

Monthly Climate Outlook Competition - Game Details

(If there is any inconsistency or ambiguity between the English version and the Chinese version of the game details, the Chinese version shall prevail.) Modified rules for 2015 are highlighted in red text and yellow background

Background:

Monthly Climate Outlook was an activity co-organized by Hong Kong Wild Weather and Storm Information Centre (formerly Hong Kong Weather Warning Signal Issuing Centre) and Pacific Tropical Cyclone Centre starting from March 2007. Hong Kong Weather Watch had also partcipiated since September 2007. At the beginning of each month, the webmasters of the three sites predicted the monthly meteorological elements, and revised their forecasts in the later part of the month. Starting from April 2008, the forecast for each month was made once only in the beginning or middle of the month. Forecasts were unavailable since September 2009. The three sites re-launch the event in October 2014 and transform it into a game for the public to participate.

Submission:

- Participiants are required to submit the forecast for each month at http://www.hk-mcc.net/monthly/indexe.php. The submission period is form 00:00:00 of the 1st day of that month the submission period is form 00:00:00 of the 1st day of that month the submission period is form 00:00:00 of the 1st day of that month.
- Partcipiants will receive a <u>confirmation e-mail</u> after they submit their forecasts. If you do not receive this email, you should contact us immediately at <u>gamemonthly@gmail.com</u>.
- Each participant can submit at most <u>twice</u> each month. For those who submitted twice using the same e-mail address, the second forecast will be accepted. For those who submitted more than twice, only the second forecast will be accepted and all other forecasts will be discarded.
- You should use the same name and e-mail address for your submission within the same year in order to accumulate your score. If you wish to change your name or e-mail address, please send your request to gamemonthly@gmail.com.
- All forecasts that are unreasonable or made by participants with obscene names will be rejected.
- To maintain fairness, submissions by the organizers will not be accepted.

Forecasting Items and Scoring Scheme:

Each participiant is required to predict the following items of each month. The maximum score for each item is 10, giving a total of 100. The score for each item will be deducted on a pro rata basis according to the rules stated below. The minimum score for each item is 0 and there is no negative score.

- (a) The mean daily maximum air temperature (°C) at the Hong Kong Observatory (HKO)
- (b) The mean air temperature (°C) at the HKO
- (c) The mean daily minimum air temperature ($^{\circ}$ C) at the HKO
 - (items a,b&c) 1 mark will be deducted per 0.1 °C difference between the predicted and observed temperature
- (d) The mean sea level pressure (hPa) at the HKO
 - 0.5 marks will be deducted per 0.1hPa difference between the predicted and observed pressure
- (e) The mean relative humidity (%) at the HKO
 - 2 marks will be deducted per 1% difference between the predicted and observed relative humidity
- (f) The total rainfall (mm) at the HKO
 - (April to September) 0.004 marks will be deducted per 0.1mm difference between the predicted and observed rainfall
 - (October to March) 0.02 marks will be deducted per 0.1mm difference between the predicted and observed rainfall
- (g) The total bright sunshine duration (hours) at Kings' Park
 - 0.02 marks will be deducted per 0.1 hours difference between the predicted and observed bright sunshine duration
- (h) The prevailing wind direction (degrees) at Waglan Island
 - 5 marks will be deducted per 10 degrees difference between the predicted and observed wind direction
- (i) The number of tropical cyclones causing the HKO to issue Tropical Cyclone Warning Signals ("Number of TCs affecting HK")
 - (May to October) 5 marks will be deducted per TC difference between the predicted and observed number
 - (November to April) 10 marks will be deducted per TC difference between the predicted and observed number
- (j) The number of named tropical cyclones in the northwestern Pacific ("Number of named TCs")
 - (May to October) 2.5 marks will be deducted per TC difference between the predicted and observed number
 - (November to April) 5 marks will be deducted per TC difference between the predicted and observed number

The observed data of the above items are based on the following sources:

(a) to (h): Extract of Meteorological Observations for Hong Kong provided by the HKO (e.g. <u>http://www.weather.gov.hk/wxinfo/pastwx/metob201407.htm</u>)

(i): The table of Tropical Cyclone Warning Signals in the Monthly Weather Summary provided by the HKO (e.g. <u>http://www.weather.gov.hk/wxinfo/pastwx/mws2014/mws201407.htm</u>) [Note 1]

(j): The real-time TC data provided by the Japan Meteorological Agency (JMA) at <u>http://weather.unisys.com/hurricane/archive/</u>[Note 2]

Please refer to <u>Useful Information</u> for the climatology (1981-2010) of the above items.

[Note 1] If a TC starts to affect HK at the end of a month and ends at the beginning of the next month, it will be attributed to the FIRST month. However, if a TC affects HK again in the second month after it has affected HK

in the first month, it will be attributed to BOTH months. If a TC affects HK again within the same month, it will be treated as ONE TC affecting HK. (Please refer to the <u>examples 1a to 1f in the Appendix</u>)

[Note 2] For TCs spanning two months, they will be attributed to the month in which the JMA names them. For those which enter the northwestern Pacific from other regions, they will be attributed to the month in which the JMA assigns the International Number to them.

Trump Cards:

Each participant holds TWO "trump cards" in a year, including one " $\underline{x1.5 \text{ card}}$ " and one " $\underline{x2 \text{ card}}$ ". When participants submit their forecasts each month, they are required to choose among "not to use trump cards", "use the x1.5 card" or "use the x2 card" (the choice made in the second submission prevails for participants who submit twice). If a participant chooses to use the "x1.5 card", his/her score for that month will be 1.5 times the original score; if he/she uses the "x2 card", his/her score for that month will be 2 times the original score. If the chosen trump card has already been used, it will be treated as "not to use trump cards".

Extension of Submission Deadline:

If you use the same name and e-mail address to participate in the competition within the same year, your monthly score will be accumulated. Your score gained from January to March, April to June, July to September, October to December will be accumulated as the "Seasonal Score" for Season 1, Season 2, Season 3 and Season 4 respectively. Participants with the top three "Seasonal Scores" can extend their submission deadlines within the three months of the next season according to Table 1:

Participants with the Seasonal Score Submission Deadline						
Highest	23:59:59 of the 13th day of each month in the next season					
Second highest	23:59:59 of the 12th day of each month in the next season					
Third highest	23:59:59 of the 11th day of each month in the next season					

Table 1 – Schedule of Extending the Submission Deadline

Participants with the top three "Seasonal Score" in Season 4 can extend their submission deadlines in Season 1 of the next year.

Annual Score:

If you use the same name and e-mail address to participate in the competition within the same year, your monthly score gained in each month will be accumulated as the "Annual Score". As the year concludes, the one who gets the highest "Annual Score" will be the Champion, while those with the second highest and third highest "Annual Score" will be the First Runner-up and the Second Runner-up respectively. Their names will be shown on the "Results" page. If there is a tie, the participant with <u>the highest monthly score (trump card usage included)</u> will be the winner. If this score is also the same, then the participant with <u>the higher average ranking</u> will win.

Useful Information:

- 1. Monthly Meteorological Normals for Hong Kong between 1981-2010: http://www.weather.gov.hk/cis/normal/1981_2010/normals_e.htm
- 2. Number of Tropical Cyclones necessitating the issuing of Warning Signal between 1981-2010: <u>http://www.weather.gov.hk/informtc/tcStatTable3b.htm</u>
- 3. Monthly Average of Number of Named TCs between 1981-2010 (in Japanese only): http://www.data.jma.go.jp/fcd/yoho/typhoon/statistics/average/average.html

Enquiries:

Please send an e-mail to gamemonthly@gmail.com if you have any enquiries.

31st December, 2014 (Version 1 for 2015)

2nd June, 2016 (Useful information 2 and examples 1d-1f in the Appendix were included)

<u>Appendix:</u> Example 1a: a TC starts to affect HK at the end of a month and ends at the beginning of the next month:

Warnings and Signals issued in June 2013 Table 1.1 Tropical Cyclone Warning Signals								
Name of	Signal Beginning Time Ending Ti							
Tropical Cyclone	Number	Day/Month	НКТ	Day/Month	НКТ			
BEBINCA	1	21 / 6	0740	21 / 6	2020			
	3	21 / 6	2020	22 / 6	0910			
	1	22 / 6	0910	22 / 6	1115			
RUMBIA	1	30 / 6	2110	1/7	1315			

Warnings and Signals issued in July 2013 Table 1.1 Tropical Cyclone Warning Signals							
Name of	f Signal Beginning Time Ending Time						
Tropical Cyclone	Number	Day/Month	HKT	Day/Month	нкт		
RUMBIA	1	30 / 6	2110	1/7	1315		
	3	1/7	1315	2/7	0510		
	1	2/7	0510	2/7	0940		
CIMARON	1	17 / 7	2320	18 / 7	1540		

Rumbia affected Hong Kong in June to July 2013. It would be attributed to June (the first month). Therefore, there were 2 TCs affecting HK (Bebinca and Rumbia) in June 2013 while only 1 TC affected HK (Cimaron) in July.

Example 1b: a TC affects HK again in the second month after it has affected HK in the first month:

Warnings and Signals issued in August 2010 Table 1.1 Tropical Cyclone Warning Signals							
Name of	Signal	Signal Beginning Time Ending Time					
Tropical Cyclone	Number	Day/Month	нкт	Day/Month	HKT		
LIONROCK	1	29 / 8	1035	30/8	1910		

Warnings and Signals issued in September 2010							
Table 1.1 Tropical Cyclone Warning Signals							
Name of	Signal	Beginning Time	Ending Time				

Name of	Signal	nal Beginning Time		Ending Time	
Tropical Cyclone	Number	Day/Month	HKT	Day/Month	нкт
LIONROCK	1	2 / 9	2040	3 / 9	1640
FANAPI	1	19 / 9	1635	20 / 9	1605
	3	20 / 9	1605	21 / 9	0735

Lionrock affected Hong Kong in September 2010 again after it had affected Hong Kong in August. Since it would be attributed to both months, there was 1 TC affecting HK (Lionrock) in August 2010 while 2 TCs affected HK (Lionrock and Fanapi) in September.

Example 1c: a TC affects HK again within the same month:

Warnings and Signals issued in August 2007 Table 1.1 Tropical Cyclone Warning Signals							
Name of Signal Beginning Time Ending Time							
Tropical Cyclone	Number	Day/Month	HKT	Day/Month	НКТ		
PABUK	1	8 / 8	0540	9 / 8	0240		
	3	9 / 8	0240	9 / 8	1115		
	1	10 / 8	0750	10 / 8	1240		
	3	10 / 8	1240	10 / 8	1430		
	8 SW	10 / 8	1430	10 / 8	2140		
	3	10 / 8	2140	11 / 8	0140		
	1	11 / 8	0140	11 / 8	0830		

Pabuk affected HK twice in August 2007, but it would be treated as one TC affecting HK. Therefore, there was only 1 TC affecting HK (Pabuk) in that month.

Example 1d: Combination of examples 1a and 1b:

Tropical	Signal	Beginning	Time	Ending T	ime
Cyclone	Number	Day/Month	нкт	Day/Month	нкт
٨	1	29 / 8	1035	1 / 9	1035
A	1	2/9	2040	3 / 9	1640

TC A had affected Hong Kong for the first time from August to September before it affected Hong Kong again in September. Since the first time would be attributed to August (the first month) (refer to example 1a), and the second time would be attributed to September (the second month) (refer to example 1b), there was 1 TC affecting HK in August (TC A) and 1 TC affecting HK in September (TC A).

BILIS	1	06:00	23/Aug/2000	19:15	23/Aug/2000
MARIA	1	23:45	27/Aug/2000	14:25	29/Aug/2000
MARIA	1	10:15	31/Aug/2000	01:30	01/Sep/2000
MARIA	3	01:30	01/Sep/2000	13:20	01/Sep/2000
WUKONG	1	13:45	06/Sep/2000	21:45	07/Sep/2000
WUKONG	3	21:45	07/Sep/2000	05:45	09/Sep/2000

Example 1e: Combination of examples 1a and 1c:

Maria affected Hong Kong twice from August to September 2000. Since the second time would be attributed to August (the first month) (refer to example 1a), it would not be counted again after the first time has been considered (refer to example 1c). Therefore, there were 2 TCs affecting HK in August 2000 (Bilis and Maria) but only 1 TC affected HK in September (Wukong).

Example 1f: a TC affects HK again in the second month after it has affected HK twice in the first month:

1	21:45	09/Aug/1986	10:30	10/Aug/1986
3	10:30	10/Aug/1986	15:15	11/Aug/1986
1	11:30	19/Aug/1986	11:00	20/Aug/1986
3	11:00	20/Aug/1986	22:00	20/Aug/1986
8 NE	22:00	20/Aug/1986	02:00	21/Aug/1986
3	02:00	21/Aug/1986	05:00	21/Aug/1986
1	11:45	25/Aug/1986	14:35	26/Aug/1986
1	01:30	04/Sep/1986	15:00	04/Sep/1986
3	15:00	04/Sep/1986	14:10	05/Sep/1986
	3 1 3 8 NE 3 1 1	3 10:30 1 11:30 3 11:00 8 NE 22:00 3 02:00 1 11:45 1 01:30	3 10:30 10/Aug/1986 1 11:30 19/Aug/1986 3 11:00 20/Aug/1986 3 02:00 20/Aug/1986 3 02:00 21/Aug/1986 1 11:45 25/Aug/1986 1 01:30 04/Sep/1986	3 10:30 10/Aug/1986 15:15 1 11:30 19/Aug/1986 11:00 3 11:00 20/Aug/1986 22:00 8 NE 22:00 20/Aug/1986 02:00 3 02:00 21/Aug/1986 05:00 1 11:45 25/Aug/1986 14:35 1 01:30 04/Sep/1986 15:00

Wayne affected HK again in September 1986 after it had affected HK twice in August. The first and second time would be counted once only for August (refer to example 1c), but the third time would be attributed to September (the second month) (refer to example 1b). Therefore, there were 2 TCs affecting HK in August 1986 (the no name TC and Wayne), while 1 TC affected HK in September (Wayne).