



# WMO OMM

World Meteorological Organization  
 Organisation météorologique mondiale  
 Organización Meteorológica Mundial  
 Всемирная метеорологическая организация  
 المنظمة العالمية للأرصاد الجوية  
 世界气象组织

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Наш исх.: 09732/2020/S/CS/CMP/WWR-2020

29 мая 2020 г.

Приложение: 1 (только на английском языке)

Вопрос: Сбор данных для включения в серию мировых данных о погоде за 2018 и 2019 годы

Предлагаемые меры: Представить данные как можно скорее, **но не позднее 31 июля 2020 г.**

Уважаемый господин/Уважаемая госпожа!

Позвольте проинформировать Вас о том, что были приняты меры по сбору данных для подготовки серии мировых данных о погоде (МДП). Как Вы помните, Семнадцатый Всемирный метеорологический конгресс (Кг-17) отметил успехи в осуществлении нового подхода к ежегодному представлению МДП и настоятельно призвал Членов своевременно представлять свои данные, как указано в [резолюции 14 \(ИС-64\)](#) «Представление мировых данных о погоде на ежегодной основе» (*Исполнительный совет: Сокращенный окончательный отчет шестьдесят четвертой сессии* (ВМО-№ 1092).

В этой связи Вам предлагается подготовить данные со станций из вашей страны, перечисленных в Инструменте анализа и обзора возможностей систем наблюдений для наземных наблюдений (ОСКАР/Поверхность) Всемирной метеорологической организации (ВМО), доступном по адресу: <https://oscar.wmo.int/surface>. Данные должны охватывать 2018 и 2019 годы, а **если еще не были представлены** данные за 1991—2000, 2001—2010, а также за 2011, 2012, 2013, 2014, 2015, 2016 и 2017 годы, то просьба представить также и эти данные. Я хотела бы особо отметить, что в наших базах данных присутствуют значительные пробелы в данных из большинства частей мира за указанные периоды и годы.

Необходимо, чтобы данные были оцифрованы и представлены либо в формате EXCEL, либо в текстовом формате в соответствии с прилагаемым обновленным проектом документа «*Guidelines for the Submission of the World Weather Records 2011+*» (Руководящие принципы для представления мировых данных о погоде за 2011 и последующие годы) (ВМО-№1186) (проект версии 3.0, май 2020 г.). Обновления включают в себя пересмотренную (логическую) последовательность климатических элементов (раздел II.1), соответствующие изменения образцов, в том числе для размещения идентификаторов станций ИГСНВ (раздел II.2) и пересмотренный механизм сбора данных о МДП (приложение 1). Обновленные образцы в формате EXCEL и текстовом формате доступны по адресу: <http://www.community.wmo.int/world-weather-records-wwr>.

Постоянным представителям (или директорам метеорологических или гидрометеорологических служб) Членов ВМО

Копии: Президентам региональных ассоциаций  
 Президенту и вице-президентам СЕРКОМ  
 Президенту и вице-президентам ИНФКОМ  
 Директору национальных центров по информации об окружающей среде (НЦИОС),  
 Эшвилл

В целях содействия публикации данных в серии МДП я была бы признательна, если бы Вы направили Ваш вклад как можно скорее, но не позднее **31 июля 2020 г.**, в соответствующий ведущий центр Глобальной системы наблюдений за климатом (ГСНК) в соответствии с приложением 1 к руководящим принципам.

Ежегодные обновленные МДП, собранные по этой схеме и в дальнейшем проверенные на предмет качества, доступны на веб-сайте Мирового центра данных по метеорологии по адресу: <https://www.ncdc.noaa.gov/wdcmet/data-access-search-viewer-tools/world-weather-records-wwr-clearinghouse>. В состав самых последних обновленных данных входят данные за 2011–2016 годы текущей 11-й серии МДП (2011–2020 гг.).

Если Вам потребуются дополнительные разъяснения, просьба обращаться в Отдел обслуживания в областях мониторинга климата и политики (к г-ну Омару Баддуру, начальнику Отдела обслуживания в областях мониторинга климата и политики, и г-ну Перу Хехлеру, научному сотруднику, по адресу: [wcdmp@wmo.int](mailto:wcdmp@wmo.int)).

С уважением,



(Е. Манаенкова)  
за Генерального секретаря

# ***Draft updated Guidelines*** for the Submission of the World Weather Records 2011 +

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Ref.: 10905/2020-1.0 GS

**Version 3.0, May 2020, NCEI /WMO/PH;**

Updates of content highlighted:

- Section II.1: Revised (logical) sequence of the climatic elements
- Section II.2: Template adjustments including accommodation of WIGOS Station Identifier (template adjustments have been incorporated –but not highlighted anymore- in Annexes 2 and 3)
- Annex 1: Update of collection mechanism
- Text alignments and updates as appropriate

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## I. BACKGROUND

### 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 ten 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, 2001-2010). 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 2011+ 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. World Meteorological 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, submit WWR for 2001-2010, and -starting from 2011- move towards annual updates of the WWR. This approach has been formalised through Resolution 14 (EC-64) Submission of World Weather Records on an Annual Basis.

### I.2 Submission Channels of the WWRs

Each WMO Member should submit two types of files to the responsible CBS Lead Center for GCOS or to WMO as appropriate (see suggested collection mechanisms in ANNEX I). The first file type should contain station data for the country (single Excel file containing all stations OR single text file per station) and the second should contain a history metadata file (ANNEX IV). 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](mailto:wcdmp@wmo.int).

### I.3 Quality Assurance and Accessibility of WWRs

WWRs can be accessed through the World Data Centre for Meteorology, National Centers for Environmental Information (NCEI), Asheville, United States of America at <https://www.ncdc.noaa.gov/wdcmet/data-access-search-viewer-tools/world-weather-records-wwr-clearinghouse>. It is planned to provide access to quality-controlled WWRs within six months of the WMO's submission deadline annually. Routine quality assurance reviews of NCEI focus on gross data problems and include format consistency checks, determination of duplication and reasonableness of submitted values and metadata.

## 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:

- (code 2) Monthly mean station pressure
- (code 3) Monthly mean sea level pressure
- (code 4) Monthly mean air temperature

(code 5) Total precipitation in tenths of a mm **Monthly mean maximum temperature**

(code 6) Mean daily maximum air temperature in tenths of a °C **Monthly mean minimum temperature**

(code 7) Mean daily minimum air temperature in tenths of a °C **Total monthly precipitation**

*As practiced in recent years, monthly means of daily relative humidity can be submitted too:*

(code 8) *Monthly mean relative humidity.*

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 2011, February 2011, ..., December 2015+). 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/WIGOS Station Identifier.**

## II.2 Data Format

Each WMO Member should submit the WWRs data in either Excel or text file format. This section describes the format of these files, which are similar to previous editions of WWR. There are generally two record types in these formats:

- (a) Station header records documenting basic station characteristics
- (b) Yearly data records with monthly and annual data for a particular year

*Note that Decadal Average (MEAN) and Climate Normal (CLINO) records are no longer necessary with this data submission.*

### Option 1: Excel

An example of a properly formatted Excel submission is given in ANNEX II and an electronic template is provided to Members. A single Excel file should contain all stations for a given country, with a single station on each tab, and each tab containing a single station's elements.

The first line for each station must be a station header record, which should contain the most recent information for the station. **A second header record line has been added to accommodate the new WIGOS Station Identifier.**

The next yearly data record section contains data for each climatic element for that station. Leave the element section blank if the station does not report that element.

(a) **Station Header Records**

Station header records contain 15 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:

Ref.: 10905/2020-10 GS

FIELD	COLUMNS	CONTENTS	NOTES
	1-2		Leave these columns blank
1A	3-7	WMO number	5-digit with leading 0 if applicable, right-justified. Leave null if new station with only WIGOS Station Identifier.
2B	8-8	Element Designator Code	1 = Station header record
3C	9-10	Degrees of latitude (0-90)	Right-justified
4C	11-12	Minutes of latitude (0-59)	Right-justified
5C	13-14	Seconds of latitude (if available, 0-59)	Right-justified
6C	15-15	Hemisphere of latitude	N (Northern) or S (Southern)
7D	16-18	Degrees of longitude (0-180)	Right-justified
8D	19-20	Minutes of longitude (0-59)	Right-justified
9D	21-22	Seconds of longitude (if available, 0-59)	Right-justified
10D	23-23	Hemisphere of longitude	E (Eastern) or W (Western)
11E	24-47	Name of country in English	Left-justified
12F	48-71	Name of station in English	Left-justified
13G	72-76	Height of station above sea level (whole meters)	Right-justified
14H	77-83	Height of barometer above sea level (tenths of meters)	Right-justified
L	3-33	WIGOS Station Identifier (WSI)	Maximum 31 character identifier from WMO's OSCAR system, left-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 (if applicable), element type, year, monthly data values, and the annual value. Stated in tabular form, the contents include the following:

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FIELD	COLUMNS	CONTENTS	NOTES
	1-2		Leave these columns blank
1A	3-7	WMO number	5-digit with leading 0 if applicable, right-justified. Leave null if new station with only WIGOS Station Identifier.
2B	8-8	Element Designator Code	<p>2 = mean station pressure in tenths of hpa.</p> <p>3 = mean sea level pressure in tenths of hpa.</p> <p>4 = mean daily air temperature in tenths of a °C.</p> <p>5 = total precipitation in tenths of a mm.</p> <p>6 = mean daily maximum air temperature in tenths of a °C.</p> <p>7 = mean daily minimum air temperature in tenths of a °C.</p> <p>8 = mean of the daily relative humidity in whole percent.</p>
3I	9-12	Year	4-digits
4J	13-13	Average Value Designator Code	Blank = Yearly data record
5K	14-18	January	<b>If a value is missing, then leave the field blank.</b>
6K	19-23	February	
7K	24-28	March	<b>All values should be right-justified.</b>
8K	29-33	April	
9K	34-38	May	Decimal points are implied (e.g., 1014.1 hpa should be entered as "10141").
10K	39-43	June	
11K	44-48	July	If there is no value after the decimal, the last character should be
12K	49-53	August	
13K	54-58	September	"0" (e.g., 1014.0 hpa should be "10140").
14K	59-63	October	
15K	64-68	November	If the temperature is negative, the 1 <sup>st</sup> value of the field should be "-" (e.g., -13).
16K	69-73	December	
17K	74-78	Annual	If precipitation is zero, the field should be "0". If there was trace precipitation, the field should be "T".

If data are missing for an entire year, then only complete Fields 1–4A, B, I and J.

Yearly data can be provided only for the data-year in question but also for other data-years where data were not previously submitted or need to be corrected.

## Option 2: Text

An example of a properly formatted text file submission is given in ANNEX III and a template is provided. A single text file should contain one station containing that single station's elements.

The first line for each station must be a station header record which should contain the most recent information for the station. A second header record line has been added to accommodate the new WIGOS Station Identifier.

The next yearly data record section contains data for each climatic element for that station. Leave the element section blank by using spaces if the station does not report that element. Do not use 9's or -9's or tabs to represent missing data.

### (a) Station Header Records

Station header records contain 8 rows documenting basic station characteristics. These characteristics should represent the most recent location of the station.

LINE	POSITION	CONTENTS	NOTES
1	40-44	WMO number	5-digit with leading 0 if applicable, left-justified. Leave null if new station with only WIGOS Station Identifier.
2	40-63	Name of station in English	Left-justified
3	40-63	Name of country in English	Left-justified
4	40-49	Latitude Degrees (0-90) Minutes (0-59) Seconds (0-59) Direction (N or S)	Left-justified, example 09 04 00N
5	40-50	Longitude Degrees (0-180) Minutes (0-59) Seconds (0-59) Direction (E or W)	Left-justified, example 000 45 59S
6	40-49	Height of station above sea level	Left-justified, whole meters
7	40-49	Height of barometer above sea level	Left-justified, tenths of meters, explicit decimal
8	40-70	WIGOS Station Identifier (WSI)	Maximum 31 character identifier from WMO's OSCAR system, left-justified

(b) ***Yearly Data Records***

Each yearly data record contains monthly and annual data for a particular year. These records contain 14 fields documenting the year, element type, monthly data values, and the annual value. Stated in tabular form, the contents include the following:

Ref.: 10905/2020-10 GS

FIELD	COLUMNS	CONTENTS	NOTES
1	1-4	Year	4-digits
2	6-11	January	<b>If a value is missing, then leave the field blank.</b>
3	13-18	February	
4	20-25	March	<b>All values should be right-justified.</b>
5	27-32	April	
6	34-39	May	Decimal points should be explicitly noted except for relative humidity (which is rounded to whole percent).
7	41-46	June	
8	48-53	July	If there is no value after the decimal, the last character should be "0" (e.g., 1014 hpa should be "1014.0").
9	55-60	August	
10	62-67	September	If the temperature is negative, the 1 <sup>st</sup> value of the field should be "-" (e.g., -13).
11	69-74	October	
12	76-81	November	
13	83-88	December	If precipitation is zero, the field should be "0". If there was trace precipitation, the field should be "T".
14	90-95	Annual	

If data are missing for an entire year, then only complete Field 1. If data are missing for any months, use spaces to fill (not the tab key).

Yearly data can be provided only for the data-year in question but also for other data-years where data were not previously submitted or need to be corrected.

### 11.3 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, and the types of instrumentation. 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 (changes in) basic parameters such as location and elevation. An example of station notes is given in Annex IV.

**Annex I: Proposed collection mechanism by region**

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<b>REGION</b>	<b>Countries (ENG)</b>	<b>Collection mechanism</b>	<b>Alternative</b>
<b>REGION I</b>	Angola, Algeria, Benin, Botswana, Burkina Faso, Burundi, Cameroon, Canary Islands, Comoros Islands, Cape Verde, Central African Republic, Chad, Congo, Côte d'Ivoire, Democratic Republic of the Congo, Djibouti, Egypt, Eritrea, Ethiopia, Gabon, Ghana, Gambia, Guinea, Guinea Bissau, Guinea Equatorial, Kenya, Lesotho, Liberia, Libya, Madagascar, Malawi, Mali, Niger, Nigeria, Mauritania, Mauritius, Morocco, Mozambique, Namibia, the Ocean Islands (St. Helena Island, Ascension Island, Martin de Vivies, Iles Crozet, Iles Kerguelen), Rwanda, Senegal, Seychelles, Sierra Leone, Sao Tome and Principe, Somalia, South Africa, <b>South Sudan</b> , Sudan, Swaziland, Togo, Tunisia, Uganda, United Republic of Tanzania, Zambia, Zimbabwe	CBS Lead Center for GCOS Africa, Morocco (DMN), cbs.lead.centre.4gcos@gmail.com	<b>WMO, Geneva;</b> <b>wedmp@wmo.int</b>
<b>REGION II</b>	Afghanistan, Armenia, Azerbaijan, Bahrain, Brunei, Cambodia, China, India, Iran, Japan, Jordan, Kazakhstan, Kyrgyzstan, Laos, Malaysia, Maldives, Mongolia, Myanmar, Nepal, Oman, Pakistan, Philippines, Qatar, Republic of Korea, Russian Federation, Saudi Arabia, Singapore, Sri Lanka, Syria, Tajikistan, Thailand, Turkey, United Arab Emirates, Vietnam, Yemen	CBS Lead Center for GCOS Asia, Japan (JMA); climatemonitor@met.kishou.go.jp	<b>WMO, Geneva;</b> <b>wedmp@wmo.int</b>
<b>REGION III</b>	All countries of RA III	CBS Lead Center for GCOS South America, Chile (DMC); gtorres@meteochile.cl	<b>WMO, Geneva;</b> <b>wedmp@wmo.int</b>
<b>REGION IV</b>	All countries of RA IV	CBS Lead Center for GCOS North and Central America, Caribbean, USA (NCEI); gcos.ncdc@noaa.gov	<b>WMO, Geneva;</b> <b>wedmp@wmo.int</b>
<b>REGION V</b>	Countries of RA V, which are not noted under RA II	CBS Lead Center for GCOS South West Pacific, Australia (BOM); GCOS_Lead_Centre_RAV@bom.gov.au	<b>WMO, Geneva;</b> <b>wedmp@wmo.int</b>
<b>REGION VI</b>	Countries of RA VI, which are not noted under RA II	CBS Lead Center for GCOS Europe, Germany (DWD); <b>CBS-LC-GCOS.RAVI@dwd.de</b>	<b>WMO, Geneva;</b> <b>wedmp@wmo.int</b>

**Note: The above CBS Lead Centres for GCOS constitute the principle regional nodes of the WWR collection mechanism. The WMO Secretariat does not act as a node in the WWR collection mechanism. Members are requested to contact the WMO Secretariat ([wcdmp@wmo.int](mailto:wcdmp@wmo.int)) for coordination should submission problems arise.**

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**Annex II: Example Excel File (single station per tab)**

Ref.: 10905/2020-1.GS

				World Weather Records																																	
				Data Sheet, Single Station (All Elements)																																	
				Station Header Records																																	
Rank		A		B		C		D		E		F		G		H																					
Rank		WMO Number		Latitude		Longitude		Country Name (English)		Station Name (English)		Station Height		Barometer Height																							
		85629		1		34° 58' 01"S		071° 13' 59"W		CHILE		CURICO		225													9										
		L																									224										
		Rank		WIGOS Station Identifier																								9									
		0-20000-0-85629																																			
		Yearly Data Record		(2) Mean Station Pressure (tenths of hPa, decimal implied, example 10228 means 1022.8)																																	
		Rank		A		B		I		J		K		L		M		N		O		P		Q		R		S									
		Rank		WMO Number		Year		#		January		February		March		April		May		June		July		August		September		October		November		December					
		85629		2		2011		10228		10123		10111		10031		9998		10000		10056		10124		10168		10206		10284		10129							
		85629		2		2012		10207		10127		10094		10076		10020		9997		10044		10124		10161		10200		10266		10127							
		85629		2		2013		10238		10190		10101		10070		10008		10040		10101		10158		10227		10247		10133									
		85629		2		2014		10238		10152		10086		10041		10039		10051		10045		10107		10185		10204		10248		10126							
		85629		2		2015		10234		10181		10077		10049		9979		10000		10098		10119		10174		10170		10263		10128							
		85629		2		2016		10238		10190		10101		10070		10008		10040		10101		10158		10227		10247		10133									
		85629		2		2017		10238		10152		10086		10041		10039		10051		10045		10107		10185		10204		10248		10126							
		85629		2		2018		10238		10152		10086		10041		10039		10051		10045		10107		10185		10204		10248		10126							
		85629		2		2019		(3) Mean Sea Level Pressure (tenths of hPa, decimal implied, example 10269 means 1026.9)																													
		Rank		A		B		I		J		K		L		M		N		O		P		Q		R		S		T							
		Rank		WMO Number		Year		#		January		February		March		April		May		June		July		August		September		October		November		December					
		85629		3		2011		10269		10162		10146		10067		10034		10036		10092		10161		10204		10245		10325		10167							
		85629		3		2012		10247		10165		10132		10096		10033		10080		10161		10199		10240		10307		10165									
		85629		3		2013		10279		10249		10139		10107		10044		10040		10076		10138		10196		10267		10171									
		85629		3		2014		10279		10275		10200		10114		10086		10015		10086		10072		10156		10243		10286		10166							
		85629		3		2015		10279		10249		10139		10107		10044		10040		10076		10138		10196		10267		10171									
		85629		3		2016		10279																													

### **Annex III: Example Text File (single station per file)**

Ref.: 10905/2020-L.0 G5

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(4) Mean Daily Air Temperature (precision to tenths of degrees Celsius)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	ANNUAL
2011	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
2012	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
2013	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
2014	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
2015	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
2016	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
2017	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
2018													
2019													

(5) Total Precipitation (precision to tenths of mm)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	ANNUAL
2011	11.7	0	0	2.4	191.1	75.2	44.6	110.8	33.7	18.9	0.2	0	488.6
2012	7.0	0	37.7	14.7	168.9	408.8	208.7	115.1	186.7	43.9	2.0	0	1193.5
2013	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
2014	0	1.5	3.0	22.4	203.7	135.2	390.3	108.3	65.2	47.4	6.7	0	983.7
2015	0.3	0	29.9	25.0	127.1	26.1	126.5	6.6	46.7	71.9	0.2	0	460.3
2016	7.0	0	37.7	14.7	168.9	408.8	208.7	115.1	186.7	43.9	2.0	0	1193.5
2017	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
2018													
2019													

(6) Mean Daily Maximum Air Temperature (precision to tenths of degree Celsius)

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	ANNUAL
2011	1.3	3.6	13.9	20.4	29.5	30.8	32.3	30.5	26.7	19.1	11.1	1.6	18.2
2012	5.9	10.1	16.3	20.0	27.9	28.5	32.7	30.6	27.1	16.1	8.3	0.5	18.7
2013	1.6	6.1	11.0	20.8	26.8	30.4	31.0	31.7	25.5	18.6	7.1	5.3	18.0
2014	2.6	8.2	13.4	22.3	26.4	30.4	30.7	29.3	26.7	20.0	11.9	3.1	18.8

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2015	2.1	1.3	12.5	22.7	25.6	31.5	32.7	30.3	27.2	20.6	13.4	1.6	18.5
2016	1.6	6.1	11.0	20.8	26.8	30.4	31.0	31.7	25.5	18.6	7.1	5.3	18.0
2017	2.6	8.2	13.4	22.3	26.4	30.4	30.7	29.3	26.7	20.0	11.9	3.1	18.8
2018													
2019													
(7) Mean Daily Minimum Air Temperature (precision to tenths of degree Celsius)													
Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	ANNUAL
2011	9.3	6.0	1.3	8.3	15.8	20.7	22.7	21.2	16.0	8.8	0.3	6.6	7.7
2012	5.2	2.8	3.2	8.9	15.4	19.4	22.8	21.5	14.3	5.7	1.6	6.2	8.0
2013	1.6	6.1	11.0	20.8	26.8	30.4	31.0	31.7	25.5	18.6	7.1	5.3	18.0
2014	2.6	8.2	13.4	22.3	26.4	30.4	30.7	29.3	26.7	20.0	11.9	3.1	18.8
2015	2.1	1.3	12.5	22.7	25.6	31.5	32.7	30.3	27.2	20.6	13.4	1.6	18.5
2016	1.6	6.1	11.0	20.8	26.8	30.4	31.0	31.7	25.5	18.6	7.1	5.3	18.0
2017	2.6	8.2	13.4	22.3	26.4	30.4	30.7	29.3	26.7	20.0	11.9	3.1	18.8
2018													
2019													
(8) Mean Daily Relative Humidity (whole percent)													
Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	ANNUAL
2011	57	62	31	46	44	63	68	71	63	73	56	42	56
2012	19	22	29	35	41	45	46	46	42	37	28	22	34
2013	20	22	25	33	41	45	47	46	43	38	27	20	34
2014	20	22	29	31	39	45	47	46	43	38	27	18	34
2015	18	20	26	34	40	45	47	47	43	37	25	23	34
2016	20	22	25	33	41	45	47	46	43	38	27	20	34
2017	20	22	29	31	39	45	47	46	43	38	27	18	34
2018													
2019													

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**Annex IV: Station Notes Example**

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**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 22 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:

$$1/10(00+03+06+09+12+15+18+21 \text{ hours GMT} + \text{Mean Max} + \text{Mean Min})$$

**Precipitation:**

The daily values were measured at 0900 hours GMT.