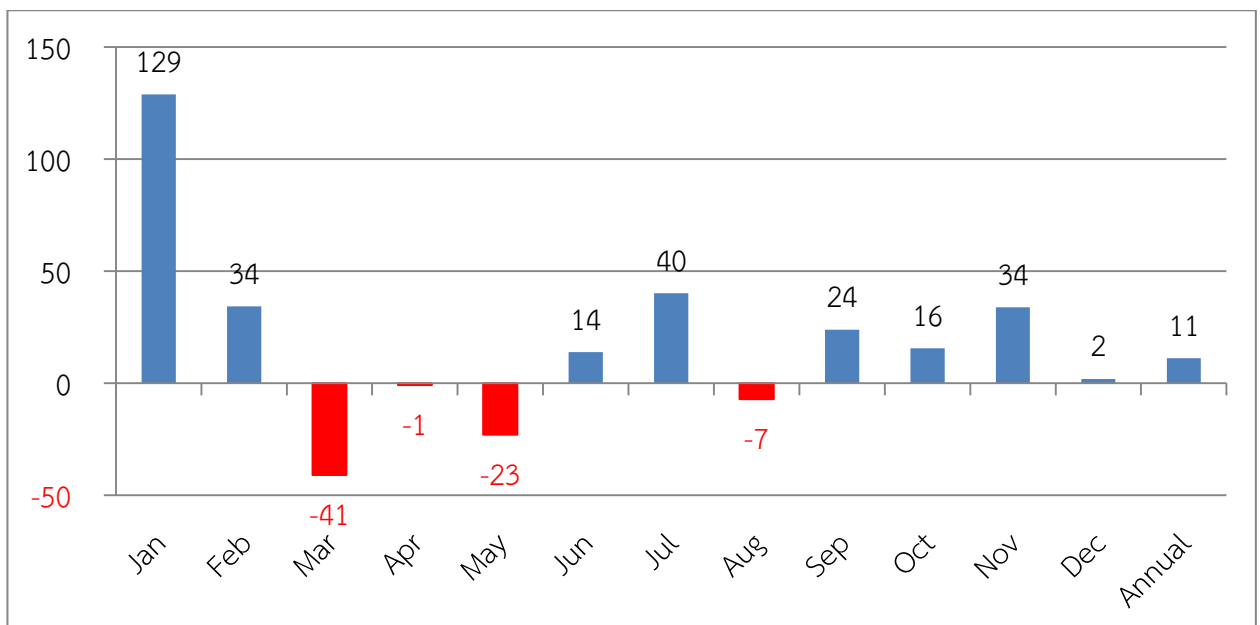


Annual Weather Summary over Thailand in 2013

The year 2013 started to be warmer than usual. Monthly mean air temperatures were above normal from January to November, while February and November mean temperatures in upper Thailand were more than 1°C above normal. In addition, a heat low pressure cell affected upper Thailand during March to April, and caused to break previous records with daily maximum temperatures exceeding 40°C in some locations. However, this warm anomaly was inversely to the cooler weather in December with monthly mean temperature 1.4 °C below normal. Rainy season began mid-May as usual. Moreover, Thailand received unseasonal rainfall in January and occasional flooding occurred in some places from May to July. During September, one tropical depression hit Thailand on September 19 and active monsoon trough lay across upper Thailand almost of the month. These brought torrential rain that caused severe flooding mainly in the lower northeastern, central and eastern parts. In early October, upper Thailand was hit by tropical storm which downgraded from Typhoon Wutip (1321), with heavy rain occurring in some areas. Moreover, low pressure cells that weakened from tropical storms and westerly trough brought unseasonal rainfall to Thailand November and mid-December respectively. The accumulated rainfall over 2013 was about 11 % above normal. More details on the weather are at Thailand's monthly weather summary website.

(<http://www.tmd.go.th/en/climate.php?FileID=3>).

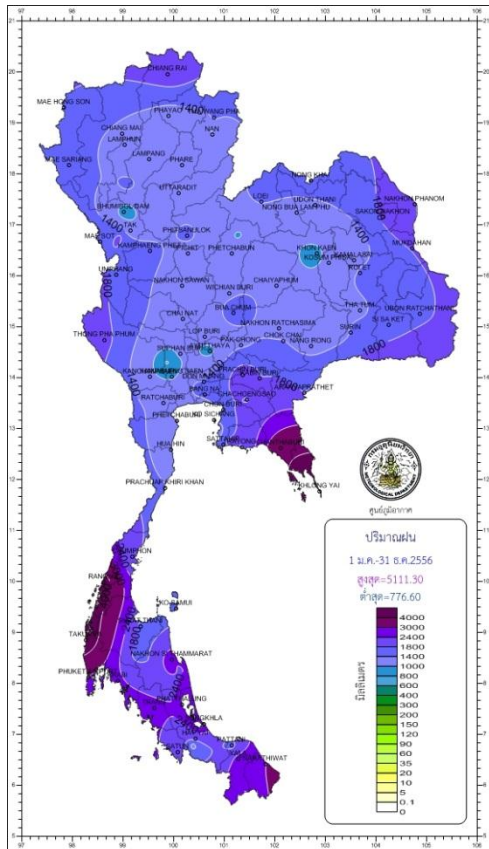
Thailand's monthly rainfall anomalies (%) in 2013



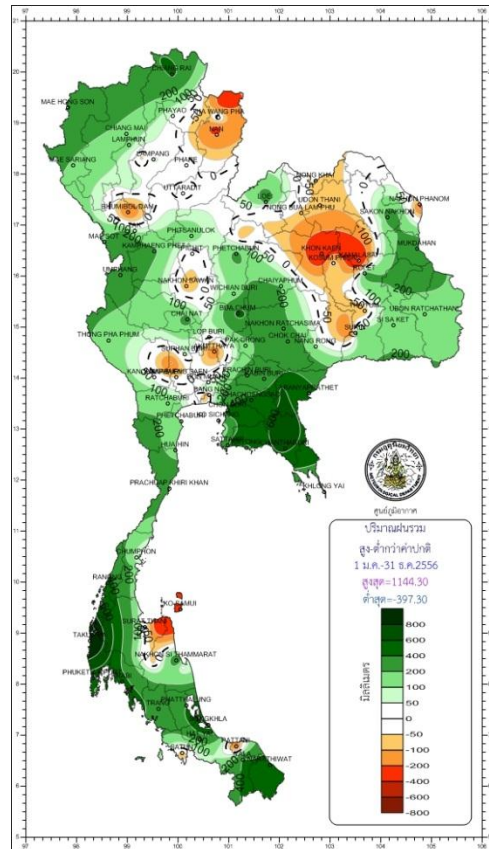
■ Above normal

■ Below normal

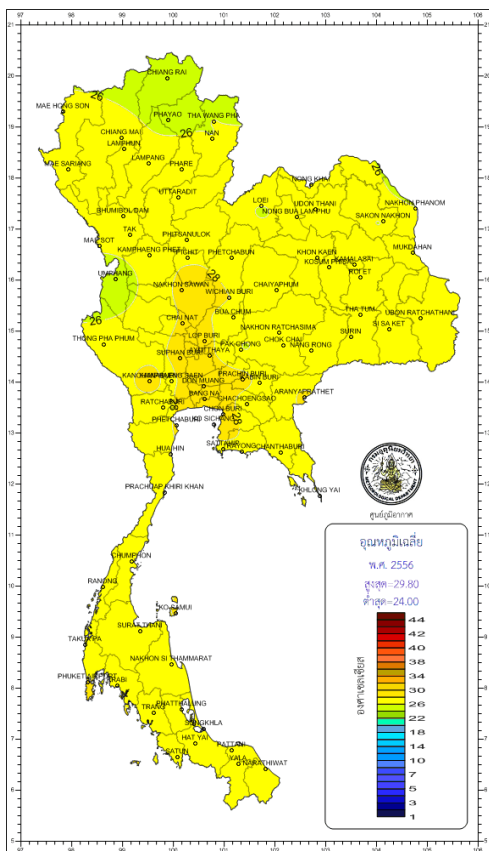
Remark: Based on 1981-2010 normal



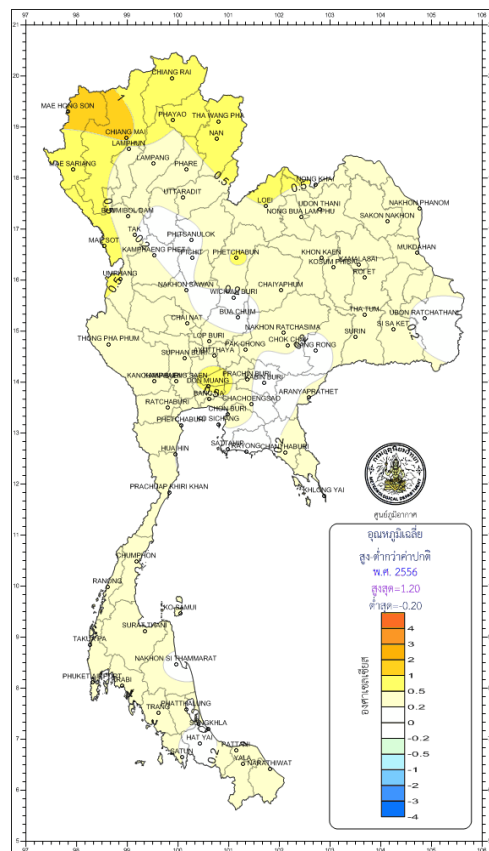
Annual Rainfall (mm.) in 2013



Annual Rainfall anomalies (mm.) in 2013

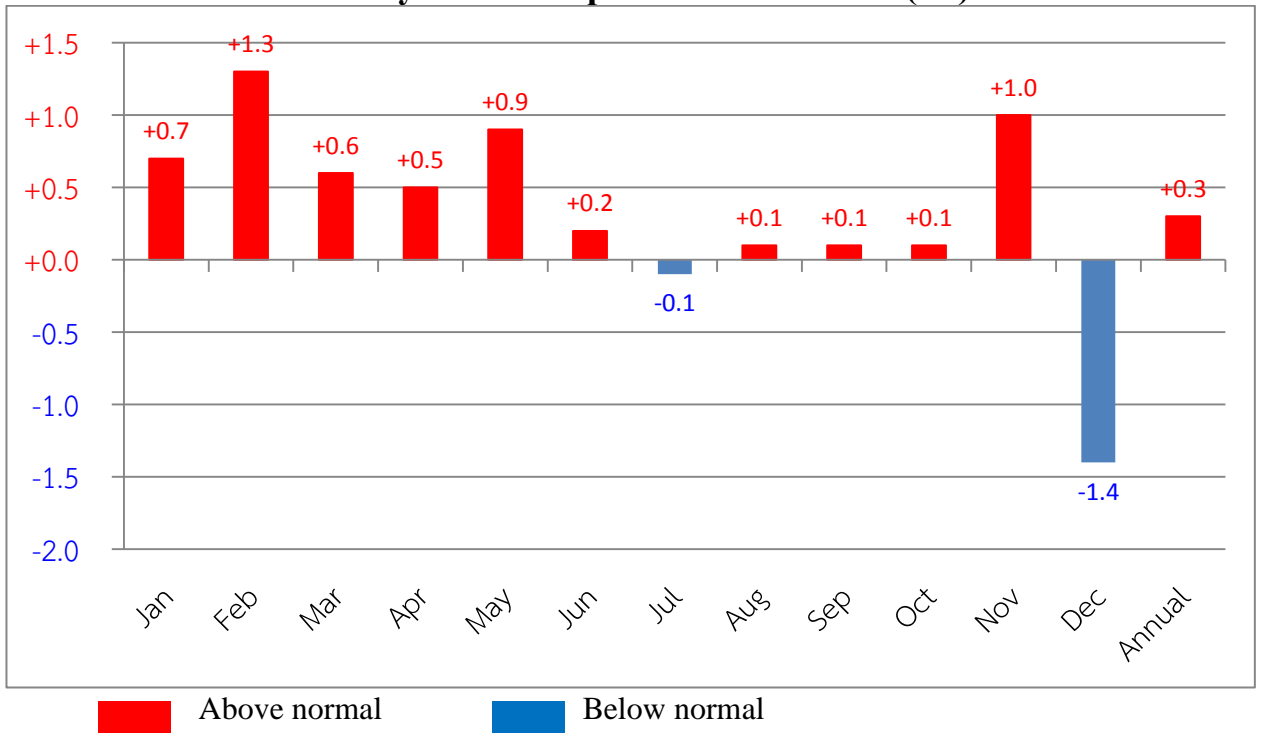


Annual Mean Temperature (°C) in 2013

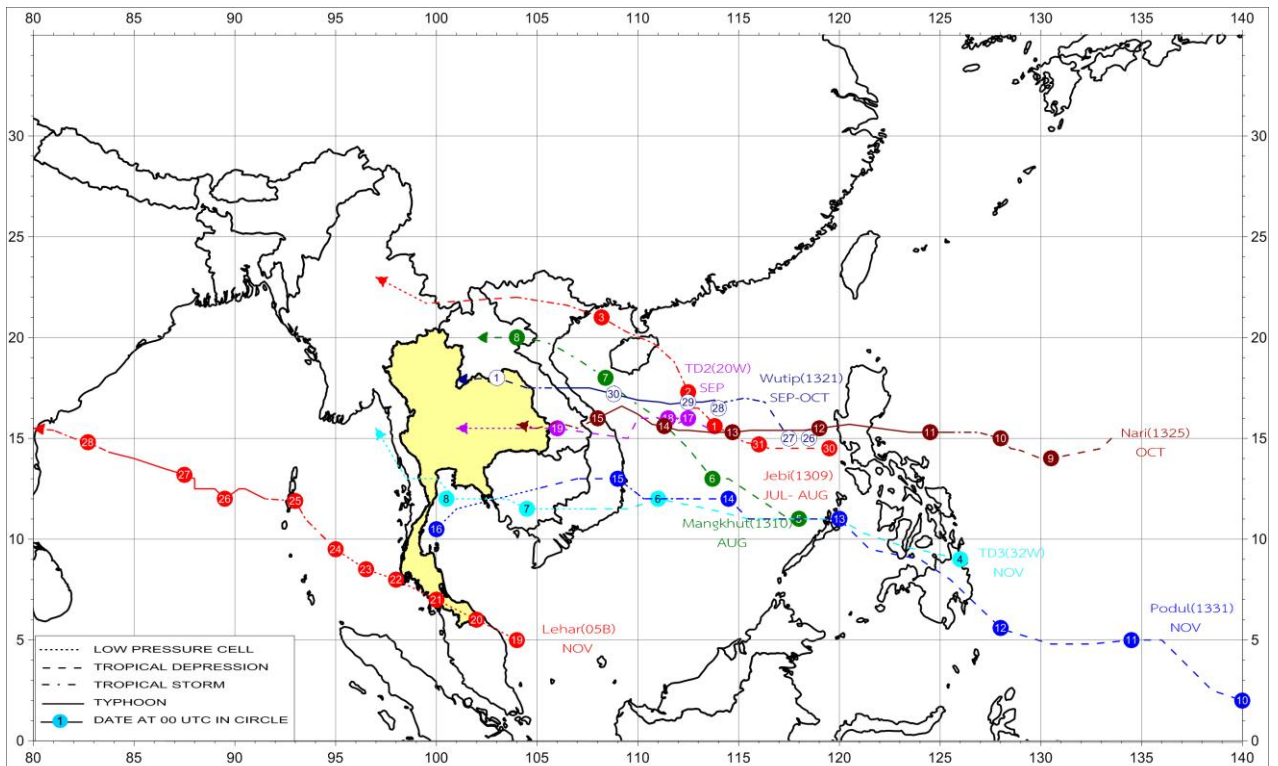


Annual Mean Temperature anomalies (°C) in 2013

Thailand's monthly Mean temperature anomalies (°C) in 2013



Remark: Based on 1981-2010 normal



TRACK OF TROPICAL CYCLONE AFFECTING THAILAND IN 2013

CLIMATOLOGICAL CENTER
METEOROLOGICAL DEVELOPMENT BUREAU

Breaking records of daily rainfall in Thailand

Station	New Record 2013		Previous Record		Start since
	Rainfall (mm)	Date	Rainfall (mm)	Date / Year	
January					
Phrae	60.0	30	37.1	31/2008	1952
Doi Mu Soe Agromet. (Tak)	67.1	30	28.9	26/2010	1992
Chaiyaphum	41.3	27	32.2	24/2010	1956
Burirum	35.8	27	25.7	21/2012	2003
Bang Na Agromet.(Bangkok)	74.4	27	64.1	11/1998	1969
Pilot Station (Samut Prakarn)	32.3	26	31.6	25/1985	1980
Ko Sichang (Chon Buri)	95.7	28	75.1	14/2005	1958
Rayong	78.8	25	50.6	9/1992	1980
Huai Pong Agromet. (Rayong)	111.3	25	54.6	24/1989	1969
Phliu Agromet.(Chanthaburi)	96.3	27	84.5	31/1978	1969
Khlong Yai (Trat)	102.4	29	89.9	5/1992	1952
Takua Pa (Phangnga)	81.6	4	69.5	14/2001	1975
February					
Kho Hong Agromet. (SongKhla)	110.4	24	77.1	11/1999	1969
March					
Chiang Rai Agromet.	58.2	3	54.9	9/2001	1979
Phichit Agromet.	55.2	4	45.7	30/2005	1992
Mukdahan	89.4	22	78.0	24/1995	1951
April					
Burirum	54.2	26	46.1	27/2012	2003
Chumphon	91.4	13	88.7	30/2007	1951
Nakhon Si Thammarat	218.4	13	161.0	12/1989	1951
Songkhla	115.8	13	84.9	15/1976	1951
Pattani	80.3	12	73.8	19/1982	1964
May					
Mukdahan	134.5	10	119.7	19/2009	1951
Burirum	103.9	16	92.7	16/2011	2003
Takua Pa (Phangnga)	195.0	25	149.5	20/1990	1981
Krabi	137.6	8	133.5	25/2001	1994
June					
Doi Ang Kang(Chiang Mai)	49.7	21	37.3	25/2011	2006
Kamphaeng Phet	90.7	4	78.6	20/1986	1981
Sa Kaeo	181.5	11	79.4	29/2010	2000
Aranyaprathet (Sa Kaeo)	127.1	11	116.5	26/1980	1951
Laem Chabang (Chon Buri)	97.9	12	91.4	25/2010	1993
Takua Pa (Phangnga)	188.8	10	163.5	8/2012	1981
Nong Phlub Agromet.(Prachuap	85.0	2	80.3	28/1988	1974

Breaking records of daily rainfall in Thailand (Cont.)

Station	New Record 2013		Previous Record		Start since
	Rainfall (mm)	Date	Rainfall (mm)	Date / Year	
July					
Doi Ang Kang(Chiang Mai)	90.2	28	84.0	28/2010	2006
Sukhothai	98.4	23	45.1	22/2009	2000
Thong Pha Phum (Kanchanaburi)	142.5	28	131.4	25/1996	1965
Chanthaburi	394.3	23	220.0	12/1969	1951
Takua Pa (Phangnga)	288.8	3	208.0	5/1983	1981
Krabi	99.2	3	74.1	31/2001	1994
August					
Doi Ang Kang(Chiang Mai)	101.2	12	77.0	15/2012	2006
Yala Agromet.	112.3	5	106.0	26/2005	1999
September					
Ubon Ratchathani	172.6	18	144.8	10/2001	1951
Ubon Ratchathani Agromet.	160.8	18	130.0	18/1974	1969
Surin	279.5	19	104.5	28/1973	1951
Surin Agromet.	240.9	19	142.3	12/1976	1969
Sa Kaeo	129.4	19	110.1	28/2012	2000
Kabin Buri (Prachin Buri)	159.9	19	126.3	19/1985	1965
October					
Tha Wang Pha(Nan)	72.9	2	70.7	4/1984	1966
Lampang	96.6	17	79.2	2/2011	1953
Bangkok Port(Klong Toei)	474.0	16	118.2	3/1999	1995
Phatthaya(Chon Buri)	114.4	13	108.2	25/1999	1980
November					
Lamphun	78.6	19	64.5	18/1985	1980
Sukhothai	63.7	19	17.9	5/2008	2000
Phichit Agromet.	52.0	14	40.0	9/2011	1992
Sawi Agromet.(Chumphon)	250.0	23	205.6	29/1970	1969
December					
Doi Ang Kang(Chiang Mai)	33.5	12	15.8	2/2012	2006
Tha Wang Pha(Nan)	67.6	14	61.7	24/1992	1966
Thung Chang(Nan)	94.7	15	42.5	26/2002	1996
Nongkhai	60.6	15	30.0	3/1994	1964
Udon Thani	47.3	15	37.7	20/1971	1951
Chaiyaphum	55.7	15	40.6	28/1991	1956
Ubon Ratchathani	99.1	15	11.7	20/2002	1951
Ubon Ratchathani Agromet.	58.5	15	21.5	25/1977	1969
Si Sa Ket Agromet.	32.0	15	8.5	20/2002	1984
Songkhla	290.5	5	286.0	3/1981	1951

Breaking records of monthly rainfall in Thailand

Station	New Record 2013	Previous Record		Start since
	Rainfall (mm)	Rainfall (mm)	Year	
January				
Wichian Buri(Phetchabun)	128.9	96.5	2012	1970
Doi Mu Soe Agromet.(Tak)	69.1	45.5	2010	1992
Chaiyaphum	46.9	40.5	2010	1956
Burirum	35.8	34.9	2012	2003
Bang Na Agromet.(Bangkok)	77.9	77.1	1975	1969
Ko Si Chang(Chon Buri)	139.6	87.8	2005	1958
Sattahip(Chon Buri)	167.9	135.6	1989	1951
Rayong	116.4	87.3	1989	1980
Huai Pong Agromet.(Rayong)	312.4	140.5	1989	1969
February				
Hat Yai(Songkhla)	191.8	113.4	2004	1973
Kho Hong Agromet.(Songkhla)	240.0	145.8	2006	1969
Yala Agromet.	344.7	265.9	1999	1999
Trang	120.3	108.9	1999	1954
March				
Chiang Rai Agromet.	136.7	126.4	2001	1979
April				
Songkhla	270.6	266.5	2012	1951
May				
Nakhon Phanom Agromet.	558.2	478.0	1999	1984
Krabi	320.2	305.4	2001	1994
June				
Bangkok Airport	392.3	366.1	1994	1951
Sa Kaeo	397.9	223.8	2004	2000
Rayong	338.1	325.6	1982	1980
Hua Hin(Prachuap Khiri Khan)	190.5	161.8	1973	1951
Nong Phlub Agromet.(จ.)	231.6	184.5	1988	1974
Takua Pa (Phangnga)	825.8	684.7	1998	1981
July				
Chiang Rai	501.5	492.0	1977	1951
Sukhothai	249.6	246.1	2006	2000
Sakon Nakhon	615.5	506.7	1997	1952
Sakon Nakhon Agromet.	482.8	482.4	1997	1969
Chanthaburi	1035.4	939.7	1969	1951
Takua Pa (Phangnga)	1001.6	775.5	1983	1981
Krabi	428.9	268.1	1999	1994
September				
Thoen(Lampang)	313.1	292.2	2004	2003

Breaking records of monthly rainfall in Thailand (Cont.)

Station	New Record 2013	Previous Record		Start since
	Rainfall (mm)	Rainfall (mm)	Year	
September(Cont.)				
Sukhothai	477.2	382.0	2011	2000
Kamphaeng Phet	459.6	451.4	2002	1981
Si Sa Ket Agromet.	546.8	487.1	1996	1984
Surin	591.9	569.0	2003	1951
Chok Chai (Nakhon	387.4	386.9	1982	1965
Chachoengsao Agromet.	511.3	490.3	1991	1989
Phrasaeng (Surat Thani)	280.8	226.9	2006	1998
October				
Nakhon Ratchasima	321.7	311.5	1983	1951
Pathum Thani Agromet.	279.9	247.8	2011	1998
Bangkok Port(Klong Toei)	685.0	524.0	2001	1995
Sa Kaeo	380.5	289.5	2003	2000
Phatthaya(Chon Buri)	485.6	472.2	1983	1980
November				
Sukhothai	68.5	28.5	2008	2000
December				
Chiang Rai Agromet.	119.0	92.7	1986	1979
Doi Ang Kang(Chiang Mai)	78.6	18.0	2012	2006
Tha Wang Pha(Nan)	101.6	86.0	1992	1966
Thung Chang(Nan)	109.9	81.5	2002	1996
Nongkhai	61.5	41.8	1994	1964
Udon Thani	57.9	41.4	1971	1951
Chaiyaphum	62.1	40.7	1991	1956
Ubon Ratchathani	111.0	17.4	1970	1951
Ubon Ratchathani Agromet.	66.3	21.5	1977	1969
Si Sa Ket Agromet.	46.3	8.5	2002	1984
Tha Tum (Surin)	20.4	14.3	1971	1966

Breaking records of Maximum Temperature in Thailand

Station	New Record 2013		Previous Record		Start since
	Temperature (°C.)	Date	Temperature (°C.)	Date / Year	
February					
Pathum Thani Agromet.	37.8	26	37.5	19/2005	1998
Phliu Agromet. (Chanthaburi)	36.4	25	36.2	7/1970,17/1980	1969
Phetchaburi	35.4	25	35.2	9/2006	1981
March					
Sakon Nakhon Agromet.	41.0	29	40.9	21 / 1996	1969
Burirum	41.2	29	40.3	31/2007	2003
Ayutthaya Agromet.	39.1	27	39.0	16,22 / 1998	1994
Pathum Thani Agromet.	39.6	25	38.8	16/ 2007	1998
Bangkok Metropolis	40.1	26	39.8	25/ 1960	1951
Bang Na Agromet.(Bangkok)	38.8	26	38.5	4 / 2003	1969
Sa Kaeo	40.0	28	39.9	25 / 2010	1998
Aranyaprathet (Sa Kaeo)	40.3	31	40.3	30/2007	1952
Nong Phlub Agromet.(Prachuap Khiri Khan)	40.8	25	40.0	30/2004	1974
Prachuap Khiri Khan	39.4	25	38.8	6 / 2003	1951
April					
Phichit Agromet.	40.7	2	40.7	10/2010	1993
Tha Phra Agromet.(Khon Kaen)	42.6	5	42.1	14/1983,11/2001	1970
Kamalasai (Kalasin)	41.8	5	41.5	14/1998	1998
Roi Et Agromet.	41.2	6	40.7	14/1983, 23,24/2007	1983
Chai Nat Agromet.	41.6	5	41.3	14/1992	1970
Huai Pong Agromet.(Rayong)	39.0	7	38.2	20/1979	1969
May					
Phichit Agromet.	40.7	2	40.1	9,14/2010	1993

Note: Rainfall amount, temperatures and natural disasters are the preliminary information.

Climatological Center, Meteorological Development Bureau
Meteorological Department.

16 January 2014