1975 – 2009	34	1975 – 2000	25		1975 – 2008	33
243	ELGHATROUN	14 30	24 22		1975 – 2009	34	1975 – 2000	25		1975 – 2008	33
244	ALAWENAT	10 31	25 50		1975 – 2009	34		0		1975 – 2008	33
245	GHAT	10 09	25 08		1975 – 2009	34		0		1975 – 2008	33
246	ALBERKET	10 21	24 41		1975 – 2009	34	1975 – 2000	25		1975 – 2008	33
247	AGHAR	14 09	27 31		1994 – 2009	15		0		1994 – 2008	14
248	TMESSA	15 47	26 19		1994 – 2009	15		0		1994 – 2008	14
249	ALABYD	14 00	26 47		1994 – 2009	15		0		1994 – 2008	14
250	TMENHINT	14 35	27 10		1994 – 2009	15		0		1994 – 2008	14

NB: most of rain gauges operated by polic stations and their data is an irregular.

APPENDIX 2

INVENTORY OF PRECIPITATION DATA DURING ITALIAN TIME FOR CLIMAT STATIONS AND RAINGAUGES NETWORKS - LIBYA

station-name	Long. (E)		lat. (N)		elev. (m)	period of records	digitized period (mly)	no. of years	remarks
Abiar (el-)	20	36	32	11	290	1925-1941	1925-1941	17	#
Abiar Miggi	13	32	32	24	390	1930-1949	1930-1949	20	
Agedabia (el-)	20	13	30	45	-	1924-1940	1924-1940	17	#
Agelat (el-)	12	23	32	46	15	1928-1939	1928-1939	12	
Agheila (el-)	19	13	30	16	12	1928-1940	1928-1940	13	#
Ain el-Belang	21	41	32	46	537	1934-1940	1934-1940	7	
Ain el-Gazala	23	20	32	10	14	1932-1940	1932-1940	9	
Ain Mara	22	23	32	45	470	1923-1940	1923-1940	18	
Ain Zara	13	15	32	49	31	1934-1949	1934-1949	16	*
Amseat (Presidio)	25	3	31	34	192	1930-1940	1930-1940	11	*
Amseat (Varco)	25	4	31	34	190	1933-1939	1933-1939	7	
Asabaa (el-) I	12	52	32	2	801	1941-1949	1941-1949	9	
Asabaa (el-) II						1944-1949	1944-1949	6	
Assa (el-)	11	37	32	49	26	1920-1940	1920-1940	21	* #
Augila (Gialo)	21	14	29	9	35	1930-1940	1930-1940	11	
Azizia (Casa Dux) q. 95						1937-1939	1937-1939	3	
Azizia (el-)	13	1	32	31	116	1913-1949	1913-1949	37	* #
Azizia (el-) (Azienda pastorale de Micheli)						1934-1939	1934-1939	6	
Azizia (el-) (Fattoria Evelina De Micheli)						1935-1949	1935-1949	15	
Azizia (Soc. La Bonificatrice - km. 49)						1937-1938	1937-1938	2	
Baracca (el-Farzuga)	20	42	32	30	323	1939-1940	1939-1940	2	
Barce (el-Merg)	20	54	32	30	285	1919-1941	1919-1941	23	
Barce (fatt. Ceresola)	20	51	32	30	284	1931-1940	1931-1940	10	
Barce (fatt. Hopps)	20	51	32	30	310	1931-1938	1931-1938	8	
Barce (Sidi Rahuma)	20	57	32	33	282	1932-1941	1932-1941	10	
Bardia (Porto)	25	6	31	46	103	1924-1940	1924-1940	17	*
Beda Littoria (CC.RR.)						1927-1941	1927-1941	15	
Beda Littoria (Ain Relles)	21	43	32	46	-	1936-1938	1936-1938	3	
Beda Littoria (Sidi Rafa)	21	44	32	45	591	1933-1941	1933-1941	9	
Beda Littoria (Zauia el-Beda)	21	43	32	46	614	1934-1938	1934-1938	5	
Bengasi	20	3	32	5	25	1881-1941	1881-1941	61	*

INVENTORY OF PRECIPITATION DATA DURING ITALIAN TIME FOR CLIMAT STATIONS AND RAINGAUGES NETWORKS - LIBYA

station-name	Long. (E)		lat. (N)		elev. (m)	period of records	digitized period (mly)	no. of years	remarks
Bengasi (Semaforo)	20	3	32	7	16	1932-1940	1932-1940	9	
Beni Ulid	14	0	31	45	230	1925-1942	1925-1942	18	#
Benina	20	16	32	5	122	1918-1940	1918-1940	23	*
Bet Tamer (G. Berta) (Ente Colonizzazione)						1936-1939	1936-1939	4	
Bid (el-)	20	52	32	17	-	1937-1940	1937-1940	4	
Bir Acroma	23	41	32	2	209	1923-1940	1923-1940	18	*
Bir el-Ghnm	12	33	32	18	143	1925-1942	1925-1942	18	#
Bir el-Mletania	20	39	32	16	309	1934-1940	1934-1940	7	*
Bir en-Nesma	13	20	31	22	-	1937-1939	1937-1939	3	
Bir Ghzir (Concess. Volpi)	15	2	32	20	20	1931-1949	1931-1949	19	*
Bivio el-Ghiran	13	3	32	50	19	1932-1939	1932-1939	8	
Brach	13	6	26	33	398	1932-1938	1932-1938	7	
Breviglieri (ex Bir Tuta) Km. 101 (E.C.L.)	13	47	32	26	365	1936-1949	1936-1949	14	
Breviglieri Km. 93 (E. C. L.)						1943-1949	1943-1949	7	
Breviglieri Km. 110 (E. C. L.)						1943-1949	1943-1949	7	
Bu Gheilan	13	2	32	16	362	1928-1949	1928-1949	22	* #
Bu Maad	13	2	32	5	714	1934-1949	1934-1949	16	*
Bu Mariam	20	30	32	8	262	1934-1935	1934-1935	2	
Bu Ngem	15	24	30	35	125	1935-1941	1935-1941	7	#
Buerat el-Hsun	15	44	31	24	12	1930-1940	1930-1940	11	#
C. Battisti (a 4 Km a N. di Faidia)	21	55	32	44	660	1939-1940	1939-1940	2	
Cabao	11	20	31	50	650	1928-1940	1928-1940	13	
Carcura	20	0	31	29	8	1932-1937	1932-1937	6	
Castel Benito (Fondugh Ben Gascir)	13	11	32	41	77	1927-1949	1927-1949	23	
Chaulan	22	6	32	36	656	1934-1940	1934-1940	7	
Chetna (el-) (Castello De Bono)	13	13	32	26	188	1929-1939	1929-1939	11	*
Chicla	12	41	32	5	785	1930-1940	1930-1940	11	
Cirene	21	51	32	49	621	1915-1941	1915-1941	27	#
Coefia (el-)	20	10	32	12	6	1930-1940	1930-1940	11	
Collina Verde	13	11	32	50	37	1933-1939	1933-1939	7	
Corradini (I. P. S.)						1939-1949	1939-1949	11	*

INVENTORY OF PRECIPITATION DATA DURING ITALIAN TIME FOR CLIMAT STATIONS AND RAINGAUGES NETWORKS - LIBYA

station-name	Long. (E)		lat. (N)		elev. (m)	period of records	digitized period (mly)	no. of years		remarks
Cufra (el-Giof)	23	20	24	12	389	1933-1939	1933-1939	7		#
Cussabat (el-Gusbat)	14	2	32	35	300	1913-1941	1913-1941	29	*	#
Derna	22	39	32	47	10	1913-1940	1913-1940	28		
Driana	20	18	32	21	10	1930-1940	1930-1940	11		
Edri	13	13	27	33	-	1933-1939	1933-1939	7		
el-Gheria esc-Sceghia	13	35	30	23	687	1929-1940	1929-1940	12		
er-Regima	20	21	32	4	321	1915-1940	1915-1940	26	*	
es-Saiad	12	57	32	48	15	1934-1939	1934-1939	6		
Faidia (el-) (De Martino)	21	55	32	42	789	1930-1940	1930-1940	11		
Findugh esc-Scerif	13	10	32	37	94	1928-1934	1928-1934	7	*	
Fondugh el-Allus	13	56	32	42	67	1930-1939	1930-1939	10		
Fondugh el-Allus (Fatt. III Calo)						1938-1949	1938-1949	12	*	
Fondugh en-Naggaza	14	4	32	42	43	1929-1939	1929-1939	11		
Fondugh et-Tugar	13	7	32	48	53	1934-1939	1934-1939	6		
Ftaiah (el)	22	41	32	42	253	1921-1940	1921-1940	20		#
Fuehat (el-) (Bengasi)	20	6	32	4	19	1921-1941	1921-1941	21		#
Gabu (el-)	22	2	32	47	693	1935-1939	1935-1939	5		
Gadames	9	39	30	7	361	1913-1942	1913-1942	30		
Garib (el-)	21	10	32	34	390	1932-1940	1932-1940	9		
Garibaldi (E. C. L.)	14	50	32	24	45	1940-1949	1940-1949	10	*	
Gasr bu Hadi	16	39	31	3	67	1929-1940	1929-1940	12		
Gasr Chiar	13	51	32	42	133	1929-1939	1929-1939	11		
Gasr el-Ebia	21	24	32	38	462	1932-1940	1932-1940	9		
Gasr Gambut	24	30	31	53	147	1933-1940	1933-1940	8		
Gasr Garabulli (km. 57)						1934-1939	1934-1939	6		
Gasr Garabulli (km. 60)						1932-1949	1932-1949	18	*	
Gasr Garabulli (km. 65)						1931-1949	1931-1949	19	*	
Gasr Garabulli (Castel Verde)	13	43	32	44	42	1925-1942	1925-1942	18		#
Gasr Garabulli (Uadi Ramla) (km. 51)	13	35	32	47	25	1927-1939	1927-1939	13	*	
Gasr Garian	13	0	32	10	725	1914-1949	1914-1949	36	*	#
Gasr Iefren	12	31	32	3	680	1913-1949	1913-1949	37	*	#

INVENTORY OF PRECIPITATION DATA DURING ITALIAN TIME FOR CLIMAT STATIONS AND RAINGAUGES NETWORKS - LIBYA

station-name	Long. (E)		lat. (N)		elev. (m)	period of records	digitized period (mly)	no. of years	remarks
Gat	10	10	24	57	566	1932-1940	1932-1940	9	
Gedeida (el-) (Sghedeida) (Tripoli)	13	16	32	51	22	1934-1939	1934-1939	6	
Gerdes el-Abid	20	55	32	15	653	1934-1940	1934-1940	7	#
Gerdes ul-Gerrari	21	46	32	32	709	1934-1940	1934-1940	7	
Gheddahia (el-)	15	10	31	20	-	1933-1940	1933-1940	8	
Ghegab (el-) (Acquaviva)	22	2	32	44	707	1927-1940	1927-1940	14	*
Ghemines	20	2	31	40	25	1918-1940	1918-1940	22	* #
Giado (Fassato)	12	1	31	57	698	1925-1941	1925-1941	17	#
Giarabub	24	31	29	45	12	1926-1940	1926-1940	15	#
Giardina	20	13	31	48	66	1932-1940	1932-1940	9	
Gioda (E. C. L.)	15	5	32	10	10	1939-1949	1939-1949	11	*
Giordani (I. P. S.)	12	53	32	43	-	1944-1949	1944-1949	6	
Giosc (el-)	11	37	32	2	238	1930-1941	1930-1941	12	
Giovanni Berta (el-Gubba)	22	15	32	46	607	1924-1940	1924-1940	17	*
Got es-Sultan (el-Abiar) q. 244						1933-1934	1933-1934	2	
Guarscia (el-)	20	5	32	1	17	1928-1940	1928-1940	13	*
Hasscian (el-)	12	57	32	44	70	1928-1949	1928-1949	21	* #
Hebilia (el-)	11	46	32	23	95	1937-1940	1937-1940	4	#
Homs	14	16	32	39	11	1913-1942	1913-1942	30	* #
Homs (Concess. Valdagno)						1939-1949	1939-1949	11	*
Hon	15	56	29	7	207	1929-1940	1929-1940	12	#
Luigi di Savoia (el-Abragh)	21	59	32	48	658	1934-1941	1934-1941	8	
Luigi Razza (Messa)	21	37	32	46	477	1933-1941	1933-1941	9	
M. Bianchi (Bir Terrina)(I. P. S.)	12	53	32	39	-	1936-1949	1936-1949	14	*
Maia (el-)	12	53	32	49	22	1936-1939	1936-1939	4	
Maia (el-)(km. 32)						1936-1938	1936-1938	3	
Marada	19	12	29	14	84	1931-1940	1931-1940	10	#
Maraua	21	24	32	29	510	1927-1940	1927-1940	14	#
Marconi (Gasr Daun) (I. P. S.)	13	54	32	27	316	1940-1949	1940-1949	10	*
Marsa Dila (Concess. seccia-Cortes)	12	43	32	48	28	1927-1941	1927-1941	15	#
Marsa el-Brega	19	35	30	25	8	1931-1940	1931-1940	10	

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station-name	Long. (E)		lat. (N)		elev. (m)	period of records	digitized period (mly)	no. of years	remarks	
Marsa Lucch	24	46	32	1	13	1930-1940	1930-1940	11		
Marsa Susa (Apollonia)	21	59	32	54	6	1921-1940	1921-1940	20	*	#
Marsa Zuaga	12	27	32	49	28	1933-1939	1933-1939	7		
Martuba	22	45	32	35	316	1927-1940	1927-1940	14	*	
Mechili (Zauiet el-)	22	17	32	10	205	1925-1940	1925-1940	16	*	#
Mellaha (el-) (Tripoli)	13	17	32	54	12	1926-1940	1926-1940	15		#
Miani (Ammiraglio Fenzi)	13	15	32	51	28	1930-1949	1930-1949	20		
Misurata citta	15	5	32	22	10	1913-1949	1913-1949	37	*	#
Misurata Marina	15	12	32	22	8	1925-1941	1925-1941	17		#
Mizda	16	58	31	26	522	1914-1940	1914-1940	27	*	#
Murzuch	13	54	25	54	395	1931-1940	1931-1940	10		#
Nalut	10	59	31	51	639	1913-1949	1913-1949	37	*	#
Nauaghia (en-)	20	10	31	55	72	1932-1935	1932-1935	4		#
Ngila (en-)	13	2	32	44	53	1932-1936	1932-1936	5		
Nofilia (en-)	17	50	30	47	47	1929-1939	1929-1939	11	*	
Oliveti (11 km. a E. di ez-Zauia)	12	49	32	47	51	1938-1949	1938-1949	12	*	
Oliveti (ex Chiavolini) (I. P. S.)	12	48	32	47	21	1937-1949	1937-1949	13		
P. Micca	12	54	32	39	-	1941-1949	1941-1949	9	*	
Pisida (Bu Chemmasc)	11	44	32	5	11	1920-1940	1920-1940	21		
Regdalin	11	58	32	53	6	1930-1942	1930-1942	13		
Riaina (er-)	12	17	31	59	550	1920-1939	1920-1939	20	*	
Ridotta Segnale	21	55	32	53	290	1930-1934	1930-1934	5		
Sabrata	12	29	32	47	16	1924-1942	1924-1942	19		#
Sabrata (Coness. Paterno)						1943-1949	1943-1949	7		
Sabri (es-)	20	5	32	9	12	1934-1940	1934-1940	7		
Safsaf (es-) (Ente di Colonizzazione)	21	56	32	47	658	1935-1939	1935-1939	5		
Safsaf (es-) (Ufficio Agrario)	21	56	32	47	658	1931-1940	1931-1940	10		
Sceleidima (esc-)	20	34	31	34	240	1931-1940	1931-1940	10		
Sciogran	14	9	32	37	171	1934-1939	1934-1939	6		
Sciuref (esc-)	14	17	29	59	436	1934-1941	1934-1941	8		#
Sebha	14	27	27	0	445	1930-1940	1930-1940	11		#

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station-name	Long. (E)	lat. (N)			elev. (m)	period of records	digitized period (mly)	no. of years	remarks
Sidi Abd el-Uahed	21	35	32	43	506	1932-1939	1932-1939	8	
Sidi Amed el-Magrun	20	7	31	28	-	1932-1939	1932-1939	8	
Sidi Bilal	12	58	32	49	18	1927-1939	1927-1939	13	
Sidi Chalifa	20	12	32	15	8	1930-1940	1930-1940	11	
Sidi el-Mesri	13	12	32	52	19	1915-1949	1915-1949	35	#
Sidi es-Saiah	13	15	32	34	120	1932-1939	1932-1939	8	
Sidi Mahius (fatt. Polara)	20	43	32	14	346	1928-1939	1928-1939	12	
Sinauen	10	35	31	2	490	1925-1939	1925-1939	15	#
Sirte	16	35	31	13	18	1925-1941	1925-1941	17	#
Slonta	21	42	32	35	796	1933-1940	1933-1940	8	
Soluch	20	15	31	40	61	1927-1940	1927-1940	14	#
Sorman (es)	12	35	32	45	14	1928-1939	1928-1939	12	#
Sta Milad (es-)	13	21	32	49	104	1931-1939	1931-1939	9	
Suani ben Adem	13	4	32	42	63	1928-1942	1928-1942	15	
Suani Ben Adem (Coness. Pozzolini)						1943-1949	1943-1949	7	
Suani Fessano	12	45	31	16	-	1937-1939	1937-1939	3	
Suani Tica	20	2	31	56	-	1932-1934	1932-1934	3	
Sugh el-Chmis	14	22	32	35	15	1929-1939	1929-1939	11	
Sugh el-Giumaa (Tripoli)	13	14	32	53	10	1934-1942	1934-1942	9	*
Sugh es-Sebt	13	10	32	35	101	1926-1939	1926-1939	14	
Tagiura (CC. RR.)	13	20	32	53	11	1934-1939	1934-1939	6	
Tagiura (Concess. Leone)	13	20	32	53	11	1929-1939	1929-1939	11	
Tagiura (S. A. I. R. A. M.)						1943-1949	1943-1949	7	
Tagiura (Trigh el-Gefara)	13	23	32	52	13	1926-1936	1926-1936	11	
Tailimun (et-) (Tilimun)	20	10	31	35	60	1930-1935	1930-1935	6	
Tamina (Misurata)						1937-1949	1937-1949	13	* #
Tarhuna	13	38	32	26	430	1913-1949	1913-1949	37	* #
Tauorga (Concessione)						1936-1939	1936-1939	4	
Tauorga C. C. R. R.	15	8	32	2	14	1930-1938	1930-1938	9	
Tazzoli (Carovaniera Tarhuna-Garian) q.359						1940-1949	1940-1949	10	*
Tecnis	22	7	32	28	440	1928-1940	1928-1940	13	#

INVENTORY OF PRECIPITATION DATA DURING ITALIAN TIME FOR CLIMAT STATIONS AND RAINGAUGES NETWORKS – LIBYA

station-name	Long. (E)		lat. (N)		elev. (m)	period of records	digitized period (mly)	no. of years		remarks
Terria (Suani et-)	19	57	31	54	6	1931-1940	1931-1940	10		
Tgutta	10	26	30	11	550	1926-1940	1926-1940	15		#
Tigi	11	20	32	3	192	1930-1939	1930-1939	10		
Tigrinna	12	59	32	7	713	1934-1949	1934-1949	16	*	
Tmimi (Uadi)	23	4	32	21	5	1934-1940	1934-1940	7		
Tobruch (Semaforo)	23	59	32	5	46	1915-1939	1915-1939	25		#
Tocra	20	35	32	32	13	1929-1940	1929-1940	12		#
Tolmeta (Tolmaide)	20	57	32	43	5	1921-1940	1921-1940	20		#
Tripoli Bu-Meliana	13	10	32	52	12	1936-1939	1936-1939	4		#
Tripoli Gurgi	13	8	32	52	11	1934-1939	1934-1939	6		
Uadi Bacur	20	39	32	12	282	1932-1938	1932-1938	7		
Uadi el-Hira (Diga di sbar. S. A. Bon. Azizia)	13	5	32	15	180	1930-1939	1930-1939	10	*	
Uazzen	10	40	31	56	544	1930-1942	1930-1942	13		
Ubari	12	46	26	35	425	1933-1940	1933-1940	8		#
Umm el-Adam	13	1	32	37	101	1937-1939	1937-1939	3		
Umm er-Rzem (Zauiet)	23	1	32	32	81	1933-1940	1933-1940	8		
Uotia (el-)	11	45	32	27	79	1924-1936	1924-1936	13	*	#
Zanzur	13	1	32	49	17	1913-1939	1913-1939	27	*	
Zauia (ez-)	12	43	32	46	17	1913-1942	1913-1942	30	*	#
Zauiet el-Hania	21	32	32	52	10	1934-1940	1934-1940	7		
Zauiet el-Mahgiub	14	58	32	22	15	1929-1949	1929-1949	21	*	
Zella	17	34	28	32	195	1929-1939	1929-1939	11		#
Zintan (ez)	12	13	31	56	713	1930-1940	1930-1940	11		
Zliten citta	14	34	32	29	20	1925-1941	1925-1941	17		#
Zlitr Marina	14	35	32	30	8	1930-1940	1930-1940	11		
Zorda (ez) (Barce)	20	53	32	28	310	1930-1947	1930-1947	18	*	
Zuara	12	5	32	56	8	1913-1949	1913-1949	37	*	#
Zuetina	20	7	30	57	8	1933-1940	1933-1940	8		
(*) Missing values more than two consequently year										
(#) Climatic Station										

APPENDIX 3

Weather Rader METEO. 500C

STANDARD PRODUCTS

1. *PPI- Plan Position indicator*
2. *RHI- Range Height Indicator*
3. *CAPPI – Constant Altitude PPI*
4. *MAX – Maximum Display*
5. *CMAX – Column Maximum*
6. *VCUT – Vertical Cut*
7. *MLVCUT – Multiple-Line Vertical Cut*
8. *EHT – Echo Height*

EXTENDED PRODUCTS

1. *BASEZ–Basen Reflectivity*
2. *VAD-Velocity Azimuth Display*
3. *VVP- Volume Velocity Processing*
4. *UWT- Uniform Wind Technique*
5. *HWIND- Horizontal Wind*
6. *SRV- Storm Relative Velocity*
7. *SMV- Spectrum at Maximum Velocity*
8. *LMR- Layer Mean Reflectivity*
9. *VPR- Vertical Profile of Reflectivity*
10. *FLCAPPI- Flight Level CAPPL*
11. *FLMAX- Flight Level MAX*
12. *SWAD – Severe Weather Analysis Display*
13. *CM- Combined Moment*

HYDROLOGICAL PRODUCTS

1. *SRL- Surface Rainfall Intensity*
2. *PAC- Precipitation Accumulation*
3. *VIL- Vertical Integrated Liquid*
4. *RSA- River Subcatchment Accumulation*
5. *RIH- Rainfall Intensity Histogram*
6. *PRT- Point Rainfall Total*

SHEAR PRODUCTS

1. *SHEAR- Shear Measurement*
2. *HSHEAR – Horizontal Shear*
3. *VSHEAR – Vertical Shear*
4. *LTB – Layer Turbulence*

NOWCASTING PRODUCTS

1. *CTR-Cell Centroid Tracking*
2. *RTR-Rain Tracking*

WARNING PRODUCT