Department of Commerce · National Oceanic & Atmospheric Administration · National Weather Service

NATIONAL WEATHER SERVICE INSTRUCTION 10-1002
JULY 9, 2021

Operations and Services
Climate Services, NWSPD 10-10

CLIMATE MONITORING

NOTICE: This publication is available at: https://www.weather.gov/directives/

OPR: W/AFS23 (S. Baxter) **Certified by:** W/AFS23 (M. Timofeyeva)

Type of Issuance: Routine - Admin Update

SUMMARY OF REVISIONS: This instruction supersedes NWS Instruction 10-1002, issued July 9, 2021. This is an administrative update made only to fix broken links in sections Cover Page, 3, 3.1, 6, 6.3. No content changes were made with this update, and the effective date was not affected.

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June 25, 2021

Allison Allen
Director,
Analyze, Forecast and Support Office

Date

Climate Monitoring

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1. Introduction. This instructional directive describes the narrative and graphical climate monitoring products issued by the National Weather Service's (NWS) Climate Prediction Center (CPC). World Meteorological Organization (WMO) product headings and Advanced Weather Interactive Processing System (AWIPS) identifiers are listed (if available) for NWS dissemination systems. All products are available or linked through http://www.cpc.ncep.noaa.gov on the internet unless indicated otherwise.

2. Crop Moisture Index. Internet issuance only; http://www.cpc.ncep.noaa.gov/products/analysis_monitoring/regional_monitoring/cmi.gif no WMO heading and no AWIPS ID:

2.1 Mission Connection. Crop Moisture Index is prepared by the Climate Prediction Center's Operational Prediction Branch. USDA's Joint Agricultural Weather Facility (JAWF), located at

the U.S. Department of Agriculture (USDA), utilizes this bulletin for short-term planning by agricultural interests.

2.2 Issuance Guidelines.

2.2.1 Creation Software. CPC uses ARCGIS for these graphics.

2.2.2 Issuance Criteria. These are scheduled products.

2.2.3 Issuance Time. CPC issues this product each Monday at around 6:00 PM Eastern local time.

2.2.4 Valid Time. This product is valid for one week after issuance.

2.2.5 Product Expiration Time. This product expires with the next issuance one week later.

2.3 Technical Description. CPC will follow the format and content described in this section.

2.3.1 Content. The index depicts short-term (up to 4 weeks) abnormal dryness or wetness affecting agriculture. This index responds rapidly, can change considerably from week to week, and indicates normal conditions at the beginning and end of the growing season.

2.3.2 Format. CPC assigns numerical index values for each National Centers for Environmental Information (NCEI) climate data division.

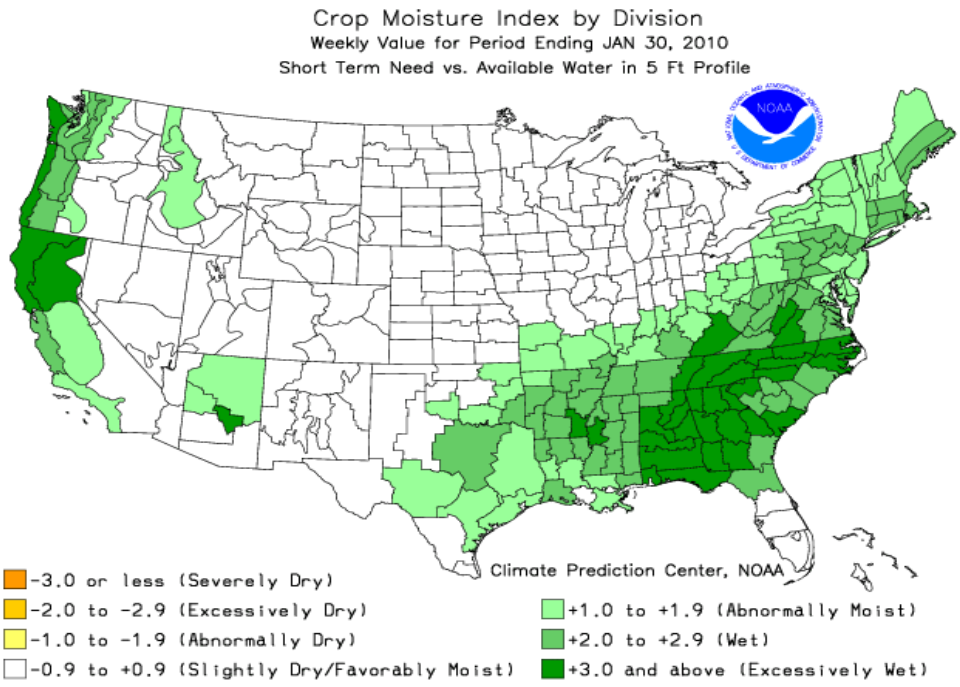

Figure 1. Crop Moisture Index for week ending January 30, 2010.

2.4 Updates, Amendments, and Corrections. CPC does not issue updates or amendments. They will issue corrections as needed.

3. Weekly Weather and Crop Bulletin (*WWCB*). Internet issuance only. No WMO heading and no AWIPS ID.

The electronic internet version remains free and is print-available on the internet at https://www.usda.gov/sites/default/files/documents/wwcb.pdf.

3.1 Mission Connection. The *WWCB* is prepared by the Joint Agricultural Weather Facility (JAWF) located at the USDA. CPC provides data and products to the JAWF that is comprised of a partnership between NWS/NCEP/CPC and USDA. The JAWF issues this bulletin to provide information for agricultural operations.

3.2 Issuance Guidelines.

3.2.1 Creation Software. JAWF creates products in PDF format.

3.2.2 Issuance Criteria. These are scheduled products.

3.2.3 Issuance Time. JAWF issues the product by 12:00 noon Eastern local time on the third business day of the week. This will be Wednesday except on Thursdays when there is a Federal holiday on the preceding Monday.

3.2.4 Valid Time. This product is valid for one week after issuance.

3.2.5 Product Expiration Time. This product expires with the next issuance.

3.3 Technical Description. The team will follow the format and content described in this section.

3.3.1 Content. JAWF includes reports on United States weather and crop status for the past week as well as growing conditions around the world. A monthly text summary with precipitation and temperature maps are produced for the U.S. and all the International areas (3.3.2 below). A seasonal text summary with precipitation and temperature maps are produced only for the U.S. every 3 months (e.g. winter, spring, summer, and fall).

3.3.2 Format. The following is usually included in the bulletin:

Highlights and Total Precipitation Map
Impact(s) from significant event(s) map(s) and summary/summaries
Temperature Departure and Average Temperature Maps
Extreme Maximum and Minimum Temperature Maps
Agricultural Weather Data
Soil Temperature Map (in season)
Growing Degree Day Maps (in season) and Pan Evaporation Map (in season)
National Weather Data for Selected Cities (tables)
National Agricultural Summary and Snow Cover Map (in season)
International Weather and Crop Summary (brief text highlights of each area below)
- Total weekly precipitation map and detailed text summary for each area
  - Africa – Northwestern (winter) and South (winter)
  - Asia – Eastern, South, and Southeast
  - Australia
  - Canada (2) – Southeastern & Prairies (summer)
  - Europe
  - Former Soviet Union – Western and Eastern (summer)
  - Middle East
  - Mexico (summer)
  - South America – Brazil & Argentina

Weekly U.S. Records Map & Bulletin Information

JAWF may also occasionally include CPC outlooks, other CPC monitoring information, and hydrological information in the bulletin, as appropriate.

3.4 Updates and Corrections. JAWF does not issue updates or amendments. They will issue corrections as needed.

4. Climate Diagnostics Bulletin. Issued on the Internet only. http://www.cpc.ncep.noaa.gov/products/CDB/. No WMO heading and no AWIPS ID.

4.1 Mission Connection. CPC issues this bulletin to provide insight into climate outlooks by reviewing past climate conditions and looking ahead to implications on the upcoming seasons.

4.2 Issuance Guidelines.

4.2.1 Creation Software. CPC issues the publication using web page creation software.

4.2.2 Issuance Criteria. This is a scheduled product.

4.2.3 Issuance Time. CPC issues the bulletin on the 15th of the month (if a weekday), or the first weekday after the 15th.

4.2.4 Valid Time. This product is valid until the next issuance.

4.2.5 Product Expiration Time. This product expires with the next issuance.

4.3 Technical Description. CPC will follow the format and content described in this section.

4.3.1 Content. CPC reports on the previous month's status of the ocean-atmosphere climate system in the tropics and extratropics and provides analysis of various seasonal outlook guidance tools.

4.3.2 Format. The following is a generic table of contents (text and graphics).

- Tropical Highlights
- Forecast Forum
  - Outlook statement
  - Discussion
- Extratropical Highlights
  - Northern Hemisphere
    - North America
    - Europe and Asia
  - Southern Hemisphere

4.4 Updates, Amendments, and Corrections. CPC does not issue updates or amendments. They will issue corrections as needed.

5. CLIMAT messages. WMO Headings (nine Messages): CSXX(01-09) KWNO. No internet posting.

5.1 Mission Connection. The program for the international exchange of monthly mean data is called the "CLIMAT" program. The World Data Center for Meteorology (operated by NCEI) collects CLIMAT messages for publication under WMO sponsorship. The CLIMAT program serves the following objectives:

- To provide regular assessments and authoritative statements on the interpretation and applicability of instrumental and proxy data for the study of climate variability, the detection of climate change, and the validation of climate models and forecasts;
- To develop awareness of the inter-annual variability of the global climate system and to facilitate the generation, interpretation, and dissemination of this information in global and regional scale climate fluctuations;
- To support the Global Climate Observing System in the maintenance and integrated development of existing observation systems, including traditional in situ surface and upper-air observations, satellite systems, and new observing technologies;
- To facilitate the development and implementation of methods to enable the rescue, preservation, and management of climate data by WMO Members, especially developing countries; promote the international exchange of climate data and related products; and coordinate the preparation and distribution of global and regional data sets, including metadata, as required for both research and development of climate information and prediction services.

5.2 Issuance Guidelines.

5.2.1 Creation Software. NCEI generates text messages using a special CLIMAT program that extracts the surface observed data from various daily data bases. NCEI generates CLIMAT messages from METAR observations at specified Automated Surface Observation System observing sites.

5.2.2 Issuance Criteria. These are scheduled products.

5.2.3 Issuance Time. NCEI issues the CLIMAT messages once a month on a weekday between the fourth and sixth around 1800 UTC.

5.2.4 Valid Time. This product is valid until the next issuance.

5.2.5 Product Expiration Time. This product expires with the next issuance.

5.3 Technical Description. NCEI uses the following format and content described in this section.

5.3.1 Content. NCEI provides coded monthly CLIMAT reports for the following stations within the 50 states, Puerto Rico and Pacific Islands. These stations are:

index#	name	state	site
72517	ALLENTOWN	PA	KABE
72365	ALBUQUERQUE	NM	KABQ
72256	WACO	TX	KACT
72218	AUGUSTA	GA	KAGS
72518	ALBANY	NY	KALB
72462	ALAMOSA	CO	KALS
72734	SAULT STE MARIE	MI	KANJ
72791	ASTORIA	OR	KAST
72254	AUSTIN/CITY	TX	KATT
72315	ASHEVILLE	NC	KAVL
72508	WINDSOR LOCKS	CT	KBDL
72566	SCOTTSBLUFF	NE	KBFF
72515	BINGHAMTON	NY	KBGM
72480	BISHOP	CA	KBIH
72764	BISMARCK	ND	KBIS
72327	NASHVILLE	TN	KBNA
72681	BOISE	ID	KBOI
72241	BEAUMONT/PORT ARTHUR	TX	KBPT
72230	BATON ROUGE	LA	KBTR
72528	BUFFALO	NY	KBUF
72310	COLUMBIA	SC	KCAE
72360	CLAYTON	NM	KCAO
72324	CHATTANOOGA	TN	KCHA
72208	CHARLESTON	SC	KCHS
72314	CHARLOTTE	NC	KCLT
72458	CONCORDIA	KS	KCNK
72466	COLORADO SPRINGS	CO	KCOS
72569	CASPER	WY	KCPR
72414	CHARLESTON	WV	KCRW
72421	COVINGTON	KY	KCVG
72205	DAYTONA BEACH	FL	KDAB
72429	DAYTON	OH	KDAY
72405	WASHINGTON	DC	KDCA
72565	DENVER	CO	KDEN
72745	DULUTH	MN	KDLH
72546	DES MOINES	IA	KDSM
74694	ELIZABETH CITY	NC	KECG
72582	ELKO	NV	KEKO
72486	ELY	NV	KELY
72693	EUGENE	OR	KEUG
72502	NEWARK	NJ	KEWR
72753	FARGO	ND	KFAR
72375	FLAGSTAFF	AZ	KFLG
72637	FLINT	MI	KFNT
72344	FORT SMITH	AR	KFSM
72785	SPOKANE	WA	KGEG
72476	GRAND JUNCTION	CO	KGJT
72242	GALVESTON	TX	KGLS
72645	GREEN BAY	WI	KGRB
72635	GRAND RAPIDS	MI	KGRR
72312	GREER	SC	KGSP
72772	HELENA	MT	KHLN
72266	ABILENE	TX	KABI
72659	ABERDEEN	SD	KABR
72407	ATLANTIC CITY	NJ	KACY
72311	ATHENS	GA	KAHN
72548	WATERLOO	IA	KALO
72363	AMARILLO	TX	KAMA
72639	ALPENA	MI	KAPN
72219	ATLANTA	GA	KATL
74745	AUSTIN/BERGSTROM	TX	KAUS
72513	WILKES-BARRE/SCRANTON	PA	KAVP
72504	BRIDGEPORT	CT	KBDR
72384	BAKERSFIELD	CA	KBFL
72228	BIRMINGHAM	AL	KBHM
72677	BILLINGS	MT	KBIL
72412	BECKLEY	WV	KBKW
72683	BURNS	OR	KBNO
72509	BOSTON	MA	KBOS
72250	BROWNSVILLE	TX	KBRO
72617	BURLINGTON	VT	KBTV
72406	BALTIMORE	MD	KBWI
72521	AKRON	OH	KCAK
72712	CARIBOU	ME	KCAR
72545	CEDAR RAPIDS	IA	KCID
72524	CLEVELAND	OH	KCLE
72428	COLUMBUS	OH	KCMH
72605	CONCORD	NH	KCON
72445	COLUMBIA	MO	KCOU
72251	CORPUS CHRISTI	TX	KCRP
72225	COLUMBUS	GA	KCSG
72564	CHEYENNE	WY	KCYS
72258	DALLAS	TX	KDAL
72547	DUBUQUE	IA	KDBQ
72451	DODGE CITY	KS	KDDC
72259	DALLAS-FORT WORTH	TX	KDFW
72261	DEL RIO	TX	KDRT
72537	DETROIT	MI	KDTW
72417	ELKINS	WV	KEKN
72270	EL PASO	TX	KELP
72526	ERIE	PA	KERI
72432	EVANSVILLE	IN	KEVV
72201	KEY WEST	FL	KEYW
72389	FRESNO	CA	KFAT
72210	FORT MYERS	FL	KFMY
72651	SIOUX FALLS	SD	KFSD
72533	FORT WAYNE	IN	KFWA
72768	GLASGOW	MT	KGGW
72465	GOODLAND	KS	KGLD
72779	KALISPELL	MT	KGPI
72552	GRAND ISLAND	NE	KGRI
72317	GREENSBORO	NC	KGSO
72775	GREAT FALLS	MT	KGTF
72654	HURON	SD	KHON

72304	CAPE HATTERAS	NC	KHSE	72323	HUNTSVILLE	AL	KHSV
72638	HOUGHTON LAKE	MI	KHTL	72425	HUNTINGTON	WV	KHTS
72777	HAVRE	MT	KHVR	72403	WASHINGTON	DC	KIAD
72243	HOUSTON	TX	KIAH	72450	WICHITA	KS	KICT
72408	WILMINGTON	DE	KILG	72301	WILMINGTON	NC	KILM
72438	INDIANAPOLIS	IN	KIND	72747	INTERNATIONAL FALLS	MN	KINL
72374	WINSLOW	AZ	KINW	72514	WILLIAMSPORT	PA	KIPT
72767	WILLISTON	ND	KISN	72235	JACKSON	MS	KJAN
72206	JACKSONVILLE	FL	KJAX	74486	NEW YORK	NY	KJFK
72539	LANSING	MI	KLAN	72386	LAS VEGAS	NV	KLAS
72295	LOS ANGELES	CA	KLAX	72267	LUBBOCK	TX	KLBB
72562	NORTH PLATTE	NE	KLBF	72240	LAKE CHARLES	LA	KLCH
72422	LEXINGTON	KY	KLEX	72503	NEW YORK	NY	KLGA
72297	LONG BEACH	CA	KLGB	72340	LITTLE ROCK	AR	KLIT
72576	LANDER	WY	KLND	72551	LINCOLN	NE	KLNK
72643	LA CROSSE	WI	KLSE	72783	LEWISTON	ID	KLWS
72410	LYNCHBURG	VA	KLYH	72265	MIDLAND	TX	KMAF
72446	KANSAS CITY	MO	KMCI	72217	MACON	GA	KMCN
72205	ORLANDO	FL	KMCO	72511	HARRISBURG	PA	KMDT
72234	MERIDIAN	MS	KMEI	72334	MEMPHIS	TN	KMEM
72524	MANSFIELD	OH	KMFD	72597	MEDFORD	OR	KMFR
72226	MONTGOMERY	AL	KMGM	72202	MIAMI	FL	KMIA
72640	MILWAUKEE	WI	KMKE	72636	MUSKEGON	MI	KMKG
72544	MOLINE	IL	KMLI	72223	MOBILE	AL	KMOB
74492	MILTON	MA	KMQE	72743	MARQUETTE	MI	KMQT
72641	MADISON	WI	KMSN	72773	MISSOULA	MT	KMSO
72658	MINNEAPOLIS	MN	KMSP	72231	NEW ORLEANS	LA	KMSY
72613	MT. WASHINGTON	NH	KMWN	72503	NEW YORK	NY	KNYC
72556	NORFOLK	NE	KOFK	72353	OKLAHOMA CITY	OK	KOKC
72792	OLYMPIA	WA	KOLM	72550	OMAHA	NE	KOMA
72530	CHICAGO	IL	KORD	72308	NORFOLK	VA	KORF
72435	PADUCAH	KY	KPAH	72203	WEST PALM BEACH	FL	KPBI
72688	PENDLETON	OR	KPDT	72698	PORTLAND	OR	KPDX
72408	PHILADELPHIA	PA	KPHL	72278	PHOENIX	AZ	KPHX
72532	PEORIA	IL	KPIA	72578	POCATELLO	ID	KPIH
72520	PITTSBURGH	PA	KPIT	72222	PENSACOLA	FL	KPNS
index#	name	state	site	index#	name	state	site
72464	PUEBLO	CO	KPUB	72507	PROVIDENCE	RI	KPVD
72606	PORTLAND	ME	KPWM	72662	RAPID CITY	SD	KRAP
72592	REDDING	CA	KRDD	72306	RALEIGH/DURHAM	NC	KRDU
72543	ROCKFORD	IL	KRFD	72401	RICHMOND	VA	KRIC
72488	RENO	NV	KRNO	72411	ROANOKE	VA	KROA
72529	ROCHESTER	NY	KROC	72268	ROSWELL	NM	KROW
72644	ROCHESTER	MN	KRST	72483	SACRAMENTO	CA	KSAC
72290	SAN DIEGO	CA	KSAN	72253	SAN ANTONIO	TX	KSAT
72207	SAVANNAH	GA	KSAV	72535	SOUTH BEND	IN	KSBN
72492	STOCKTON	CA	KSCK	72423	LOUISVILLE	KY	KSDF
72793	SEATTLE	WA	KSEA	72494	SAN FRANCISCO	CA	KSFO
72440	SPRINGFIELD	MO	KSGF	72666	SHERIDAN	WY	KSHR
72248	SHREVEPORT	LA	KSHV	72263	SAN ANGELO	TX	KSJT
72572	SALT LAKE CITY	UT	KSLC	72694	SALEM	OR	KSLE
72394	SANTA MARIA	CA	KSMX	72439	SPRINGFIELD	IL	KSPI
72351	WICHITA FALLS	TX	KSPS	72655	ST CLOUD	MN	KSTC
72434	ST LOUIS	MO	KSTL	72557	SIOUX CITY	IA	KSUX

72519	SYRACUSE	NY KSYR	72214	TALLAHASSEE	FL KTLH
72536	TOLEDO	OH KTOL	72456	TOPEKA	KS KTOP
72211	TAMPA	FL KTPA	72356	TULSA	OK KTUL
72332	TUPELO	MS KTUP	72274	TUCSON	AZ KTUS
72326	KNOXVILLE	TN KTYS	72797	QUILLAYUTE	WA KUIL
72255	VICTORIA	TX KVCT	72567	VALENTINE	NE KVTN
72402	WALLOPS ISLAND	VA KWAL	72583	WINNEMUCCA	NV KWMC
72781	YAKIMA	WA KYKM	72525	YOUNGSTOWN/WARREN	OH KYNG
78367	GUANTANAMO	CU MUGM	91765	PAGO PAGO	PC NSTU
70219	BETHEL	AK PABE			
70267	DELTA JUNCTION	AK PABI	70026	BARROW	AK PABR
70174	BETTLES	AK PABT	70316	COLD BAY	AK PACD
70350	KODIAK	AK PADQ	70261	FAIRBANKS	AK PAFA
70271	GULKANA	AK PAGK	70341	HOMER	AK PAHO
70381	JUNEAU	AK PAJN	70326	KING SALMON	AK PAKN
70231	MC GRATH	AK PAMC	70273	ANCHORAGE	AK PANC
70398	ANNETTE	AK PANT	70200	NOME	AK PAOM
70133	KOTZEBUE	AK PAOT			
70308	ST PAUL ISLAND	AK PASN	70251	TALKEETNA	AK PATK
70361	YAKUTAT	AK PAYA	91212	AGANA	PGUM
91165	LIHUE	HI PHLI	91182	HONOLULU	HI PHNL
91190	KAHULUI	HI PHOG	91285	HILO	HI PHTO
91376	MAJURO	PC PKMR	91366	KWAJALEIN	PC PKWA
91334	WENO ISLAND	PTKK	91348	POHNPEI	PC PTTP
91413	YAP ISLAND	PTYA	91245	WAKE ISLAND	PC PWAK
78526	SAN JUAN	TJSJ			

5.3.2 Format. Each of the nine collectives (CSXX[01-09] KWNO) has approximately one tenth of the total station reports. Each collective begins with the following:

CLIMAT MMJJJ, where MM is the 2-digit number for the month and JJJ is the year with the thousands digit dropped. (e.g. March 2002 is 03002).

Within the collectives, each station has a report as indicated generically:
Section 1 (111): Monthly data
Section 2 (222): not used
Section 3 (333): Number of the days in the month with parameters beyond certain thresholds
Section 4 (444): Extreme values during the month and occurrence of thunder and hail.

111 IIiii $1P_0P_0P_0P_0$ 2PPPP $3s_nTTTs_ts_ts_t$ $4s_nT_xT_xT_xs_nT_nT_nT_n$ 5eee $6R_1R_1R_1R_1R_dn_rn_r7S_1S_1S_1p_sp_sp_s$ $8m_pm_pm_tm_tm_{tx}m_{tx}$ $9m_em_em_rm_rm_sm_s$ 333 $0T_{25}$ T_{25} T_{30} T_{30} $1T_{35}T_{35}T_{40}T_{40}$ $2T_{n0}T_{n0}T_{x0}T_{x0}$ $3R_{01}R_{01}R_{05}R_{05}$ $4R_{10}R_{10}R_{50}R_{50}$ $5R_{100}R_{100}R_{150}R_{150}$ $6s_{00}s_{00}s_{01}s_{01}$ $7s_{10}s_{10}s_{50}s_{50}$ $8f_{10}f_{10}f_{20}f_{20}f_{30}f_{30}$ $9V_1V_1V_2V_2V_3V_3$ 444 $0s_nT_{xd}T_{xd}T_{xd}Y_xY_x$ $1s_nT_{nd}T_{nd}T_{nd}Y_nY_n$ $2s_nT_{ax}T_{ax}T_{ax}Y_{ax}Y_{ax}$ $3s_nT_{an}T_{an}Y_{an}Y_{an}$ $4R_xR_xR_xR_xY_rY_r$ $5Ri_wf_xf_xf_xY_{fx}Y_{fx}$ $6D_{ts}D_{ts}D_{gr}D_{gr}$

Specifications of Symbolic Letters.

s_n - Sign of temperature: 0 for positive or zero, and 1 for negative values.

0,1,2, etc - group identifiers within a section.

Section 1. (111).

	IIiii	International index number of the station (II=country/area #, iii=station #).
(1)	$P_oP_oP_oP_o$	Monthly average station pressure in tenths of millibars, thousands digit being omitted.
(2)	PPPP	Monthly average sea level pressure in tenths of millibars, thousands digit being omitted.
(3)	s_nTTT	Average air temperature in tenths of a degree Celsius.
	$s_ts_ts_t$	Standard deviation of daily average temperatures during the month in tenths of a degree Celsius.
(4)	$s_nT_xT_xT_x$	Average maximum temperature in tenths of a degree Celsius.
	$s_nT_nT_nT_n$	Average minimum temperature in tenths of a degree Celsius.
(5)	eee	Mean vapor pressure for the month in tenths of a millibar.
(6)	$R_1R_1R_1R_1$	Total precipitation for the month in millimeters.
	R_d	Quintile (frequency group) within which RRRR falls. The solidus (slant) is used if records were incomplete for the period 1971-2000, unless NESDIS has estimated these values; i.e., via the gamma function.
	n_rn_r	Number of days in month with precipitation equal to or more than 1 mm.
(7)	$S_1S_1S_1$	Total sunshine for the month to the nearest hour (solidus for unknown).
	$p_sp_sp_s$	Percent of normal sunshine.
(8)	m_pm_p	days of missing pressure.
	m_tm_t	days of missing temperature.
	$m_{tx}m_{tx}$	days of missing extreme temperature.
(9)	m_em_e	days of missing vapor pressure data.
	m_rm_r	days of missing precipitation data.
	m_sm_s	days of missing sunshine data.

Section 3 (333); sections with all zero occurrences are omitted in the transmission.

(0)	$T_{25}T_{25}$	number of days temperature reaches 25°C or higher.
	$T_{30}T_{30}$	number of days temperature reaches 30°C or higher.
(1)	$T_{35}T_{35}$	number of days temperature reaches 35°C or higher.
	$T_{40}T_{40}$	number of days temperature reaches 40°C or higher.
(2)	$T_{n0}T_{n0}$	days with minimum temperature below 0°C.

	$T_{x0}T_{x0}$	days with maximum temperature below 0°C.
(3)	$R_{01}R_{01}$	days with precipitation 1 mm or more.
	$R_{05}R_{05}$	days with precipitation 5 mm or more.
(4)	$R_{10}R_{10}$	days with precipitation 10 mm or more.
	$R_{50}R_{50}$	days with precipitation 50 mm or more.
(5)	$R_{100}R_{100}$	days with precipitation 100 mm or more.
	$R_{150}R_{150}$	days with precipitation 150 mm or more.
(6) through (9)		Inadequate data for inclusion [snow (6 & 7), wind (8), and visibility (9)].

Section 4 (444).

(0)	$s_nT_{xd}T_{xd}T_{xd}$	maximum daily mean temperature (tenths of °C).
	Y_xY_x	date of occurrence.
(1)	$s_nT_{nd}T_{nd}T_{nd}$	minimum daily mean temperature (tenths of °C).
	Y_nY_n	date of occurrence.
(2)	$s_nT_{ax}T_{ax}T_{ax}$	monthly maximum temperature (tenths of °C).
	$Y_{ax}Y_{ax}$	date of occurrence.
(3)	$s_nT_{an}T_{an}T_{an}$	monthly minimum temperature (tenths of °C).
	$Y_{an}Y_{an}$	date of occurrence.
(4)	$R_xR_xR_xR_x$	Daily maximum precipitation (mm).
	Y_rY_r	date of occurrence.
(5)	Ri_w	source code for units of wind speed (4=knots).
	$f_xf_xf_x$	maximum wind speed .
	$Y_{fx}Y_{fx}$	date of maximum wind speed.
		Note: METAR observations do not provide this data. Thus CLIMAT reports for this group are coded as 54/////.
(6)	$D_{ts}D_{ts}$	number of days with a thunderstorm.
	$D_{gr}D_{gr}$	number of days with hail.

5.4 Updates, Amendments, and Corrections. NCEI issues updates, amendments, and corrections as needed.

6. El Niño/Southern Oscillation (ENSO) Diagnostic Discussion.
WMO heading - FXUS24 KWNC AWIPS ID - PMDENS

http://www.cpc.ncep.noaa.gov/products/analysis_monitoring/enso_advisory/

6.1 Mission Connection. CPC issues this bulletin to provide insight into climate outlooks by providing the status and potential impacts of the ENSO.

6.2 Issuance Guidelines.

6.2.1 Creation Software. CPC uses a text editor.

6.2.2 Issuance Criteria. This is a scheduled product.

6.2.3 Issuance Time. CPC will usually issue this monthly discussion on the second Thursday of each month, at around 9:00 a.m. Eastern local time (14:00 UTC during standard time and 13:00 UTC during daylight saving time). If necessary, the issuance date may be changed with advance notice (e.g. due to holidays). The issuance time may be delayed a few hours if it is part of a climate outlook press conference.

6.2.4 Valid Time. This product is valid for approximately the next three to four months.

6.2.5 Product Expiration Time. This product expires with the next issuance.

6.3 Technical Description. CPC will follow the format and content described in this section. El Niño (La Niña) is defined by a positive (negative) mean sea surface temperature (SST) anomaly of 0.5ºC or greater over 3 consecutive months in the Niño 3.4 region of the central Pacific Ocean (5ºN to 5ºS and 120ºW to 170ºW). The mean SST anomalies are computed from the 30 year (1981-2010) Niño 3.4 SST base period mean for those three consecutive months. See NWS Instruction 10-1004 for information on SST base period means.

6.3.1 Mass News Disseminator Header.

EL NINO/SOUTHERN OSCILLATION (ENSO) DIAGNOSTIC DISCUSSION
NWS CLIMATE PREDICTION CENTER COLLEGE PARK MD

6.3.2 Content. CPC will indicate the expected occurrence (or lack of occurrence) of El Niño or La Niña for the next 3 to 6 months. CPC will also address current oceanic and atmospheric conditions in the Pacific and climate outlooks for the following one to three seasons. They include analysis of current and recent patterns in surface and subsurface water temperature anomalies in the tropical Pacific; related analyses such as rainfall, outgoing long wave radiation, etc.; influencing factors such as Madden-Julian Oscillations, Kelvin waves, etc; and statistical and coupled model predictions.

CPC will issue ENSO alerts, as described below, for the following situations:

- An ENSO “watch” will be issued when conditions are favorable for the development of El Niño or La Niña conditions within the next six months.

- An ENSO "advisory" will be issued when El Niño or La Niña conditions are already observed and expected to continue.

- An ENSO "final advisory" will be issued when either El Niño or La Niña conditions have ended.

CPC defines El Niño (La Niña) "conditions" as existing when:

- A one-month positive (negative) SST anomaly in the Niño 3.4 region of 0.5°C (-0.5°C) or greater (less) is observed and is expected to persist for at least 3 consecutive months...**and**

- An atmospheric response typically associated with El Niño (La Niña) is observed over the equatorial Pacific region as per El Niño /La Niña documentation on the following CPC web page: http://www.cpc.ncep.noaa.gov/products/analysis_monitoring/ensocycle/enso_cycle.shtml

6.3.3 Format. The following is a generic format.

EL NINO/SOUTHERN OSCILLATION (ENSO) DIAGNOSTIC DISCUSSION
NWS CLIMATE PREDICTION CENTER COLLEGE PARK MD
1000 AM E-T THU mo. # 20--

NOTE: FIGURES MENTIONED IN THE DISCUSSION ARE AVAILABLE
ON THE INTERNET AT HTTP://WWW.CPC.NCEP.NOAA.GOV

(ENSO Alerts, if needed)

SYNOPSIS: (Text)

(Diagnostic Text)

THIS DISCUSSION IS A CONSOLIDATED EFFORT OF THE NATIONAL ATMOSPHERIC AND OCEANIC ADMINISTRATION /NOAA/, NOAAS NATIONAL WEATHER SERVICE, AND THEIR FUNDED INSTITUTIONS. OCEANIC AND ATMOSPHERIC CONDITIONS ARE UPDATED WEEKLY ON THE CLIMATE PREDICTION CENTER WEB SITE /EL NINO/LA NINA CURRENT CONDITIONS AND EXPERT DISCUSSIONS/. FORECASTS FOR THE EVOLUTION OF EL NINO/LA NINA ARE UPDATED MONTHLY IN THE FORECAST FORUM SECTION OF CPCS CLIMATE DIAGNOSTICS BULLETIN. THE NEXT ENSO DIAGNOSTICS DISCUSSION IS SCHEDULED FOR ----. TO RECEIVE AN E-MAIL NOTIFICATION WHEN THE MONTHLY ENSO DIAGNOSTIC DISCUSSIONS ARE RELEASED...PLEASE SEND AN E-MAIL MESSAGE TO: NCEP.LIST.ENSO-UPDATE@NOAA.GOV.

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6.4 Updates, Amendments, and Corrections. CPC does not issue updates or amendments. They will issue corrections as needed.

7. Other Monitoring Products. CPC produces other monitoring products that provide important information for production of CPC climate outlooks. Companies and other organizations also depend on these products as input to their own value added products. These products are available from the CPC web site at their monitoring and data page. Due to the importance of these products, CPC will give issuance of these products high priority along with use of a backup web site. NWS Internet information is available subject to NWS internet policy.

CPC collects and produces daily and monthly data, time series, and maps for various climate parameters, such as precipitation, temperature, snow cover, and degree days for the United States, Pacific Islands, and other parts of the world. CPC also compiles data on historic and current atmospheric and oceanic conditions, ENSO and other climate patterns such as the North Atlantic and Madden-Julian Oscillations, and stratospheric ozone and temperature.

CPC monitoring products cover each of the following broad categories:

· Oceanic and Atmospheric Monitoring and Data
  CPC monitors weather and climate and compiles data on historic and current atmospheric and oceanic conditions, ENSO, tropical intra-seasonal oscillations, arctic oscillation, tropical Atlantic hurricane potential, tropical east-Pacific hurricane potential and other climate patterns such as the Madden-Julian Oscillation, and stratospheric ozone and temperature.

· United States Climate Data and Maps
  CPC collects and produces daily and monthly data, time series, and maps for various climate parameters, such as precipitation, temperature, and degree days. Precipitation maps include the U.S. Daily Precipitation Analysis.

· Global Climate Data and Maps
  CPC produces maps and time series for precipitation and surface temperatures for Africa, Asia, Europe, South and Central America, Mexico, Caribbean, Australia, and New Zealand.

· Pacific Island Climate Data and Maps
  CPC collects and produces daily and monthly data, time series, and maps for precipitation and temperature.