GUIDELINES FOR THE SUBMISSION OF THE WORLD WEATHER RECORDS TENTH SERIES (2001-2010)

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WCDMP 77

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I. BACKGOUND

I.1 History

The World Weather Records (WWR) database contains historical monthly climatic data from land surface stations worldwide. First released in 1927, the WWR database has been widely employed in operational climate monitoring, international climate assessments, and numerous other applications. To date, there have been nine editions of WWR, the first containing data up through 1920, with each successive release containing data for another decade (i.e., 1921-1930, 1931-1940, 1941-1950, 1951-1960, 1961-1970, 1971-1980, 1981-1990, 1991- 2000). Since its inception, WWR has been produced by three different institutions: the Smithsonian Institution (1927, 1934, 1947); the U.S. Weather Bureau (1959, 1967); and the U.S. National Oceanic and Atmospheric Administration (NOAA; 1983, 1991, 2005). The current edition will also be produced by NOAA. It addresses the 2001-2010 period, consistent with WMO Secretariat guidance. However, the previous edition lacked data for many countries, posing an impediment to climate monitoring and assessment activities because of the decline in station coverage starting in 1991. Congress XVI, Geneva 2011, emphasized the importance of updating the World Weather Records continuously. It requested Members to complete the data sets for WWR 1991-2000 and submit WWR for 2001-2010. Consequently, WMO members are vigorously encouraged to SUBMIT DATA FOR THE PAST TWO DECADES (1991-2010).

II.2 Submission Channels of the WWRs

Each WMO member should submit two files to WMO or to the responsible GCOS Lead Center as appropriate (see suggested collection mechanisms in ANNEX-I). The first file should contain all of the data for all of the stations in the country, and the second should contain a history Metadata file (ANNEX-V). These files can be submitted via electronic mail following guidance provided by the WMO Secretariat or by a regional coordinating center. In the list of countries in ANNEX-I the responsible institutions are given for each region including an email address. In case of any question the Members are encouraged to contact WMO: wcdmp@wmo.int

II. METHODOLOGY FOR REPRESENTING THE WWRs

II.1 Data Elements

This document provides guidance on how to format data for submission to the current edition of WWR. As in the previous edition, the database will contain six climatic elements:

(a) Monthly mean station pressure,
(b) Monthly mean sea level pressure,
(c) Monthly mean temperature,
(d) Monthly mean maximum temperature,
(e) Monthly mean minimum temperature,
(f) Total monthly precipitation.

The primary goal is to capture year-by-year, month-by-month data for each element at each station (e.g., total monthly precipitation for Geneva in January 2001, February 2001, …, December 2010). However, station metadata are also of particular importance. At a minimum these metadata should include station name, coordinates, and elevation. Preferably, observation times, averaging formulas, instrumentation types, and station changes will also be documented. WMO members should submit data for all of their surface stations that have an official WMO station index number.

II.2 Data Format

Each WMO member should submit the WWRs data in one file (**ASCII, Excel, or text fixed format, see ANNEXES**) containing all of the data for all of the stations in their country. This section describes the format of this file, which remains the same as in previous editions of WWR. There are four record types in this format:

(a) Station Metadata records documenting basic station characteristics;
(b) Yearly Data records with monthly and annual data for a particular year;
(c) Decadal Average records with monthly and annual means for one decade;
(d) CLINO (Climate Normal) records including monthly and annual means for the CLINO period (1961 – 1990) or other long-period average.

2.2.1 Submission of WWR in ASCII format file

An example of a properly formatted ASCII submission is given in ANNEX-II.

The first line for each station must be a Station Metadata record. There must be only one Station Metadata record for each station, and it should contain the most recent information for the station.

The next 24 lines contain data for the first climatic element for that station. The first 10 lines are Yearly Data records for 1991-2000, followed by one Decadal Average record for 1991- 2000, and concluding with one CLINO record. The next 10 lines are Yearly Data records for 2001-2010, followed by one Decadal Average record for 2001-2010, and concluding with one CLINO record. (It is acceptable if the two CLINO records are identical; in fact, this is likely to be the case for most stations.)

The next 24 lines contain data for the second climatic element. This process is then repeated until all available climatic elements have been completed for that station.

(a) Station Metadata records

Station Metadata records contain 12 fields documenting basic station characteristics. These characteristics should represent the most recent location of the station. Stated in tabular form, the contents include the following:

FIELD	COLUMNS	CONTENTS	NOTES
	1-2		Leave these columns blank
1	3-7	WMO number	Right-justified
2	8-8	Record type	1 = Station Metadata record
3	9-10	Degrees of latitude	Right-justified
4	11-12	Minutes of latitude	Right-justified
5	13-13	Hemisphere of latitude	N = Northern, S = Southern
6	14-16	Degrees of longitude	Right-justified
7	17-18	Minutes of longitude	Right-justified
8	19-19	Hemisphere of longitude	E = Eastern, W = Western
9	20-43	Name of country in English	Left-justified
10	44-67	Name of station in English	Left-justified
11	68-72	Height of station above sea level (meters)	Right-justified
12	73-78	Height of barometer above sea level (tenths of meters)	Right-justified

(b) Yearly Data records

Each Yearly Data record contains monthly and annual data for a particular year. These records contain 17 fields documenting the WMO number, element type, year, monthly data values, and the annual value. Stated in tabular form, the contents include the following:

FIELD	COLUMNS	CONTENTS	NOTES
	1-2		Leave these columns blank
1	3-7	WMO number	Right-justified
2	8-8	Element type	2 = mean station pressure in tenths of hpa. 3 = mean sea level pressure in tenths of hpa. 4 = mean daily air temperature in tenths of a ℃. 5 = total precipitation in tenths of a mm. 6 = mean daily maximum air temperature in tenths of a ℃. 7 = mean daily minimum air temperature in tenths of a ℃. 8 = mean of the daily relative humidity in whole percent.
3	9-12	Year	4-digits
4	13-13	Record type	Blank = Yearly Data record
5	14-18	January	**If a value is missing, then leave the field blank.** **All values should be right-justified.** Decimal points are implied (e.g., 1014.1 hpa should be entered as “10141”). If there is no value after the decimal, the last character should be “0” (e.g., 1014.0 hpa should be “10140”). If the temperature is negative, the 1st character of the field should be "-" (e.g., -13 should be “- 13”). If precipitation is zero, the 4th character of the field should "0". If there was trace precipitation, the 4th and 5th characters of the field should be "00" (double zero).
6	19-23	February	
7	24-28	March	
8	29-33	April	
9	34-38	May	
10	39-43	June	
11	44-48	July	
12	49-53	August	
13	54-58	September	
14	59-63	October	
15	64-68	November	
16	69-73	December	
17	74-78	Annual	

If data are missing for an entire year, then only complete Fields 1-4.

(c) Decadal Average records

Each Decadal Average record contains monthly and annual means for one decade. From a formatting perspective, these records are almost identical to yearly data records, with the following critical exceptions:

- Field 3 (Year) is always the last year of the decade (e.g., “2010” for 2001-2010).
- Field 4 (Record type) is always a “1”.
- Field 5 (January) is the decadal average for January, Field 6 (February) is the decadal average for February, and so on.

Please include a Decadal Average record even if the averages themselves are not available – i.e., include the record in the file, but only complete Fields 1-4.

(d) Climate Normal (CLINO) records

Each CLINO record contains monthly and annual means for the CLINO period (1961 – 1990) or other long-period average. From a formatting perspective, these records are almost identical to Decadal Average records, with the following critical exceptions:

- Field 3 (Year) is always the last year of the period (e.g., “1990” for 1961-1990).
- Field 4 (Record type) is always a “2”.
- Field 5 (January) is the CLINO or other long-period average for January, Field 6 (February) is the CLINO or other long-period average for February, and so on.
- CLINO values for precipitation must be in mm rather than tenths of a mm.

Please include a CLINO record even if the averages themselves are not available – i.e., include the record in the file, but only complete Fields 1-4.

2.2.2 Submission of WWR in Excel table format file

An example of a properly formatted Excel submission is given in ANNEX-III.

Please see 2.2.1 for a description of the contents of each line in the spreadsheet.

2.2.3 Submission of WWR in fixed text format file

As there are several data management systems it is also possible to send the requested data in a fixed text format file. An example of a properly formatted submission is available in ANNEX-IV.

II.3 History METADATA (Station notes)

Each WMO member should submit one file containing all of the Metadata (station notes) for all of the stations in their country. There is no required format for this information, but there is some preferred content to make the greatest possible use of the submitted climatic data. Critical content includes the times of observation, the formulas used in computing means, the types of instrumentation, and the periods of record for computing Climate Normals (CLINO) or other long-period average. To the extent possible, this information should be specific to each climatic element. Furthermore, it is extremely helpful if historical changes are explicitly documented for all types of metadata, including observation times, averaging formulas, instrumentation types, and basic parameters such as location and elevation. Example of previously submitted station notes is given in ANNEX-V.

Annex I: Proposed collection mechanism

REGION	Countries (ENG)	Collection mechanism	Alternative
Africa	Algeria, Benin, Burkina Faso, Cameroon, Cape Verde, Central African Republic, Chad, Comoros, Congo, Côte d'Ivoire, Egypt, Gabon, the Gambia, Ghana, Guinea, Guinea Bissau, Liberia, Libya, Madagascar, Mali, Mauritania, Morocco, Niger, Nigeria, Sao Tome and Principe, Senegal, Sierra Leone, Sudan, Togo, Tunisia, South Sudan (WWRs prior to 2010 to be requested to Sudan)	CBS Lead Center for GCOS, Africa, Morocco (DMN)	WMO, Geneva wcdmp@wmo.int
	Angola, Botswana , Burundi, Democratic Republic of the Congo, Djibouti, Eritrea, Ethiopia, Kenya, Lesotho, Malawi, Mauritius, Mozambique, Namibia, Rwanda, Seychelles, Somalia, South Africa, Swaziland, Uganda, United Republic of Tanzania, Zambia, Zimbabwe	CBS Lead Center for GCOS, Africa, Mozambique (INM)	WMO, Geneva wcdmp@wmo.int
Asia	Bangladesh, Bhutan, Brunei Darussalam, Cambodia, China, Japan, Lao People's Democratic Republic, Malaysia, Mongolia, Myanmar, Philippines, Republic of Korea, Democratic People's Republic of Korea, Singapore, Thailand, Vietnam, Macao (China), Hong Kong (China)	CBS Lead Center for GCOS, Asia, Japan (JMA) Kazuyoshi YOSHIMATSU climatemonitor@met.kishou.go.jp Tel: +81-3-3212-8341 ext 3157 Fax:+81-3-3211-8406	WMO, Geneva wcdmp@wmo.int
	Afghanistan, Armenia, Azerbaijan, Bahrain, India, Islamic Republic of Iran, Jordan, Kazakhstan, Kuwait, Kyrgyzstan, Latvia, Lebanon, Maldives, Nepal, Oman, Pakistan, Qatar, Russian Federation, Saudi Arabia, Sri Lanka, Syrian Arab Republic, Tajikistan, Turkey, Turkmenistan, United Arab Emirates, Uzbekistan, Yemen	CBS Lead Center for GCOS, Asia, Iran (IRIMO)	WMO, Geneva wcdmp@wmo.int
South America	*All countries of RA III:* Argentina, Plurinational State of Bolivia, Brazil, Chile, Colombia, Ecuador, Guyana, Paraguay, Peru, Suriname, Uruguay, Bolivarian Republic of Venezuela	CBS Lead Center for GCOS, South America, Chile (DMC)	WMO, Geneva wcdmp@wmo.int
North America, Central America and the Caribbean	*All countries of RA IV:* Antigua and Barbuda, Bahamas, Barbados, Belize, British Caribbean Territories, Canada, Costa Rica, Cuba, Curaçao and	CBS Lead Center for GCOS, North and Central America, Caribbean, USA (NCDC) Bryant Korzeniewski Ingest and Analysis Branch	WMO, Geneva wcdmp@wmo.int

	Sint Maarten, Dominica, Dominican Republic, El Salvador, Guatemala, Haiti, Honduras, Jamaica, Mexico, Nicaragua, Panama, Saint Lucia, Trinidad and Tobago, United States of America	(IAB) National Climatic Data Center 151 Patton Avenue, Room 514 Asheville, NC 28801-5001 T: (828) 271-4307 F: (828) 271-4022 Bryant.Korzeniewski@noaa.gov	
South West Pacific	*Most countries of RA V, which are not noted under Asia (Japan):* Australia, Cook Islands, Fiji, French Polynesia, Indonesia, Kiribati, Federal States of Micronesia, New Caledonia, New Zealand, Niue, Papua New Guinea, Samoa, Solomon Islands, Tonga, Democratic Republic of Timor-Leste, Vanuatu	CBS Lead Center for GCOS, South West Pacific, Australia, (BOM)	WMO, Geneva wcdmp@wmo.int
Europe	*Most countries of Europe not noted under Asia (Iran):* Albania, Armenia, Austria, Belarus, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Georgia, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Lithuania, Luxembourg, Malta, Monaco, Montenegro, the Netherlands, Norway, Poland, Portugal, Romania, Republic of Moldova, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, The former Yugoslav Republic of Macedonia, Ukraine, United Kindom of Great Britain and Northern Ireland	CBS Lead Center for GCOS, Europe, Germany (DWD)	WMO, Geneva wcdmp@wmo.int

ANNEX II:

Example of submission in ASCII format file

```
5451113948N11628ECHINA                    BEIJING                      31   313
5451121991 10221101941017010089100519983 995610019100791012410187102201010 8
5451121992 10219101641017310051100491000 998510029100711016710195102061011 0
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5451121996 10213102181014610099100529982 999010037100771013910193101741011 0
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5451122002 10207102051012710094100761002099710044101241016110200102661012 7
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5451122005 10234102491018110077100499979100001003610119101741017010263101 8
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5451122007 10263101781015910114100241002299881003510103101791022410223101 6
5451122008 10283102461015010090100321002199991003010100101501019510213101 6
5451122009 10239101761015510104100619972 999110045100991013210230102191011 9
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5451131999 10255102521018310138101001005310039100741013510207102361028510163
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5451141996 -  22-   4   62  143  216  254  255  239  207  128   42    9  127
5451141997 -  38   13   87  145  200  246  282  266  186  140   54-  15  131
5451141998 -  39   24   76  150  199  236  265  251  222  148   40    1  131
5451141999 -  16   22   48  144  195  254  281  256  209  130   59-   6  131
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54511420001-  27   10   68  148  204  250  269  256  207  136   48-   6  130
54511420002-  37-   7   58  142  199  244  262  249  200  131   46-  15  123
5451142001 -  54-  15   73  144  231  257  273  258  212  138   53-  24  129
5451142002     1   34   98  141  219  236  275  257  205  107   34-  29  132
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5451142004 -  23   29   78  163  205  250  260  249  213  140   65-   5  135
5451142005 -  28-  29   63  164  198  256  279  260  221  149   75-  25  132
5451142006 -  19-   9   80  135  204  259  259  264  218  161   68-  10  134
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5451142008 -  30    6   91  159  203  234  272  261  210  146   63-  10  134
5451142009 -  30   10   70  159  229  262  270  257  211  153   22-  23  133
5451142010 -  48-  10   41  112  217  247  286  265  213  136   58-  10  126
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54511420102-  37-   7   58  142  199  244  262  249  200  131   46-  15  123
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5451151993    37   15    3  169   86  392 2064 1585  183   99  434   0  5067
```

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5451151998	13	263	43	547	615	1429	2479	1144	47	618	113	6	7317
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5451152000	119	0	88	183	377	190	615	1505	184	352	97	1	3711
54511520001	23	35	75	182	404	714	2029	1414	410	263	109	26	5684
5451152001	122	39	00	144	50	458	1286	497	92	457	214	30	3389
5451152002	0	5	60	377	123	1035	549	743	507	226	0	79	3704
5451152003	96	29	329	130	308	661	577	342	879	668	429	1	4449
5451152004	7	88	1	372	391	696	1820	507	742	99	80	32	4835
5451152005	15	100	2	170	684	664	961	1234	245	18	4	10	4107
5451152006	7	56	1	10	503	351	1550	475	11	150	36	30	3180
5451152007	0	0	434	20	485	461	1162	1036	501	699	11	30	4839
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5451152009	0	180	74	322	147	955	1966	609	233	59	261	0	4806
5451152010	104	26	222	175	295	887	340	1778	808	590	0	0	5225
54511520101	35	52	124	236	363	742	1100	854	521	328	104	21	4480
5451161991	27	52	95	198	251	294	304	318	254	199	98	24	176
5451161992	44	79	118	216	262	294	316	292	256	179	88	43	182
5451161993	16	69	135	197	272	314	297	302	270	194	83	39	182
5451161994	33	56	112	235	271	323	328	312	272	201	108	28	190
5451161995	45	85	136	205	256	296	304	297	240	193	144	43	187
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5451161997	14	67	142	205	257	308	331	316	244	202	98	30	185
5451161998	9	77	133	207	255	294	308	299	279	201	92	57	184
5451161999	38	84	92	206	256	316	331	307	257	187	112	47	186
5451162000 -	22	46	143	204	268	332	345	302	276	173	78	45	183
54511620001	23	67	122	207	262	308	316	303	261	191	99	42	183
5451162001 -	13	36	139	204	295	308	323	305	267	191	111	16	182
5451162002	59	101	163	200	279	285	327	306	271	161	83	5	187
5451162003	16	61	110	208	268	304	310	317	255	186	71	53	180
5451162004	26	82	134	223	264	304	307	293	267	200	119	31	188
5451162005	21	13	125	227	256	315	327	303	272	206	134	16	185
5451162006	25	41	146	192	260	317	300	307	279	216	119	36	187
5451162007	40	97	112	209	288	314	314	314	278	187	109	48	192
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5451171994 -	56-	35-	3	113	151	216	235	227	151	90	22-	49	89
5451171995 -	54-	34	19	85	139	198	217	221	148	100	18-	41	85
5451171996 -	62-	53	12	84	155	205	220	209	165	83	0-	34	82
5451171997 -	79-	33	35	78	138	181	236	219	132	83	17-	56	79
5451171998 -	83-	21	24	97	138	189	227	210	170	103-	8-	50	83
5451171999 -	66-	38	5	79	132	197	235	211	164	76	13-	56	79
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5451172004 -	66-	16	26	107	148	202	219	210	164	87	21-	36	89
5451172005 -	65-	63	4	100	145	203	236	222	174	95	26-	59	85
5451172006 -	55-	53	20	81	151	205	226	229	165	115	26-	47	89
5451172007 -	59-	14	19	93	166	213	226	224	179	93	12-	31	93
5451172008 -	65-	46	37	105	148	192	230	221	166	94	12-	52	87
5451172009 -	78-	35	16	100	161	204	227	222	170	98-	17-	58	84
5451172010 -	87-	50	0	64	160	201	246	226	167	90	7-	50	81
54511720101-	70-	40	19	92	155	202	229	219	165	90	7-	50	85
5451181991	45	42	57	49	52	63	74	73	72	55	49	57	57
5451181992	47	30	44	36	53	59	65	76	63	62	55	57	54
5451181993	49	42	40	39	45	57	76	71	59	54	60	40	53
5451181994	41	51	34	41	45	54	75	77	53	52	64	51	53
5451181995	30	37	35	35	43	66	74	78	70	59	41	39	51
5451181996	32	22	35	38	45	56	76	81	72	66	48	44	51
5451181997	49	41	47	50	55	57	69	74	68	47	66	56	57
5451181998	43	45	51	68	61	71	79	75	72	65	64	51	62
5451181999	39	34	59	57	59	60	68	71	69	56	63	45	57
5451182000	56	40	36	40	58	53	61	76	64	62	59	48	54
54511820001	43	38	44	45	52	60	72	75	66	58	57	49	55
5451182001	57	62	31	46	44	63	68	71	63	73	56	42	56
5451182002	42	43	36	45	49	64	68	74	66	56	46	65	55
5451182003	50	52	56	50	62	56	71	67	73	59	64	42	59
5451182004	36	34	32	40	44	54	67	65	60	54	48	56	49
5451182005	41	47	31	34	48	60	66	73	59	50	45	36	49
5451182006	56	43	29	40	51	52	72	71	56	59	53	49	53

5451182007	44	47	56	35	37	57	70	70	65	63	54	51	54
5451182008	40	30	39	53	51	68	70	69	68	58	44	39	52
5451182009	37	52	39	43	44	45	66	70	66	49	59	42	51
5451182010	43	47	47	43	45	60	65	64	63	58	44	33	51
54511820101	45	46	40	43	48	58	68	69	64	58	51	46	53

Annex III:

Example of submission in Excel format file

World Weather Records
Data Sheet, Sample (Station Pressure)

Header Record

Blank	A WMO Number	B *	C Latitude	D Longitude	E Country Name (English)	F Station Name (English)	G Station Height	H Barometer Height
	54511		394 8N	116 28 E	CHINA	BEIJING	31	33

Data Record

Blank	A WMO Number	B *	I Year	J #	K January	February	March	April	May	June	July	August	September	October	November	December	Annual
	54511		2199 1		1022 11	1019 4	1017 0	1008 9	1005 1	9983	9956	1001 9	1007 9	1012 4	1018 7	1022 0	1018
	54511		2199 2		1021 9	1016 4	1013 7	1005 1	1004 9	0009	9985	1002 9	1007 1	1016 7	1019 5	1022 0	1011 0
	54511		2199 3		1023 7	1018 2	1014 9	1008 6	1003 3	9971	9971	1001 0	1007 2	1015 8	1020 0	1022 2	1010 8
	54511		2199 4		1018 11	1018 2	1016 7	1006 2	1000 0	9989	9966	1001 6	1007 0	1015 2	1019 1	1023 5	1010 1
	54511		2199 5		1021 1	1018 9	1012 2	1006 9	1002 8	9986	9976	1002 0	1008 8	1014 4	1015 9	1024 1	1010 3
	54511		2199 6		1021 3	1021 8	1014 6	1009 9	1005 2	9982	9990	1003 7	1007 7	1013 9	1019 3	1017 4	1011 0
	54511		2199 7		1021 3	1019 7	1016 0	1013 1	1004 2	1002 7	1001 0	1003 0	1001 2	1016 0	1021 4	1024 2	1012 9
	54511		2199 8		1024 8	1021 5	1017 8	1009 8	1008 3	1000 9	9988	1002 5	1008 4	1015 0	1017 9	1024 1	1012 5
	54511		2199 9		1021 5	1022 1	1014 4	1010 0	1006 3	1001 7	1000 3	1003 8	1009 8	1016 9	1019 7	1024 5	1012 5
	54511		2200 0		1027 4	1022 1	1018 1	1010 7	1004 5	1001 8	9984	1004 0	1010 7	1017 5	1022 7	1021 8	1012 7
	54511		2200 0	1	1021 2	1023 1	1015 5	1008 6	1004 5	9999	9983	1002 6	1008 7	1015 4	1019 4	1022 4	1011 4
	54511		2200 0	2	1024 2	1022 2	1017 4	1010 0	1005 0	1001 2	9997	1003 7	1010 5	1016 7	1021 4	1023 8	1013 0

Blank	A WMO Number	B *	I Year	J #	K January	February	March	April	May	June	July	August	September	October	November	December	Annual
	54511		2200 1		1028 8	1021 8	1012 3	1011 1	1003 1	9995	1000 0	1005 6	1012 4	1016 6	1020 6	1028 4	1012 9
	54511		2200 2		1020 7	1020 5	1012 7	1009 4	1007 6	1002 0	9997	1004 4	1012 4	1016 1	1020 0	1026 6	1012 7
	54511		2200 3		1023 8	1020 9	1019 0	1011 0	1011 1	1007 0	1001 0	1004 4	1010 1	1015 8	1022 7	1024 7	1013 3
	54511		2200 4		1020 8	1023 8	1015 2	1010 1	1003 2	1000 3	9991	1004 5	1007 1	1018 5	1020 4	1024 8	1012 6
	54511		2200 5		1023 4	1024 9	1018 1	1011 1	1007 7	1004 9	9997	1006 0	1003 6	1011 9	1017 4	1021 6	1012 8
	54511		2200 6		1024 6	1024 0	1021 2	1009 1	1007 3	1006 4	9993	1003 1	1011 8	1015 4	1017 9	1025 6	1012 5
	54511		2200 7		1026 3	1017 8	1015 9	1011 1	1004 1	1002 2	9988	1003 5	1010 3	1017 9	1022 4	1023 1	1012 6
	54511		2200 8		1028 3	1024 6	1021 5	1009 0	1003 2	1002 1	9993	1003 0	1010 1	1015 0	1019 5	1021 3	1012 6
	54511		2200 9		1023 9	1017 6	1015 5	1010 4	1006 1	9977	9991	1004 5	1009 9	1013 2	1023 0	1021 9	1011 9
	54511		2200 10		1023 6	1019 5	1017 8	1013 2	1009 3	1003 9	1000 0	1004 1	1010 3	1017 0	1017 1	1016 3	1012 2
	54511		2200 10	1	1024 1	1020 8	1015 4	1009 8	1004 9	9999	9998	1004 1	1011 0	1016 3	1020 1	1026 8	1012 6
	54511		2200 10	2	1024 2	1022 2	1017 4	1010 0	1005 0	1001 2	9997	1003 7	1010 5	1016 7	1021 4	1023 8	1013 0

Annex IV:

Example of submission in text fixed format file

CURICO GENERAL FREIRE CHILE
WMO Number: 85629 Latitude: 34 ° 58 ! S Longitude: 071 ° 14 ! W Elevation: 228 meters

Station Pressure (in millibars)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	MEAN
1981	989.0	986.9	989.1	989.8	990.0	993.8	993.2	992.9	993.5	991.6	989.9	988.3	990.7
1982	988.3	988.5	988.7	990.7	990.5	991.5	990.7	991.3	990.9	991.6	988.6	986.3	989.8
1983	985.2	986.3	987.3	988.3	989.5	991.4	991.2	991.9	992.9	990.1	989.1	987.8	989.3
1984	986.9	986.2	987.3	989.8	990.7	992.0	989.0	992.7	990.9	990.7	990.0	986.2	989.4
1985	987.5	986.1	986.3	990.3	990.1	990.0	991.4	992.7	990.4	989.6	988.7	988.1	989.3
1986	987.1	987.1	988.2	988.6	989.4	990.8	991.6	989.9	991.1	990.2	988.0	986.8	989.1
1987	985.9	984.7	986.2	988.5	989.9	991.9	987.2	990.4	991.7	989.6	988.2	987.6	988.5
1988	987.1	985.5	988.0	989.1	991.3	992.1	992.8	992.7	992.0	990.7	989.0	987.7	989.8
1989	985.5	985.8	987.8	987.9	990.6	991.1	990.7	992.3	990.4	990.2	987.6	988.2	989.0
1990	985.0	987.6	987.2	988.5	991.1	991.5	993.1	990.9	991.4	990.9	987.9	987.1	989.4
MEAN	986.8	986.5	987.6	989.2	990.3	991.6	991.1	991.8	991.5	990.5	988.7	987.4	989.4

Sea Level Pressure (in millibars)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	MEAN
1981	1015.1	1012.9	1015.4	1016.5	1016.9	1021.2	1020.6	1020.2	1020.6	1018.4	1016.3	1014.4	1017.4
1982	1014.3	1014.6	1015.0	1017.5	1017.7	1018.8	1017.9	1018.5	1017.8	1018.5	1015.0	1012.3	1016.5
1983	1011.0	1012.3	1013.6	1015.1	1016.7	1019.0	1018.6	1019.2	1020.0	1016.7	1015.3	1013.7	1015.9
1984	1012.8	1012.3	1013.6	1016.7	1018.0	1019.5	1016.3	1020.0	1017.8	1017.4	1016.6	1012.3	1016.1
1985	1013.5	1012.1	1012.6	1017.3	1017.2	1017.1	1018.7	1020.1	1017.3	1016.3	1015.0	1014.2	1016.0
1986	1013.1	1013.1	1014.7	1015.4	1016.4	1018.0	1019.0	1017.0	1018.2	1016.8	1014.5	1012.9	1015.8
1987	1011.8	1010.5	1012.4	1015.2	1017.1	1019.2	1014.4	1017.6	1018.7	1016.3	1014.5	1013.6	1015.1
1988	1013.1	1011.4	1014.4	1015.9	1018.6	1019.4	1020.2	1020.1	1019.2	1017.5	1015.3	1013.7	1016.6
1989	1011.4	1011.7	1014.2	1014.6	1017.8	1018.4	1018.1	1019.6	1017.4	1016.9	1013.9	1014.2	1015.7
1990	1010.9	1013.7	1013.6	1015.2	1018.3	1018.9	1020.6	1018.1	1018.4	1017.7	1014.3	1013.2	1016.1
MEAN	1012.7	1012.5	1014.0	1015.9	1017.5	1019.0	1018.4	1019.0	1018.5	1017.3	1015.1	1013.5	1016.1

Temperature (in degrees Celsius)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	MEAN
1981	19.4	19.3	16.7	13.6	12.0	7.2	7.7	8.2	9.8	12.8	15.9	18.8	13.5
1982	19.9	18.6	16.4	12.7	9.6	8.3	9.3	8.8	11.7	12.5	14.9	19.7	13.5
1983	20.5	19.1	16.1	12.2	7.9	5.4	6.5	8.6	9.7	14.0	17.3	19.9	13.1
1984	20.3	18.2	16.4	11.4	8.3	6.1	7.4	7.6	10.9	13.1	15.1	18.1	12.7
1985	19.3	18.6	15.8	10.6	9.6	9.6	7.6	7.6	11.0	13.0	16.2	18.6	13.1
1986	19.6	19.2	15.6	12.1	10.3	8.6	7.4	9.4	10.2	14.6	15.0	19.1	13.4
1987	20.3	20.1	17.5	12.2	8.6	7.6	8.4	8.6	10.5	14.1	17.3	18.8	13.7
1988	19.3	19.8	16.3	12.2	7.4	7.5	6.2	7.7	9.3	12.7	16.5	19.0	12.8
1989	20.6	19.9	15.9	12.0	8.8	8.1	7.2	8.0	10.0	13.2	17.0	19.4	13.3
1990	20.3	18.8	15.6	12.6	9.1	7.1	6.3	8.8	10.6	12.2	15.6	18.5	13.0
MEAN	20.0	19.2	16.2	12.2	9.2	7.6	7.4	8.3	10.4	13.2	16.1	19.0	13.2
CLINO	19.9	18.9	15.9	12.1	9.5	7.4	7.2	8.2	10.1	13.0	15.9	18.7	13.1

Precipitation (in millimeters)

1981	11.7	0	0	2.4	191.1	75.2	44.6	110.8	33.7	18.9	0.2	0	488.6
1982	7.0	0	37.7	14.7	168.9	408.8	208.7	115.1	186.7	43.9	2.0	0	1193.5
1983	8.3	1.0	0.3	17.5	55.9	147.9	139.7	116.0	24.9	0.4	0	0.2	512.1
1984	0	1.5	3.0	22.4	203.7	135.2	390.3	108.3	65.2	47.4	6.7	0	983.7
1985	0.3	0	29.9	25.0	127.1	26.1	126.5	6.6	46.7	71.9	0.2	0	460.3
1986	0	2.1	18.8	86.7	221.0	216.2	40.7	117.0	13.1	11.0	94.1	0	820.7
1987	0	0	11.5	14.3	78.0	40.1	397.5	149.9	87.3	29.1	0	T	807.7
1988	0	0	42.0	24.6	26.0	108.5	116.3	93.5	24.8	7.6	6.8	T	450.1
1989	0.5	0	2.0	2.2	28.0	64.0	122.1	125.0	30.1	20.8	8.0	17.9	421.4
1990	0.8	0.2	40.7	27.1	27.3	32.6	86.4	40.2	85.8	32.3	15.2	0.1	388.7
MEAN	2.9	0.5	18.6	23.7	112.8	125.5	167.3	98.2	59.8	28.3	13.3	1.8	652.7
CLINO	4	1	15	32	110	149	166	98	57	36	23	12	703

Annex V:

Example of history Metadata (Stations notes)

Sample of Published Station Notes

TRINIDAD AND TOBAGO (2 stations)

General:

All observation hours were in local time. A total of 24 hourly observations per day were used in computing the means of temperature and pressure except at Crown Point. At this station, part time operation existed during June to December 1980; January 1976; 1977, and 1978; February, March, April 1976; and for February, March, and April 1978. Observation hours during these periods were 0700 to 2300 hours or 0800 to 2200 hours.

At Piarco, the period of record of CLINO values for sea level pressure and temperature was 1946-1975. For precipitation it was 1946-1980. No CLINO exists for Crown Point since past records begin only in 1970.

Pressure:

Pressure was measured by a Kew Pattern barometer until 1974 after which a precision Aneroid type was used. Heights of the barometers were 13.4 meters at Piarco and 6.7 meters at Crown Point.

Temperature:

Thermometers, housed in a standard Stevenson Screen, were 1.2 meters above ground at both stations.

Precipitation:

Rainfall was measured by a pot gauge. A Tilting - Siphon rain recorder adjusted the pot gauge. Rainfall was measured four times daily at 0200, 0800, 1400, and 2000 hours local time at both stations except during part time operations at Crown Point. Heights of the rain gauges were .3 meters at Piarco, and 3 meters at Crown Point.

URUGUAY (13 stations)

General:

CLINO values correspond to the period 1951-80 for precipitation and 1946-1980 for other elements. Rain gauges and thermometers were located 1.5 meters above the ground.

Pressure and Temperature:

The monthly pressure and temperature values were both computed from the equation:

1/10(00+03+06+09+12+15+18+21 hours GMT + Mean Max + Mean Min)

Precipitation:

The daily values were measured at 0900 hours GMT.