

Heat Index Monitoring and Early Warning System of DOST-PAGASA

Loren Joy D. Estrebillo

Weather Specialist
DOST-PAGASA

Impact Assessment and Applications Section - CAD

Email: iaascad17@gmail.com

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OUTLINE

01.

Heat index: How hot the weather feels like?

02.

Operational practice on issuance of HI

HEAT INDEX



is what the temperature feels like to the human body
when humidity

real feel

apparent temperature

init factor

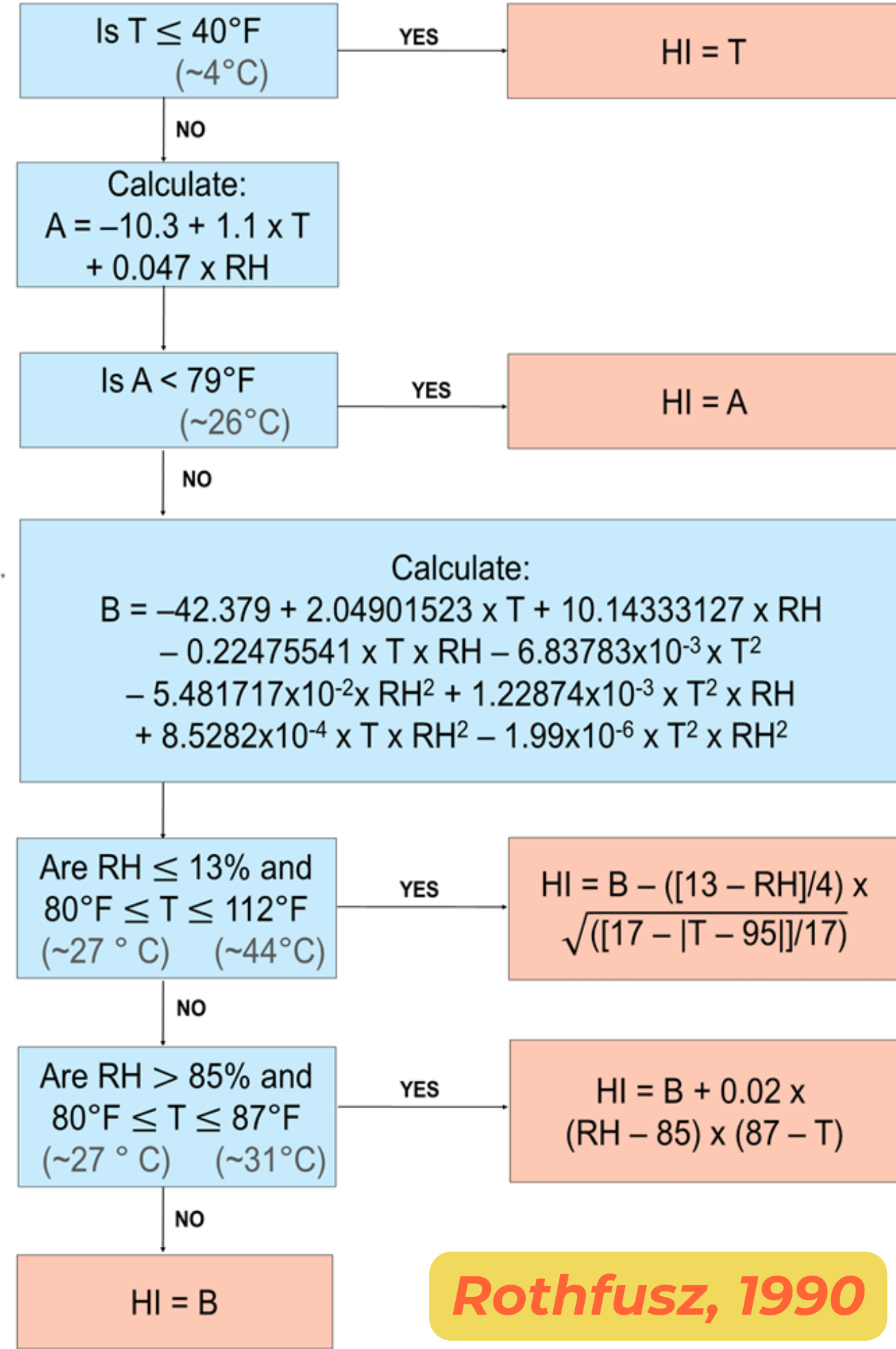
damang init

EMPIRICAL DERIVATION

TABLE 2. Temperature-humidity scale: Apparent temperature (°C) corresponding to each combination of dry-bulb temperature and relative humidity. Values in parentheses correspond to skin humidities above 90% and are approximate.

Dry bulb temperature (°C)	Relative humidity (%)										
	0	10	20	30	40	50	60	70	80	90	100
20	16	17	17	18	19	19	20	20	21	21	21
21	18	18	19	19	20	20	21	21	22	22	23
22	19	19	20	20	21	21	22	22	23	23	24
23	20	20	21	22	22	23	23	24	24	24	25
24	21	22	22	23	23	24	24	25	25	26	26
25	22	23	24	24	24	25	25	26	27	27	28
26	24	24	25	25	26	26	27	27	28	29	30
27	25	25	26	26	27	27	28	29	30	31	33
28	26	26	27	27	28	29	29	31	32	34	(36)
29	26	27	27	28	29	30	31	33	35	37	(40)
30	27	28	28	29	30	31	33	35	37	(40)	(45)
31	28	29	29	30	31	33	35	37	40	(45)	
32	29	29	30	31	33	35	37	40	44	(51)	
33	29	30	31	33	34	36	39	43	(49)		
34	30	31	32	34	36	38	42	(47)			
35	31	32	33	35	37	40	(45)	(51)			
36	32	33	35	37	39	43	(49)				
37	32	34	36	38	41	46					
38	33	35	37	40	44	(49)					
39	34	36	38	41	46						
40	35	37	40	43	49						
41	35	38	41	45							
42	36	39	42	47							
43	37	40	44	49							
44	38	41	45	52							
45	38	42	47								
46	39	43	49								
47	40	44	51								
48	41	45	53								
49	42	47									
50	42	48									

Steadman, 1979



Rothfusz, 1990

HEAT INDEX EQUATION is obtained by **multiple regression analysis** (from Steadman's table) carried out by **Rothfusz (1990)**

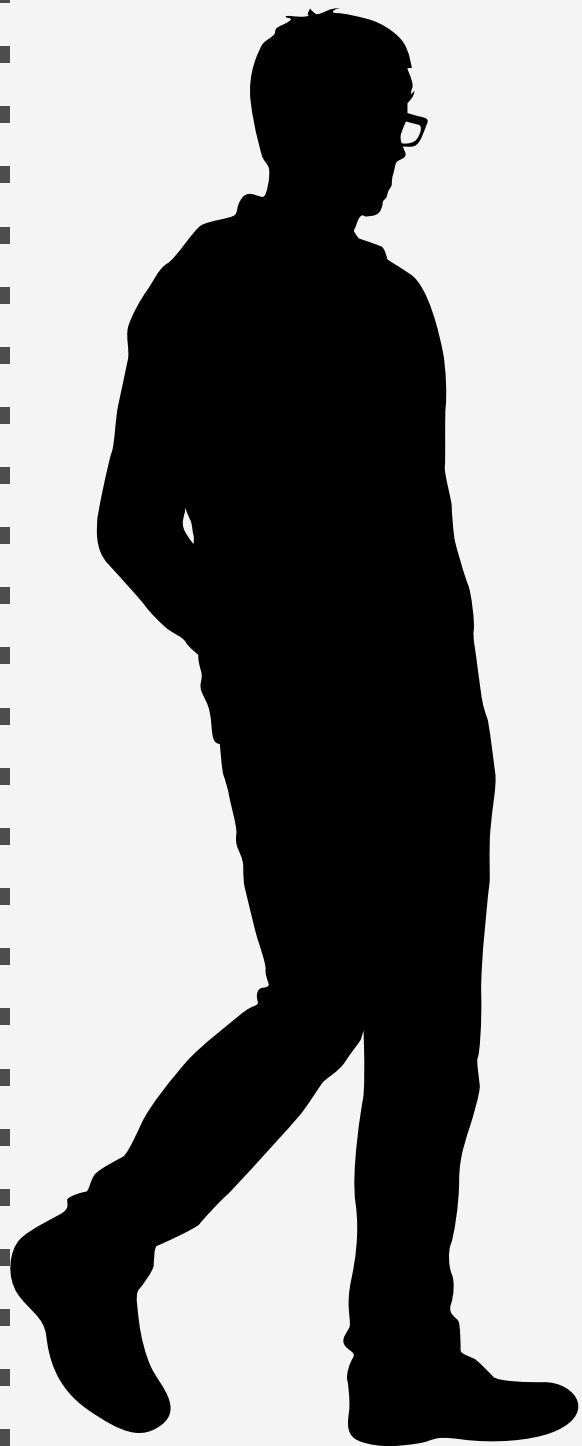
HI value has an error of **±1.3°**

Anderson (2013) showed that this algorithm is most accurate among others, relative to Steadman's table

ASSUMPTIONS

in Steadman's table of apparent temperature

Parameter	Description	Assumption
Vapor pressure (dew point)	Ambient vapor pressure of the atmosphere	1.6 kPa (14°C)
Human dimension	Determines the skin's surface area	1.7m in ht., 67 kg in wt.
Effective radiation area of skin	A ratio that depends upon skin surface area	1.78 m ²
Significant diameter of a human	Based on the body's volume and density.	15.3 cm
Clothing cover	Long trousers and short-sleeved shirt is assumed	84% coverage
Core temperature	Internal body temperature	98.6°F (37°C)
Core vapor pressure	Depends upon body's core temperature and salinity	5.65 kPa
Activity	Determines metabolic output.	180 W m ⁻² of skin area for the model person walking outdoors at a speed of 1.4 m s ⁻¹
Effective wind speed	Vector sum of the body's movement and an average wind speed. Angle between vectors influences convection from skin surface (below).	5 kts



ASSUMPTIONS

in Steadman's table of apparent temperature



Parameter	Description
Surface temperatures and vapor pressures of skin and clothing	Affects heat transfer from the skin's surface either by radiation or convection. These values are determined by an iterative process. (see Figure)
Clothing resistance to heat transfer	The magnitude of this value is based on the assumption that the clothing is 20% fiber and 80% air
Clothing resistance to moisture transfer.	Since clothing is mostly air, pure vapor diffusion is used here.
Radiation from the surface of the skin	A radiative heat-transfer coefficient determined from previous studies.
Convection from the surface of the skin	A convection coefficient also determined from previous studies. Influenced by kinematic viscosity of air and angle of wind.
Sweating rate	Assumes that sweat is uniform and not dripping from the body.

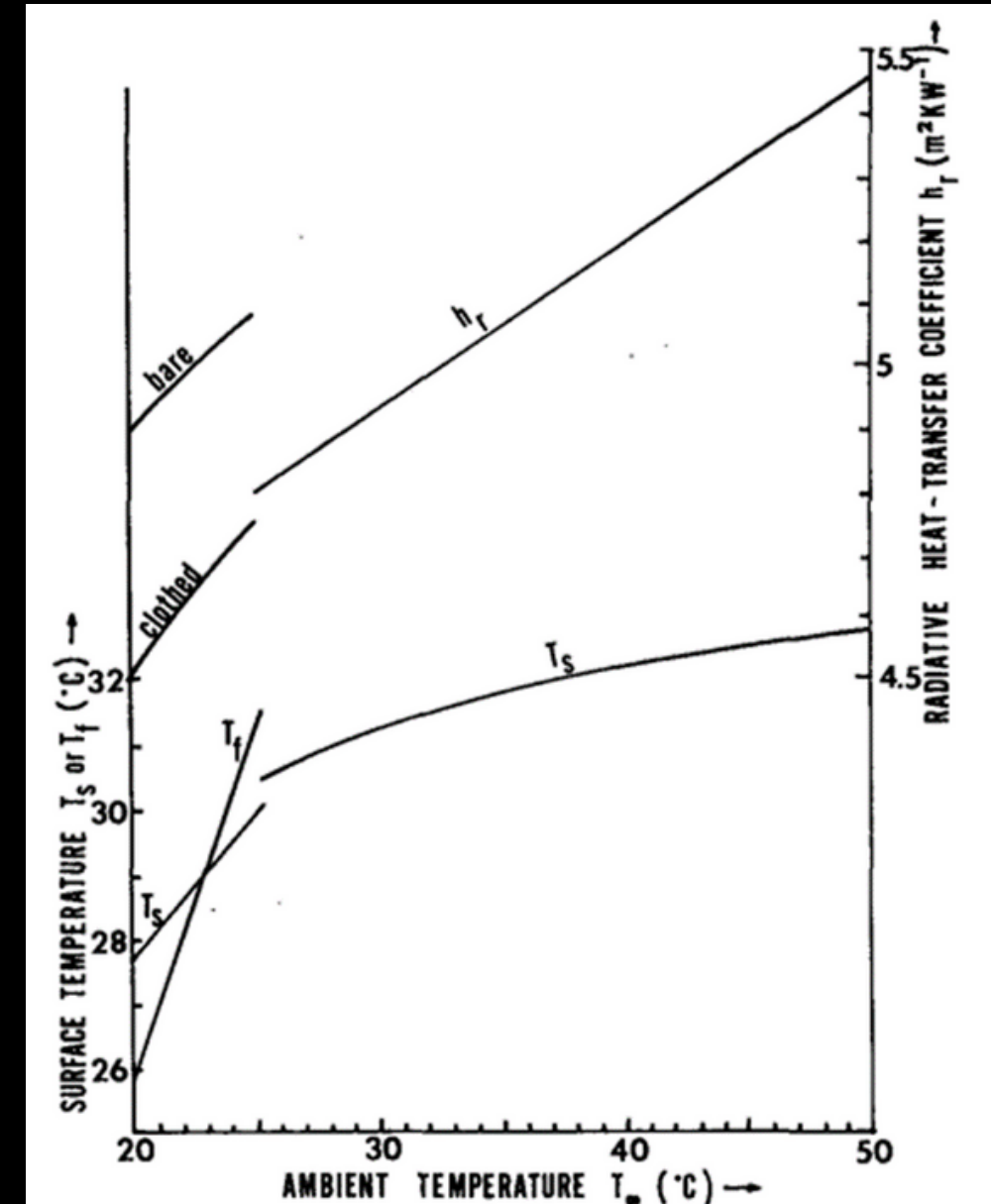
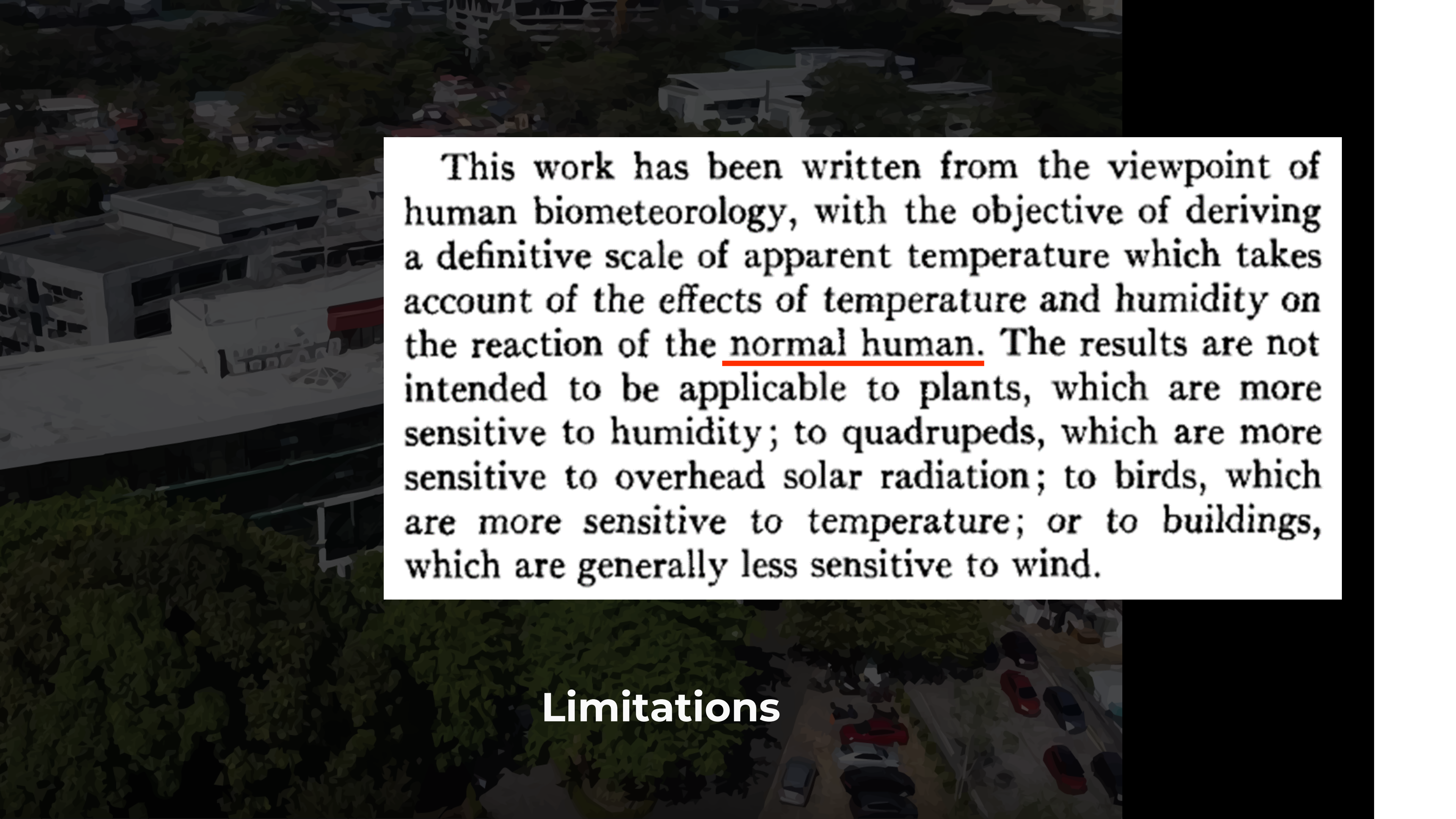


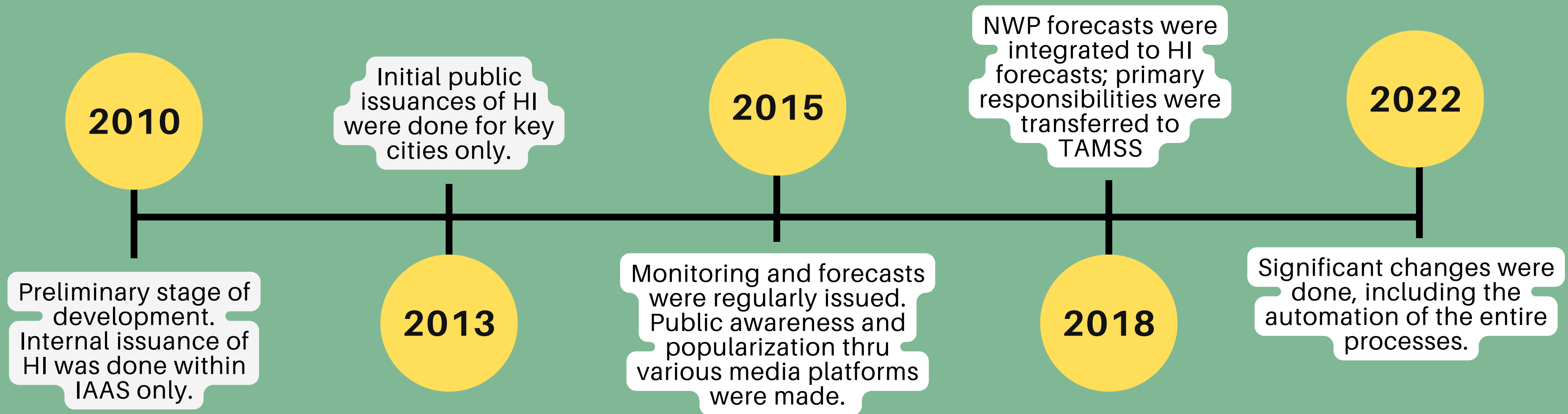
FIG. 3. Surface temperature (lower) and radiative heat-transfer coefficient as a function of ambient temperature when $P_{\infty} = 1.6$ kPa.

An aerial photograph of a city with dense green trees and several buildings. A white rectangular text box is positioned in the upper right quadrant of the image. The text inside the box is in a black, monospaced font. The word 'normal' in the text is underlined with a red line.

This work has been written from the viewpoint of human biometeorology, with the objective of deriving a definitive scale of apparent temperature which takes account of the effects of temperature and humidity on the reaction of the normal human. The results are not intended to be applicable to plants, which are more sensitive to humidity; to quadrupeds, which are more sensitive to overhead solar radiation; to birds, which are more sensitive to temperature; or to buildings, which are generally less sensitive to wind.

Limitations

HEAT INDEX OPERATIONAL ISSUANCE



METHODS

2022-early 2023

3-step process in preparing heat index information for daily operational issuance

Station	Date	Time	Dry-Bulb Temperature [°C]	Relative Humidity [%]	Heat Index [°C]
Abasco, Barinas	28 Mar 2023	02:00 pm	30.9	5.7	34
Abará, Guayas	28 Mar 2023	02:00 pm	29.9	7.3	39
Abasco, Bolívar	28 Mar 2023	1:00 am	29.8	7.1	36
Acacias City, Arauca	28 Mar 2023	02:00 pm	29.8	7.3	37
Baru (Baru), Acaia	28 Mar 2023	1:00 am	29.8	7.1	36
Acuña, Bolívar	28 Mar 2023	05:00 am	29.8	7.1	36
Acrore, Mérida	28 Mar 2023	02:00 pm	30.8	7.9	38
Ahuaro City, Aguayo Del Norte	28 Mar 2023	05:00 am	30.4	10.8	35
Acuña, Cienfuegos	28 Mar 2023	02:00 pm	30.2	8.3	38
Calpón, Cagayan	28 Mar 2023	02:00 pm	28.0	7.9	32
Carrizosa, Acaia	28 Mar 2023	1:00 am	29.8	7.1	36
Carrizosa, Mérida	28 Mar 2023	05:00 am	29.8	7.4	36
Cataguan, Venezuela Sur	28 Mar 2023	02:00 pm	30.4	6.2	38
Cook Airport (Cook), Paraguarí	28 Mar 2023	02:00 pm	30.5	4.0	38
C.30 (Mallatá), Cienfuegos	28 Mar 2023	02:00 pm	30.0	6.0	36
Carrizosa, Barinas	28 Mar 2023	02:00 pm	31.0	6.2	39
Carrizosa City, Venezuela Sur	28 Mar 2023	02:00 pm	30.2	5.4	36
Casas, Bolívar	28 Mar 2023	02:00 pm	30.0	4.0	36
Carrizosa City, Venezuela Sur	28 Mar 2023	02:00 pm	30.0	4.0	36
Cas, T. Sals, T. Sals, Chingapa City	28 Mar 2023	02:00 pm	30.0	7.3	36
Ced, Camarón Norte	28 Mar 2023	02:00 pm	30.0	7.3	36
Carrizosa City, Venezuela Sur	28 Mar 2023	1:00 am	30.2	6.5	36
Cas, T. Sals, T. Sals, Chingapa City	28 Mar 2023	02:00 pm	31.7	8.7	40
Dease City, Dease Del Sur	28 Mar 2023	02:00 pm	33.0	5.8	39
Delicias, Zamora del Norte	28 Mar 2023	02:00 pm	30.0	6.0	36
Duranguita City, Nueva Oriental	28 Mar 2023	12:00 pm	32.1	6.1	38
General Serrano City, Santa Cruz	28 Mar 2023	02:00 pm	31.3	6.1	38
Delicias, Zamora del Norte	28 Mar 2023	1:00 am	30.0	6.0	36
Infrastr. Surgeon Del Sur	28 Mar 2023	02:00 pm	29.7	7.9	37
San, Zambora	28 Mar 2023	02:00 pm	31.7	8.8	39
Infrastr. Guayana	28 Mar 2023	1:00 am	29.8	7.3	36
Revolución, Barinas	28 Mar 2023	02:00 pm	29.0	7.9	35
Julian, Suriname	28 Mar 2023	02:00 pm	30.4	7.0	36
Lupatón Airport, Misiones Oriental	28 Mar 2023	1:00 am	29.8	6.8	36
Lupatón City, Misiones Norte	28 Mar 2023	1:00 am	29.8	6.8	36
Lupatón City, Misiones Norte	28 Mar 2023	02:00 pm	31.1	7.0	38
Mérida, Mérida	28 Mar 2023	02:00 pm	30.0	6.0	36
Mérida International Airport, Cuba	28 Mar 2023	1:00 am	31.6	2.4	40
Miraflores, Barinas	28 Mar 2023	02:00 pm	29.2	7.1	35
Miraflores City, Venezuela	28 Mar 2023	02:00 pm	29.2	7.1	35
Norix Press City, Misiones	28 Mar 2023	02:00 pm	30.2	5.3	40
P. de Acaia, Mérida	28 Mar 2023	02:00 pm	33.0	4.8	40
Puerto Páez, Cienfuegos, Páez	28 Mar 2023	02:00 pm	30.0	5.3	36
Páez City, Maricao	28 Mar 2023	02:00 pm	29.0	2.0	33
Páez City, Maricao	28 Mar 2023	02:00 pm	30.0	7.0	36
P. de Acaia, Mérida	28 Mar 2023	02:00 pm	31.7	4.7	40
Sanger Port, Cayula	28 Mar 2023	02:00 pm	30.4	5.3	39
Socorro Sanger Airport, M. de Maricao	28 Mar 2023	02:00 pm	33.0	4.7	40
Socorro Sanger, Sur	28 Mar 2023	02:00 pm	31.2	5.0	39
Surgeon City, Surgeon Del Sur	28 Mar 2023	1:00 am	29.4	7.1	36
T. de Acaia City, Guayana	28 Mar 2023	0:00 am	32.8	4.7	40
T. de Acaia, Mérida	28 Mar 2023	02:00 pm	30.0	5.3	36
T. de Acaia City, Guayana	28 Mar 2023	02:00 pm	29.2	7.4	36
T. de Acaia, Mérida	28 Mar 2023	02:00 pm	33.4	5.3	40
T. de Acaia, Mérida	28 Mar 2023	1:00 am	31.6	4.7	40
Zamora City, Zamora Del Sur	28 Mar 2023	10:00 am	31.0	7.3	40

MAXIMUM

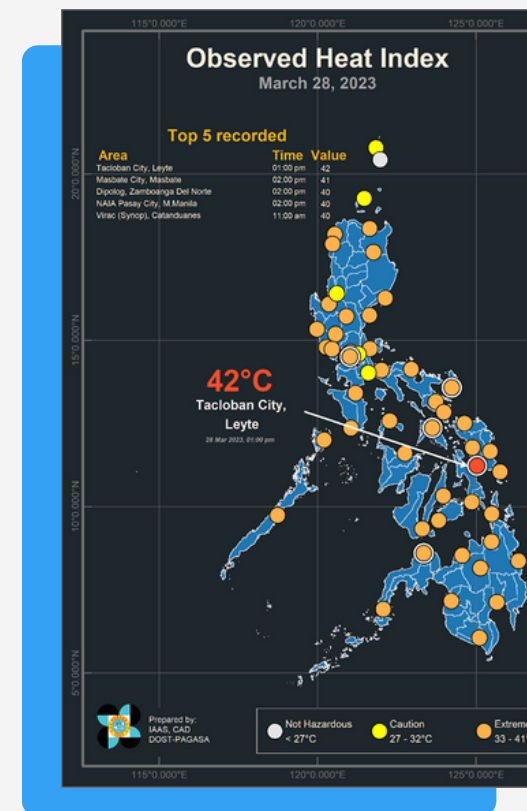
Tachiana City, Leyte

PROVINCE

TIME

Heat Index [°C]

42

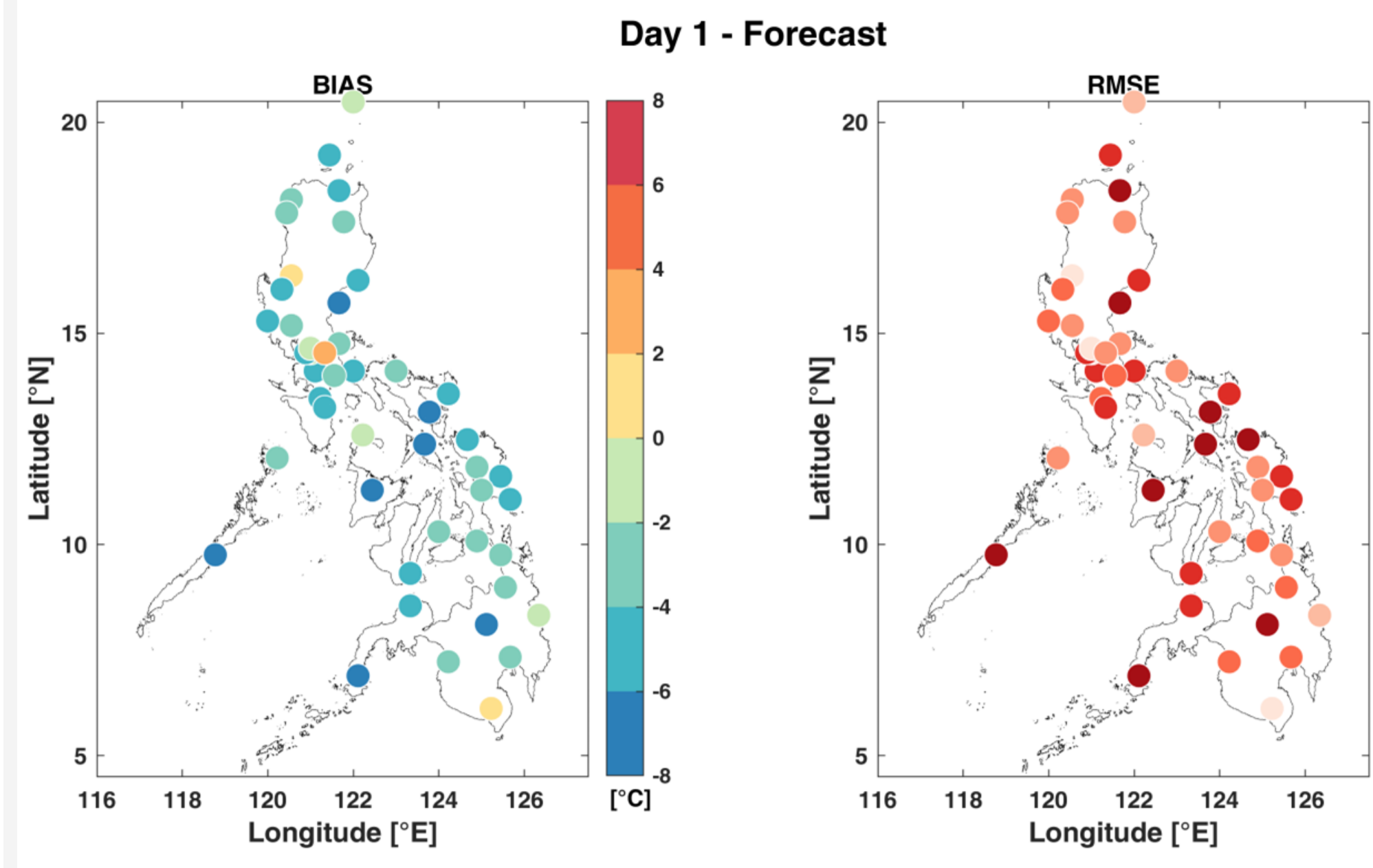
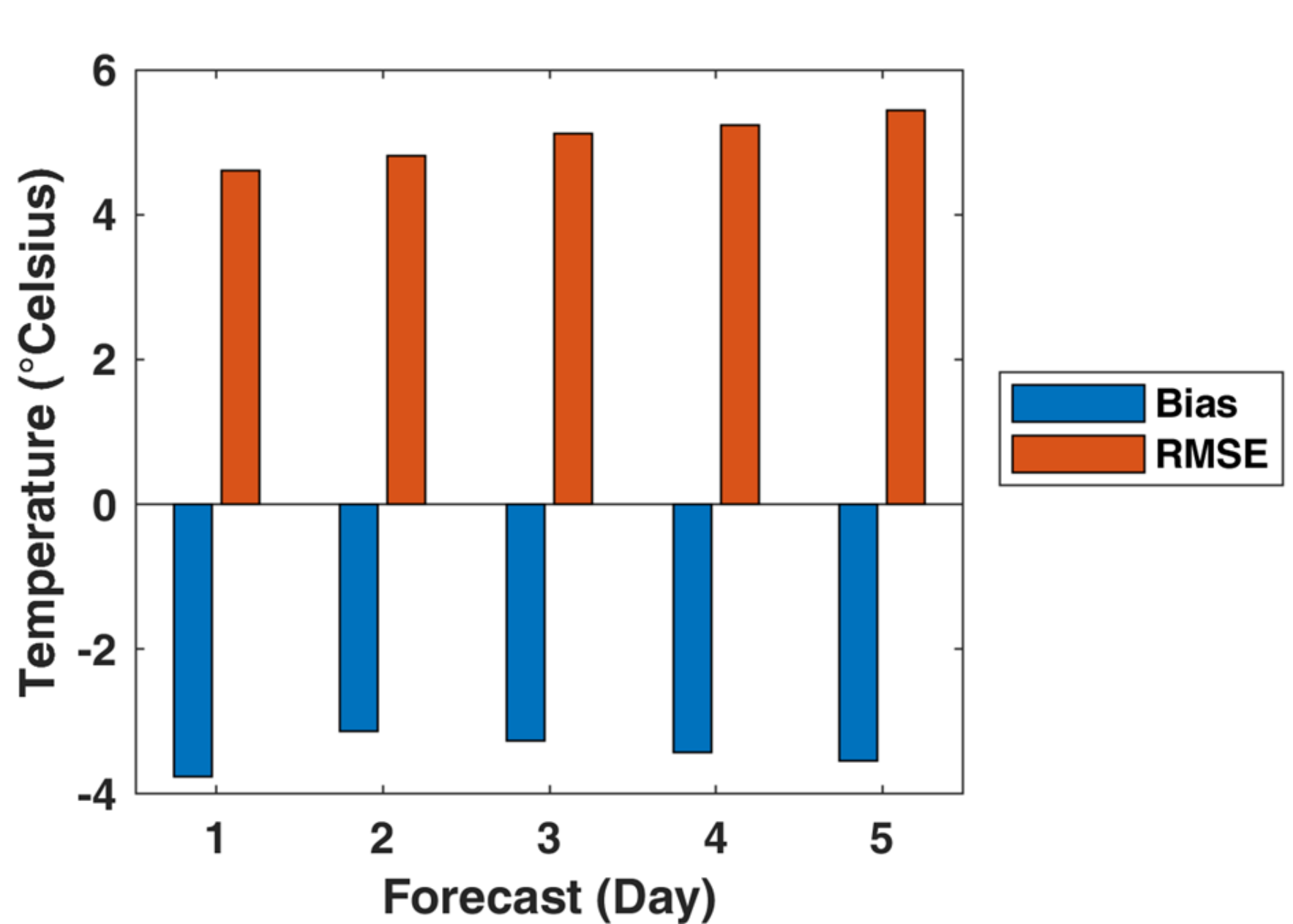


Obtain present-day HI based on observations taken at PAGASA stations

Generate map of observed max HI values for present-day

Generate table and maps of 5-day HI forecast

NWP model (WRF)

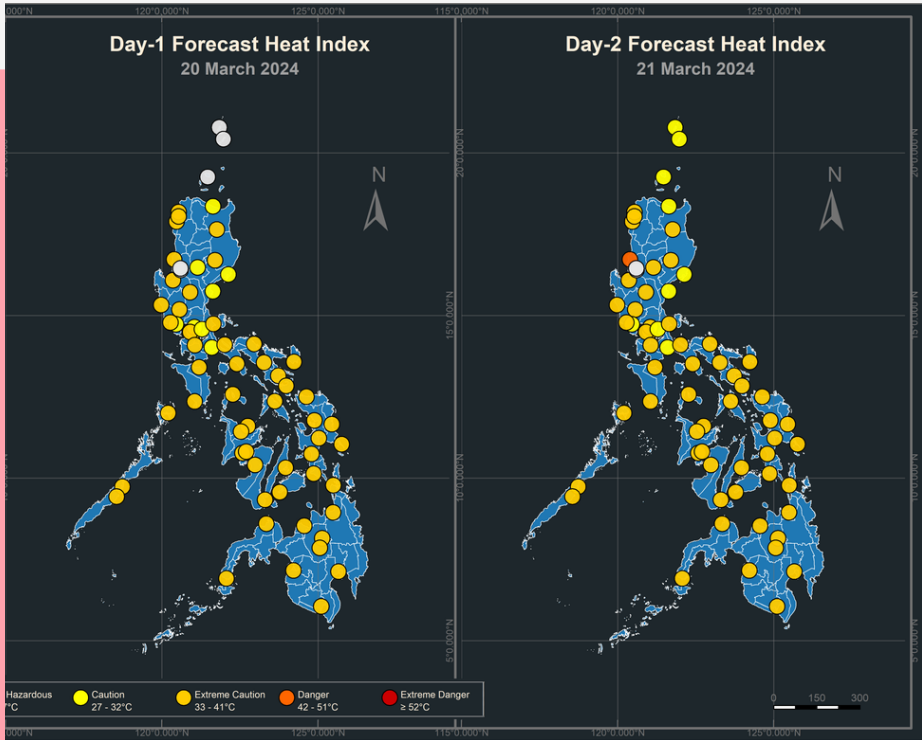
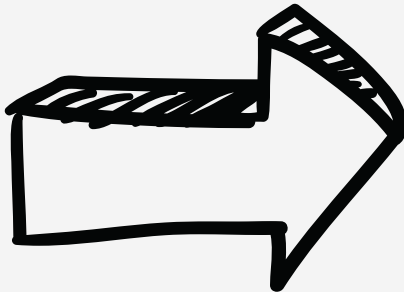
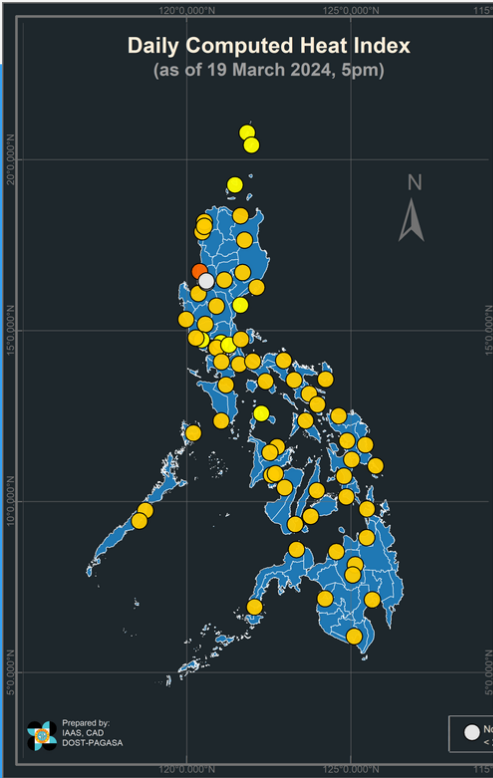
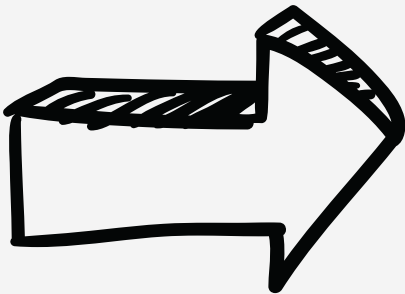


METHODS

2024

3-step process in preparing heat index information for daily operational issuance

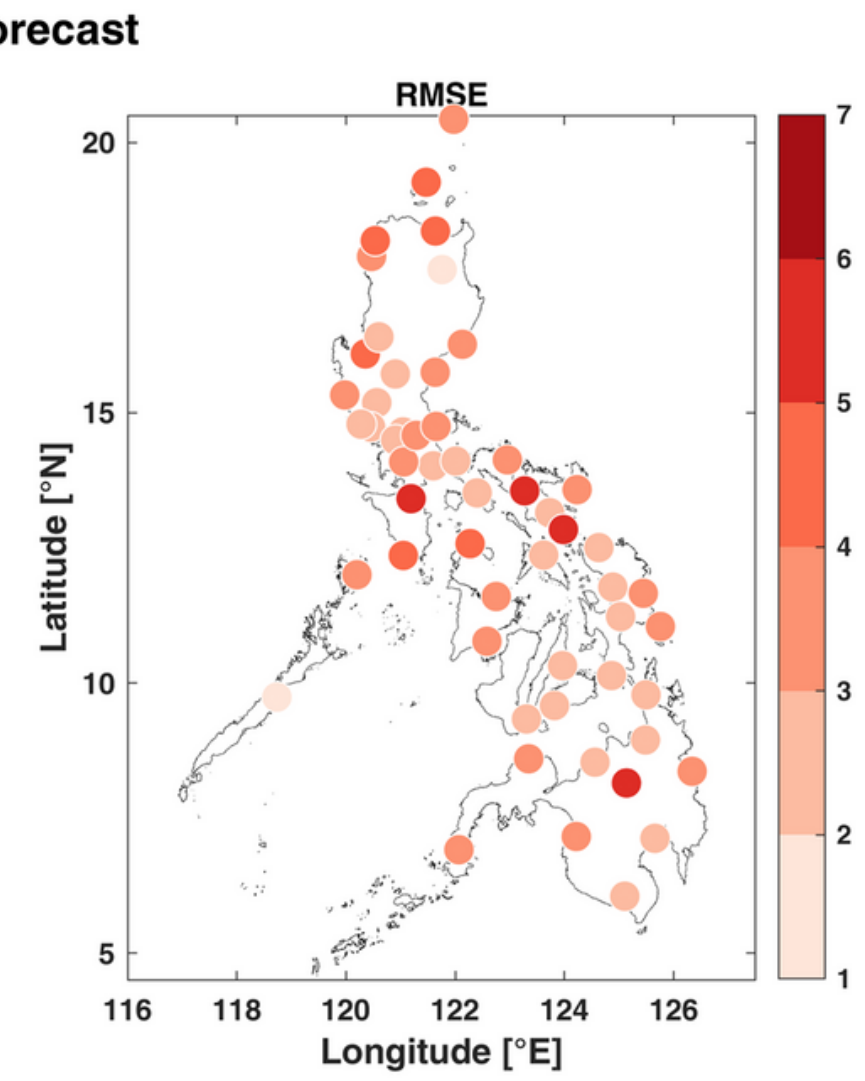
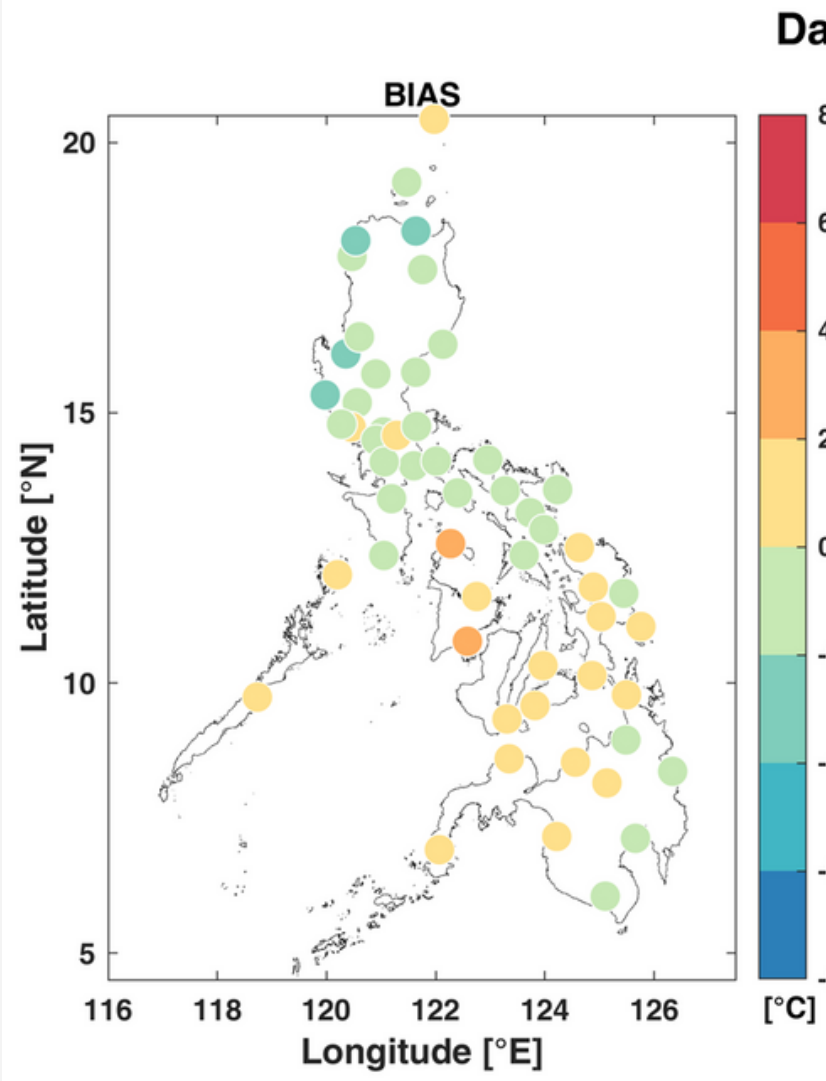
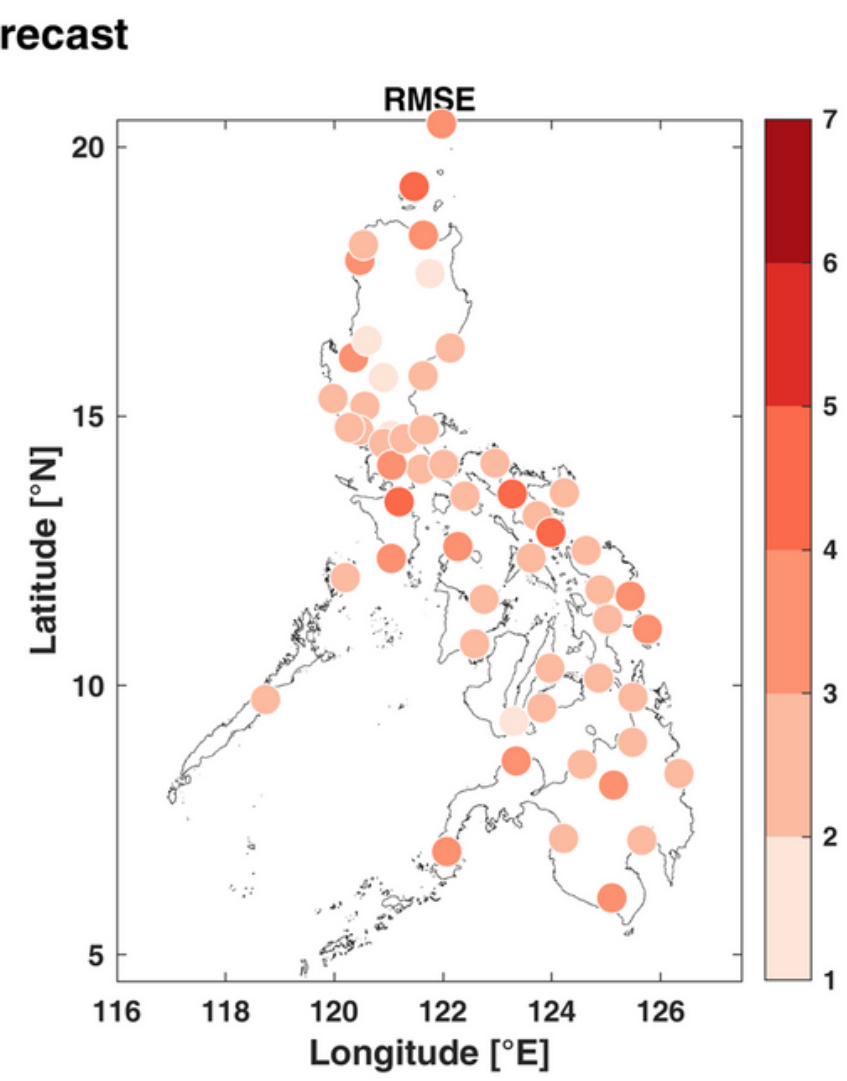
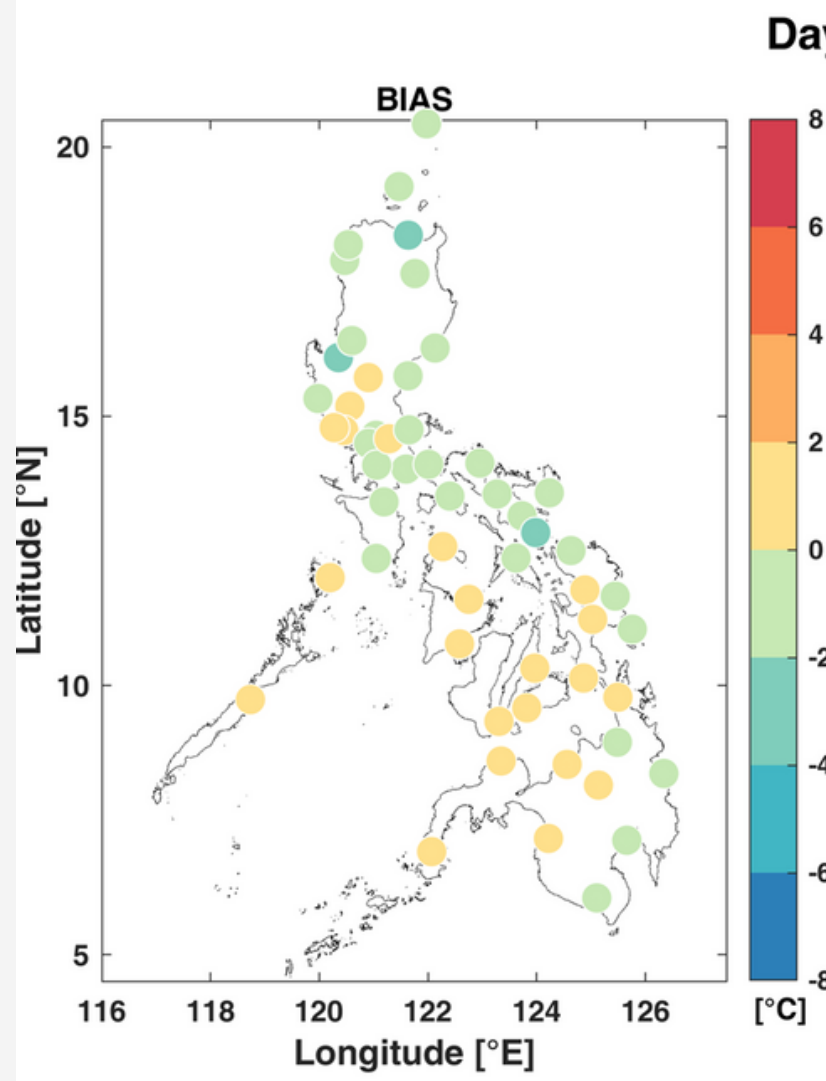
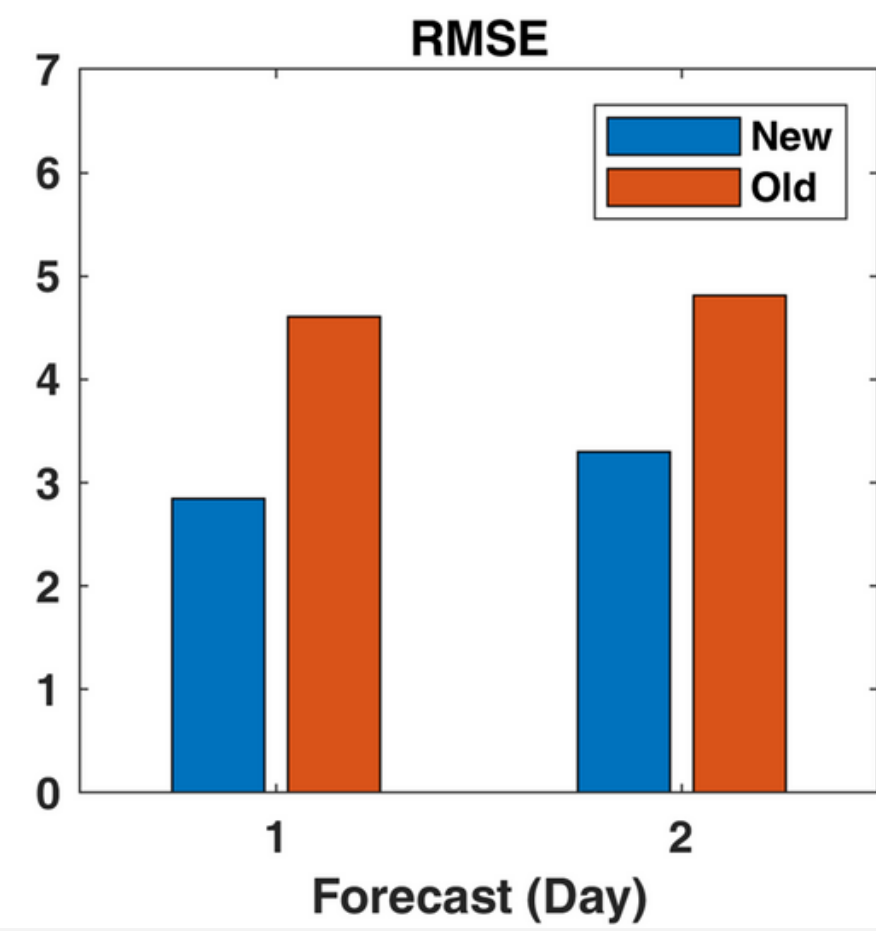
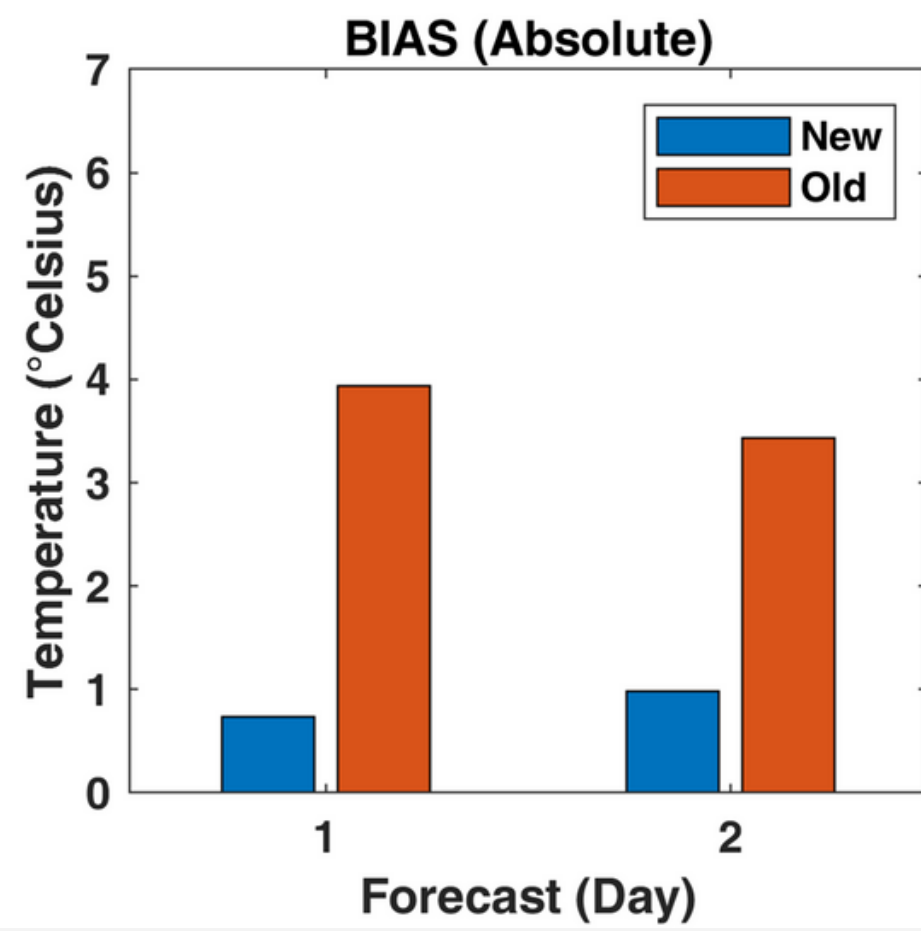
HIGHEST HEAT INDEX 5-day Computed and 2-day Forecast As of 19 March 2024, 5pm						
Region	Station	Computed 5-days Heat Index (2024)				Forecast
		19-Mar	18-Mar	17-Mar	16-Mar	1-day (20-Mar)
National Capital Region	Nickelodeon City, Manila	33	34	34	34	34
	Benigno Aquino Jr. Ave., Manila	33	34	34	34	34
	Alfonso P. Arroyo Ave., Manila	33	34	34	34	34
	Alfonso P. Arroyo Ave., Manila	33	34	34	34	34
Region I (Ilocos Region)	Lingayen City, Pangasinan	33	34	34	34	34
	San Carlos City, Pangasinan	33	34	34	34	34
	San Carlos City, Pangasinan	33	34	34	34	34
	San Carlos City, Pangasinan	33	34	34	34	34
Region II (Cagayan Valley)	Butte, Cagayan	33	34	34	34	34
	Butte, Cagayan	33	34	34	34	34
	Butte, Cagayan	33	34	34	34	34
	Butte, Cagayan	33	34	34	34	34
Region III (Central Luzon)	Clark Airport, Pampanga	33	34	34	34	34
	Clark Airport, Pampanga	33	34	34	34	34
	Clark Airport, Pampanga	33	34	34	34	34
	Clark Airport, Pampanga	33	34	34	34	34
Region IV-A (CALABARZON)	Clark Airport, Pampanga	33	34	34	34	34
	Clark Airport, Pampanga	33	34	34	34	34
	Clark Airport, Pampanga	33	34	34	34	34
	Clark Airport, Pampanga	33	34	34	34	34
Region IV-B (BAMANGSAY)	Clark Airport, Pampanga	33	34	34	34	34
	Clark Airport, Pampanga	33	34	34	34	34
	Clark Airport, Pampanga	33	34	34	34	34
	Clark Airport, Pampanga	33	34	34	34	34
Region V (Bicol Region)	Clark Airport, Pampanga	33	34	34	34	34
	Clark Airport, Pampanga	33	34	34	34	34
	Clark Airport, Pampanga	33	34	34	34	34
	Clark Airport, Pampanga	33	34	34	34	34
Region VI (Western Visayas)	Clark Airport, Pampanga	33	34	34	34	34
	Clark Airport, Pampanga	33	34	34	34	34
	Clark Airport, Pampanga	33	34	34	34	34
	Clark Airport, Pampanga	33	34	34	34	34
Region VII (Central Visayas)	Clark Airport, Pampanga	33	34	34	34	34
	Clark Airport, Pampanga	33	34	34	34	34
	Clark Airport, Pampanga	33	34	34	34	34
	Clark Airport, Pampanga	33	34	34	34	34
Region VIII (Eastern Visayas)	Clark Airport, Pampanga	33	34	34	34	34
	Clark Airport, Pampanga	33	34	34	34	34
	Clark Airport, Pampanga	33	34	34	34	34
	Clark Airport, Pampanga	33	34	34	34	34
Region IX (Zamboanga Peninsula)	Clark Airport, Pampanga	33	34	34	34	34
	Clark Airport, Pampanga	33	34	34	34	34
	Clark Airport, Pampanga	33	34	34	34	34
	Clark Airport, Pampanga	33	34	34	34	34
Region X (Northern Mindanao)	Clark Airport, Pampanga	33	34	34	34	34
	Clark Airport, Pampanga	33	34	34	34	34
	Clark Airport, Pampanga	33	34	34	34	34
	Clark Airport, Pampanga	33	34	34	34	34
Region XI (Davao Region)	Clark Airport, Pampanga	33	34	34	34	34
	Clark Airport, Pampanga	33	34	34	34	34
	Clark Airport, Pampanga	33	34	34	34	34
	Clark Airport, Pampanga	33	34	34	34	34
Region XII (Socorro)	Clark Airport, Pampanga	33	34	34	34	34
	Clark Airport, Pampanga	33	34	34	34	34
	Clark Airport, Pampanga	33	34	34	34	34
	Clark Airport, Pampanga	33	34	34	34	34



Obtain present-day HI based on observations taken at PAGASA stations

Generate table & map of computed max HI values for present-day (incl past four days)

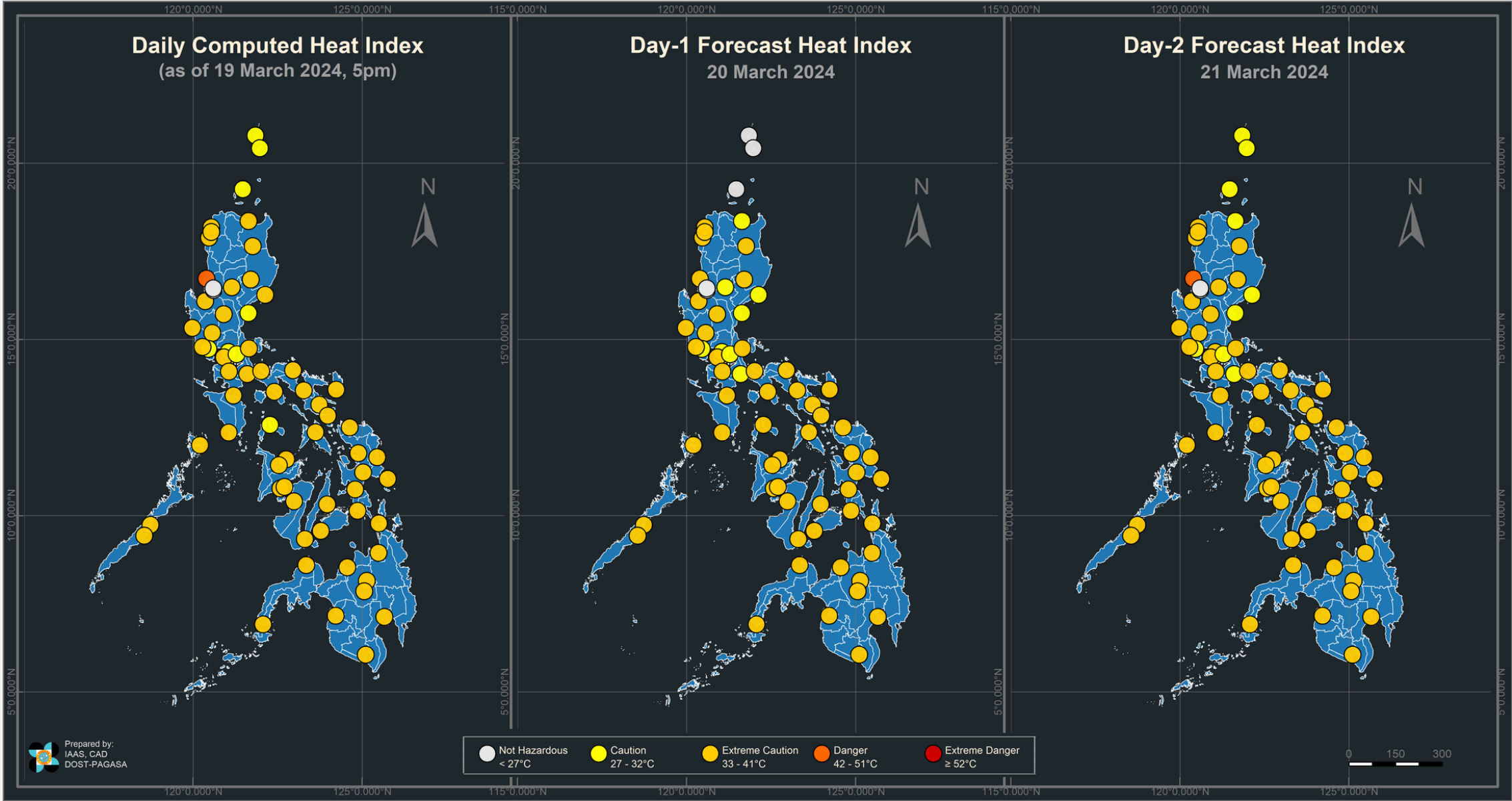
Generate maps of 2-day HI forecast
global forecast model ECWMF



HIGHEST HEAT INDEX
5-day Computed and 2-day Forecast
As of 19 March 2024, 5pm

Region	Station	Computed 5-days Heat Index (2024)					Forecast	
		15-Mar	16-Mar	17-Mar	18-Mar	19-Mar	1-day (20-Mar)	2-day (21-Mar)
National Capital Region	NAIA Pasay City, M.Manila	33	36	36	36	35	34	36
	Science Garden Quezon City, Metro Manila	32	34	34	34	32	32	35
	Sinait, Ilocos Sur	35	35	35	34	35	33	34
Region I (Ilocos Region)	Laoag City, Ilocos Norte	35	37	35	35	36	33	34
	Dagupan City, Pangasinan	39	43	40	41	40	37	39
	MMSU, Batac, Ilocos Norte	35	35	36	35	35	34	34
	Bacnotan, La Union	39	34	39	42	47	40	42
Region II (Cagayan Valley)	Itbayat, Batanes	26	29	29	29	28	22	27
	Calayan, Cagayan	34	33	33	32	32	26	29
	Basco (Radar), Batanes	24	29	28	29	29	23	27
	Aparri, Cagayan	40	37	37	36	35	28	29
	Tuguegarao City, Cagayan	38	37	37	37	36	34	36
	NVSU Bayombong, Nueva Vizcaya	33	34	35	34	33	32	33
	ISU Echague, Isabela	36	36	36	35	35	33	35
Cordillera Administrative Region	Baguio City, Benguet	25	25	25	22	23	22	23
	BSU, La Trinidad, Benguet	26	24	24	24	22	22	23
Region III (Central Luzon)	Iba, Zambales	37	38	36	37	36	35	35
	Clark Airport (DMIA), Pampanga	33	35	36	34	35	34	34
	CLSU Muñoz, Nueva Ecija	33	34	36	34	34	34	35
	Baler (Radar), Aurora	28	25	36	34	31	31	32
	Casiguran, Aurora	32	31	35	33	33	31	32
	Abucay, Bataan	31	32	33	31	32	31	32
	Cubi Pt., Subic Bay Olongapo City	36	36	35	36	34	34	36
Region IV-A (CALABARZON)	Tayabas City, Quezon	33	36	34	29	34	30	32
	Sangley Point, Cavite	33	36	37	36	37	36	37
	Ambulong, Tanauan Batangas	34	37	36	34	34	35	36
	Tanay, Rizal (Radar)	23	29	29	28	29	30	31
	Infanta, Quezon	26	32	33	33	34	35	36
	Alabat, Quezon	33	36	34	32	34	35	36
	Mulanay, Quezon	37	35	34	31	36	37	38
Region IV-B (MIMAROPA)	Calapan, Oriental Mindoro	35	36	36	32	35	36	37
	Coron, Palawan	36	39	35	36	34	34	35
	San Jose, Occidental Mindoro	39	41	40	38	39	38	39
	Romblon City, Romblon	32	34	34	32	32	33	34
	Puerto Princesa City, Palawan	39	39	40	38	38	39	38
	Aborlan, Palawan	39	41	40	38	39	38	38
Region V (Bicol Region)	Daet, Camarines Norte	36	36	35	35	34	35	36
	Legazpi City, Albay	38	38	36	32	36	37	38
	Virac (Synop), Catanduanes	40	47	44	38	35	36	37
	Masbate City, Masbate	40	40	37	33	35	36	37
	Juban, Sorsogon	36	35	35	28	33	34	35
	CBSUA-Pili, Camarines Sur	39	39	36	37	39	39	39
Region VI (Western Visayas)	Roxas City, Capiz	39	38	40	38	40	39	40
	Mambusao, Capiz	34	35	36	33	33	34	33
	Iloilo City, Iloilo	35	39	37	36	38	37	36
	Dumangas, Iloilo	37	40	38	38	38	38	37
	La Granja, La Carlota, Negros Occidental	36	39	38	37	35	36	37
Region VII (Central Visayas)	Dumaguete City, Negros Oriental	34	36	35	34	33	34	35
	Panglao International Airport, Bohol	35	35	36	37	33	34	35
	Mactan International Airport, Cebu	35	36	34	36	33	34	33
Region VIII (Eastern Visayas)	Catarman, Northern Samar	39	38	38	34	33	34	36
	Catbalogan, Western Samar	36	36	35	36	33	33	33
	Tacloban City, Leyte	38	37	37	37	36	35	36
	VSU-Baybay, Leyte	36	34	34	34	33	33	34
	Borongan, Eastern Samar	38	37	34	38	37	36	36
	Guiuan, Eastern Samar	35	35	39	40	39	38	39
	Maasin, Southern Leyte	37	34	33	33	34	34	35
Region IX (Zamboanga Peninsula)	Dipolog, Zamboanga Del Norte	36	37	37	36	37	37	36
	Zamboanga City, Zamboanga Del Sur	40	40	39	39	39	38	39
Region X (Northern Mindanao)	Laguindingan Airport, Misamis Oriental	38	38	35	35	34	35	34
	Malaybalay, Bukidnon	36	36	38	32	37	36	37
	CMU Agromet, Musuan, Bukidnon	34	35	35	34	36	35	36
Region XI (Davao Region)	Davao City, Davao Del Sur	37	39	38	37	39	36	38
BARMM	Cotabato City, Maguindanao	41	42	39	40	41	40	41
Region XII (SOCCSKSARGEN)	General Santos City, South Cotabato	36	35	36	34	37	37	38
Region XIII (Caraga)	Surigao City, Surigao Del Norte	36	35	35	35	35	35	34
	Butuan City, Agusan Del Norte	36	40	37	37	36	37	36

* Values beyond the 53°C Heat Index are estimates, which might already be unrealistic. Such values should therefore not to be interpreted in terms of their absolute magnitudes, but rather on the health risks they pose on us.



<https://www.pagasa.dost.gov.ph/climate/climate-heat-index>

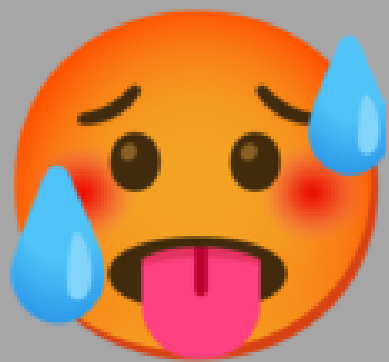
Effect-based classification



27–32°C
Caution



33–41°C
Extreme Caution



42–51°C
Danger



52°C and beyond
Extreme Danger

Effect on the body

Fatigue is possible with prolonged exposure and activity. Continuing activity could lead to heat cramps.

Heat cramps and heat exhaustion are possible. Continuing activity could lead to heat stroke.

Heat cramps and heat exhaustion are likely; heat stroke is probable with continued exposure.

Heat stroke is imminent.

WHO ARE MOST AT RISK?



children



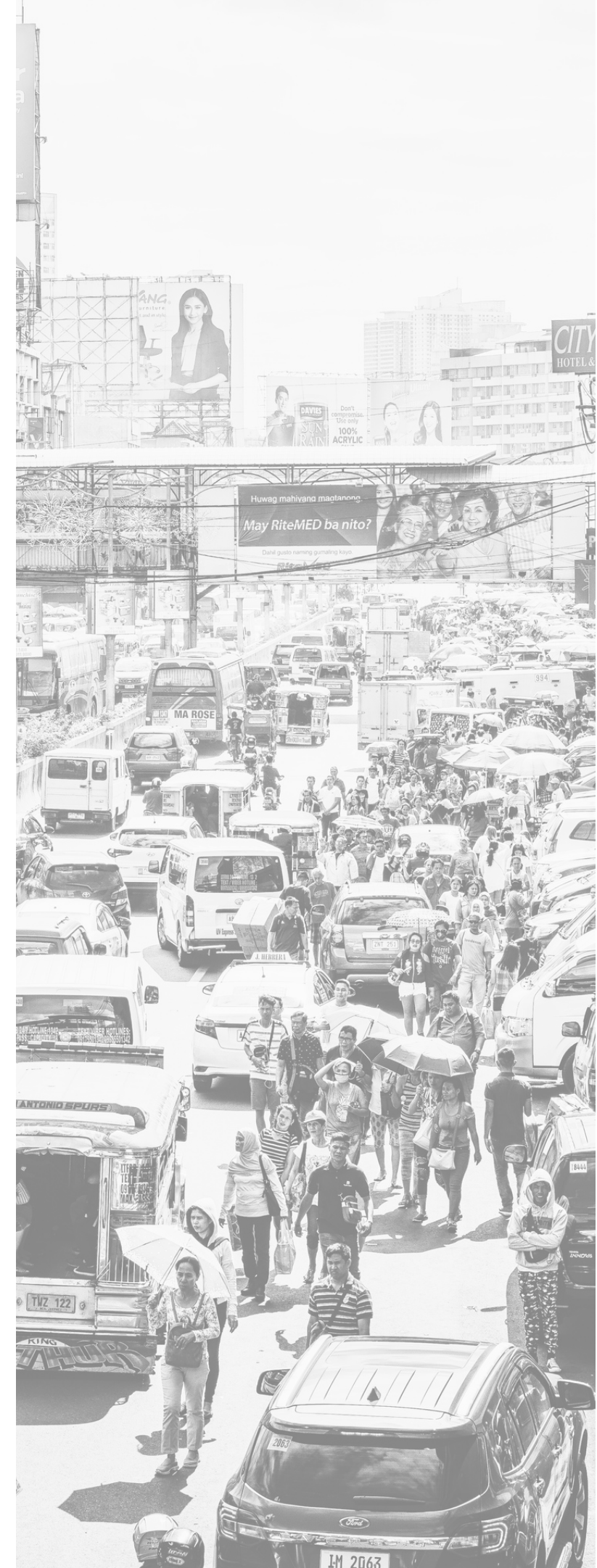
elderly



outside workers



PWD



Heat Stroke



It is the most severe form of heat illness wherein the body overheats and can't cool down by sweating because of dehydration.

CAUSES

The risk of heat stroke raises in hot and humid weather coupled with:



Vigorous exercise;



Dehydration;



Too much direct exposure to the sun.

SIGNS

Watch out for the following signs of heat exhaustion:



Intense thirst, dehydration;



Weakness or discomfort;



Dizziness or fainting;

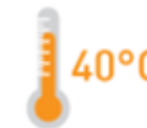


Anxiety;



Headache.

They may progress to a heat stroke:



Very high core body temperature of 40°C or more;



Hot, dry skin;



Rapid heartbeat;



Convulsion;



Delirium;



Unconsciousness or coma.

Heat Stroke



It is the most severe form of heat illness wherein the body overheats and can't cool down by sweating because of dehydration.

PREVENTION



Limit the amount of time you spend outdoors.



Drink plenty of water.
Avoid tea, coffee, soda, and alcohol.



Wear a wide-brimmed hat and long-sleeved clothing outdoors.



Schedule heavy-duty activities for the beginning or end of the day, when it's cooler.

EMERGENCY MEASURES



Move the person to a shady spot or indoors and have him or her lie down with the legs elevated. If still conscious, have them sip cool water.



Remove clothing, apply cool water to the skin and fan them.



Apply ice packs to the armpits, wrists, ankles, and groin.



Bring to a hospital immediately.

PRESS RELEASE

March 7, 2024

PR-24-03-014

MMDA Reinstates 30-Minute Heat Stroke Break for Field Personnel

The Metropolitan Manila Development Authority (MMDA) has reinstated the 30-minute "heat stroke break" policy for its field personnel, particularly traffic enforcers and street sweepers, to protect them from heat-related illness amid the impact of the El Niño phenomenon.

MMDA Acting Chairman Atty. Don Artes signed a memorandum circular reinstating the "heat stroke break" policy, which will take effect from March 15 until May 31, to be implemented daily through a rotation schedule.

"We must understand the plight of these traffic enforcers and street sweepers who work under the scorching heat of the sun every day to fulfill their duties and responsibilities," Atty. Artes explained.

Under the heat stroke break policy, on-duty traffic enforcers and street sweepers are allowed to leave their posts in shifts so that they can rehydrate, seek shelter from the sun, and take a 30-minute break to avoid heat stroke.

For traffic enforcers who work from 5 am to 1 pm shift, the prescribed "heat stroke break" is from 10 am to 10:30 am or 10:30 am to 11 am; for those working from 1 pm to 9 pm shift, the break time shall be observed from 2:30 pm to 3 pm or 3 pm to 3:30 pm; for those working from 6 am to 2 pm, the prescribed "heat stroke break" is from 11 am to 11:30 am or 11:30 am to 12 noon; and for 2 pm to 10 pm shift, the break time shall be observed from 3 pm to 3:30 pm or 3:30 pm to 4 pm.

Meanwhile, for street sweepers who work from 6 am to 2 pm shift, the prescribed "heat stroke break" is from 11 am to 11:30 am or 11:30 am to 12 noon; for 7 am to 4 pm shift, they shall observe 12 noon to 1 pm regular break time; and for those working from 11 am to 7 pm shift, the break time shall be observed from 2:30 pm to 3:00 pm or 3:00 pm to 3:30 pm.

Field personnel could also take an additional 15-minute break time in case the heat index, or the "human discomfort index" in Metro Manila reaches 40 degrees Celsius and above.



MMDA ENFORCES 'HEAT STROKE BREAK' POLICY BY INSTALLING DRINKS AND HEALTH STATIONS

The Metropolitan Manila Development Authority (MMDA) has taken measures to protect its field personnel from heat-related illnesses caused by the El Niño phenomenon.



DepEd-Bicol ensures Palaro athletes' safety amid high heat index

By Connie Calipay and Emmanuel Solis

April 24, 2023, 7:22 pm

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LEGAZPI CITY – The Department of Education in Bicol (DepEd-5) has formulated safety precautions to ensure the well-being of athletes as the heat index in the city reached 46 degrees during the opening ceremony of the modified Palarong Bicol (Bicol Meet) 2023 on Sunday afternoon.

In a press conference on Monday, architect Roland Alianza, Legazpi City Schools Division Office (SDO) disaster risk reduction management (DRRM) chief, said they made sure that the precautionary measures were discussed during the preparations for the week-long activity.

"Sa mga coordination meetings conducted by our regional office with the different SDOs, napag-usapan po ang preparations with regards sa heat index to ensure the safety of the athletes. Kaya nga ang mag billeting schools natin ay hindi na katulad ng dati na punoan kundi ang instruction natin ay dapat maluwag na ang mga rooms na ginagamit (During the coordination meetings conducted by our regional office with the different SDOs, preparations were discussed regarding the heat index to ensure the safety of the athletes. That's why our billeting schools are no longer as crowded as before as the instruction was that the rooms to be used should be spacious)," Alianza said.

Aside from spacious billeting for the athletes, he said they also wanted to hold most of the games in indoor venues.



FOR THE WIN. The teams of Catanduanes province and Ligao City, Albay province start to play for the 3x3 basketball game for secondary boys at the Albay Central School in Legazpi City as part of the ongoing Palarong Bicol 2023. The Department of Education in Bicol on Monday (April 24, 2023) said the majority of the games for the weeklong activity are to be conducted indoors as a precautionary measure amid the high heat index recorded in the city. (PNA photo by Connie Calipay)

"Tapos yung mga laro natin, lahat indoors, covered courts. Kung may laro man sa labas, hindi na siya gagawin tulad ng dati na mainit pa.. like boxing by 3:00 p.m., it's not that hot anymore with regards to outdoor events. Kaya na consider po natin yan para sa ngayon mainit na panahon (And our games are now all indoors or in covered courts. If there's a game outside, it will be done in the afternoon when it's not so hot.. like boxing by 3:00 p.m., it is not that hot anymore with regards to outdoor events. So we really consider that in anticipation of the hot weather)," he added.



Philippine News Agency

<https://www.pna.gov.ph> › articles



[Laguna students hospitalized after fainting during fire drill](#)

Mar 24, 2023 — CABUYAO CITY, Laguna – **More than 100 students** were rushed into different hospitals in this city Thursday afternoon after fainting in the middle ...



SunStar Philippines

<https://www.sunstar.com.ph> › Davao › Local News



[21 DavNor students faint due to heat](#)

Sep 11, 2023 — THE 21 **students** who **fainted** due to exposure to the scorching weather have safely returned to their homes. The incident occurred on Friday, ...



Philstar.com

<https://www.philstar.com> › nation › 2023/03/25 › 120-...



[120 high school students hospitalized after fire drill](#)

Mar 25, 2023 — MANILA, Philippines — **Up to 120 students were taken to hospitals** after they fainted and showed symptoms of heat exhaustion during a fire ...

Laguna students hospitalized after fainting during fire drill

By Belinda Otordoz

 March 24, 2023, 8:25 pm

CABUYAO CITY, Laguna – More than 100 students were rushed into different hospitals in this city Thursday afternoon after fainting in the middle of a surprise fire drill at their school.

In an interview on Friday, City Disaster Risk Reduction and Management (CDRRMO) head Sabi Abinal Jr. said that based on their initial findings, the students fainted due to starvation and dehydration.

“The Gulod National High School – Mamatid Extension conducted mandatory unannounced earthquake and fire drill but the school failed to make proper coordination with the local government, the CDRRMO and the Bureau of Fire Protection (BFP),” Abinal said.

No safety and medical officers were present at the drill and only Boy Scouts and Girl Scouts served as marshals, he noted.

Abinal said almost 3,000 students were told to gather and stay in classrooms at around 12.30 p.m. and open evacuation area and other classrooms at 2 p.m.

By this time, Abinal recounted that a number of students were already feeling sick due to the congestion and passed out inside the classrooms after feeling nauseous.



Gulod National High School
from the FB page of Gulod National High School

Region	Station	Computed 5-days Heat Index (2023)				
		19-Mar	20-Mar	21-Mar	22-Mar	23-Mar
National Capital Region	Port Area, Manila	35	34	33	36	37
	NAIA Pasay City, M.Manila	36	35	35	38	39
	Science Garden Quezon City, Metro Manila	34	34	36	37	36
Region I (Ilocos Region)	Sinait, Ilocos Sur	35	33	32	34	34
	Laoag City, Ilocos Norte	36	35	33	35	36
	Dagupan City, Pangasinan	37	37	38	41	39
Region II (Cagayan Valley)	Itbayat, Batanes	27	30	32	32	37
	Calayan, Cagayan	30	32	32	37	38
	Basco (Radar), Batanes					32
	Aparri, Cagayan	33	33	34	34	37
	Tuguegarao City, Cagayan	34	36	36	39	37
Cordillera Administrative Region	Baguio City, Benguet	23	26	26	29	29
Region III (Central Luzon)	Iba, Zambales	35	34	36	35	36
	Clark Airport (DMIA), Pampanga	34	35	37	36	38
	CLSU Muñoz, Nueva Ecija	34	37	37	36	36
	Baler (Radar), Aurora	32	35	34	36	40
	Casiguran, Aurora	31	34	34	35	39
	Abucay, Bataan	30	30	30	33	33
	Cubi Pt., Subic Bay Olongapo City	34	33	33	36	36
Region IV-A (CALABARZON)	Tayabas City, Quezon	31	30	31	35	34
	Sangley Point, Cavite	36	35	37	38	38
	Ambulong, Tanauan Batangas	34	35	37	41	41
	Tanay, Rizal (Radar)	27	27	28	29	29
	Infanta, Quezon	32	28	24	34	31
	Alabat, Quezon	32	33	33	36	36
	Mulanay, Quezon					

33–41°C
Extreme Caution

Heat cramps and heat exhaustion are possible. Continuing activity could lead to heat stroke.

211 Air Force members, supporters pledge allegiance to gov't



Republic of the Philippines
Province of Palawan
Municipality of Taytay



OFFICE OF THE MUNICIPAL MAYOR

OFFICIAL STATEMENT ON FAINTING INCIDENT OF PARTICIPANTS AND SPECTATORS DURING THE PASINGGATAN FESTIVAL 2023 DRUM AND LYRE COMPETITION HELD LAST MAY 02, 2023 AT FUERZA STA. ISABEL GROUNDS

The Municipal Government of Taytay, Palawan expresses its deep concern over the fainting incident that occurred during the Pasinggatan Festival 2023 Drum and Lyre Competition held last May 02, 2023, at the Fuerza Sta. Isabel Grounds. We extend our sincerest apologies to the 90 individuals who were affected by the excessive heat and fainted.

Taytay LGU apologizes for multiple fainting incidents during drum and lyre competition

By Gerald Ticke - May 05, 2023 97



File photo from the Municipal Government of Taytay on Facebook.

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Region	Station	Computed 5-days heat index (2023)				
		28-Apr	29-Apr	30-Apr	01-May	02-May
National Capital Region	Port Area, Manila	40	41		43	37
	NAIA Pasay City, M.Manila	41	41	43	43	42
	Science Garden Quezon City, Metro Manila	38	40	41	40	39
Region I (Ilocos Region)	Sinait, Ilocos Sur	39	40	39	39	41
	Laoag City, Ilocos Norte	41	43	40	44	40
	Dagupan City, Pangasinan	41	41	44	44	39
Region II (Cagayan Valley)	Itbayat, Batanes	31	33		30	32
	Calayan, Cagayan	35	39		35	36
	Basco (Radar), Batanes	31	34	34	26	31
	Aparri, Cagayan	40	43	41	44	46
	Tuguegarao City, Cagayan	39	41	41	42	39
Region IV-B (MIMAROPA)						
Region IV-B (MIMAROPA)	Coron, Palawan	37	38	38	38	39
	San Jose, Occidental Mindoro	43	41	43	41	44
	Romblon City, Romblon	36	36	36	38	37
	Puerto Princesa City, Palawan	43	42	37	36	41

33–41°C
Extreme Caution

Heat cramps and heat exhaustion are possible. Continuing activity could lead to heat stroke.

42–51°C
Danger

Heat cramps and heat exhaustion are likely; heat stroke is probable with continued exposure.



SENATE OF THE PHILIPPINES

19th Congress

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Press Release
May 8, 2023

SENATOR MARK VILLAR WANTS A STRONGER HEAT INDEX MONITORING SYSTEM IN THE COUNTRY

Senator Mark A. Villar filed Resolution No. 590 urging the proper Senate Committee to conduct an inquiry in aid of legislation for the Philippine Atmospheric, Geophysical, and Astronomical Services Administration (PAGASA) to develop and strengthen the existing heat index monitoring in the Philippines similar to the alert system used during other calamities.

"Ako po ay naghain ng resolution dahil sa mga ulat na nakarating sa atin na mayroong insidente kung saan 120 na mag-aaral ang dinala sa mga ospital sa Laguna matapos silang mahilo habang isinasagawa ang fire drill sa kanilang paaralan sa Cabuyao City. Isa pa dito ang isang insidente na nangyari kamakailan lamang sa isang pagdiriwang sa Taytay, Palawan na siyamnapu ang nahilo't hinimatay dahil sa sobrang init", Senator Mark Villar said.

The inquiry aims to assess the current status of heat index monitoring and warning systems in the country, identify the potential impacts of extreme heat on public health and the economy, and determine the best practices and technologies on heat index monitoring and alert systems in other countries.

"Dapat magbigay din ng warning ang PAGASA for instances na sobrang init na sa mga lugar dito sa Pilipinas. By providing our countrymen with sufficient and early information through text messages and other technologies we can save lives and prevent any other heat-related incidents to occur. Kung meron tayo sa bagyo, mas dapat meron for heat index." Villar explained.

News

Thursday, May 18

- [Statement of Senator Jinggoy Estrada on the signing of amendments to RA 11709](#)
- [Tolentino lauds pilot testing of internet voting for OFWs in 2025 polls](#)
- [Robin Seeks Death Penalty for Law Enforcers Involved in Smuggling](#)
- [Gatchalian's Mental Health Action Day message: Gov't should address 'mental health pandemic'](#)
- [Opening statement of Senator Risa Hontiveros on Agricultural Smuggling Hearing](#)
- [Opening Statement of Senator Cynthia A. Villar during the Committee Hearing on Senate Bill No. 1963 or the Anti-Agricultural Smuggling Court](#)

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WEATHER ▼

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CLIMATE ▼

AGRI-WEATHER ▼

ASTRONOMY ▼

REGIONAL FORECAST ▼

General Weather

Aviation

Marine

Heat Index

Daily Temperature

Heat Ind

HIGHEST HEAT INDEX

5-day Computed and 2-day Forecast
As of 19 March 2024, 5pm

Region	Station	Computed 5-days Heat Index (2024)					Forecast	
		15-Mar	16-Mar	17-Mar	18-Mar	19-Mar	1-day (20-Mar)	2-day (21-Mar)
National Capital Region	NAIA Pasay City, M.Manila	33	36	36	36	35	34	36
	Science Garden Quezon City, Metro Manila	32	34	34	34	32	32	35
Region I (Ilocos Region)	Sinait, Ilocos Sur	35	35	35	34	35	33	34
	Laoag City, Ilocos Norte	35	37	35	35	36	33	34
	Dagupan City, Pangasinan	39	43	40	41	40	37	39
	MMSU, Batac, Ilocos Norte	35	35	36	35	35	34	34
	Bacnotan, La Union	39	34	39	42	47	40	42
	Itbayat, Batanes	26	29	29	29	28	22	27
	Calayan, Cagayan	34	33	33	32	32	26	29
Region II (Cagayan Valley)	Basco (Radar), Batanes	24	29	28	29	29	23	27
	Aparri, Cagayan	40	37	37	36	35	28	29
	Tuguegarao City, Cagayan	38	37	37	37	36	34	36
	NVSU Bayombong, Nueva Vizcaya	33	34	35	34	33	32	33
	ISU Echague, Isabela	36	36	36	35	35	33	35
	Baguio City, Benguet	25	25	25	22	23	22	23
	BSU, La Trinidad, Benguet	26	24	24	24	22	22	23
Region III (Central Luzon)	Iba, Zambales	37	38	36	37	36	35	35
	Clark Airport (DMIA), Pampanga	33	35	36	34	35	34	34
	CLSU Muñoz, Nueva Ecija	33	34	36	34	34	34	35
	Baler (Radar), Aurora	28	25	36	34	31	31	32
	Casiguran, Aurora	32	31	35	33	33	31	32
	Abucay, Bataan	31	32	33	31	32	31	32
	Cubi Pt., Subic Bay Olongapo City	36	36	35	36	34	34	36
	Tayabas City, Quezon	33	36	34	29	34	30	32



Impact Assessment and Applications Section - CAD Pagasa

17h · 🌐

Highest computed 5-day heat index map and table with 2-day forecast as of 5:00PM, 2024 March 19

For more heat index information:

<https://bagong.pagasa.dost.gov.ph/climate/climate-heat-index>

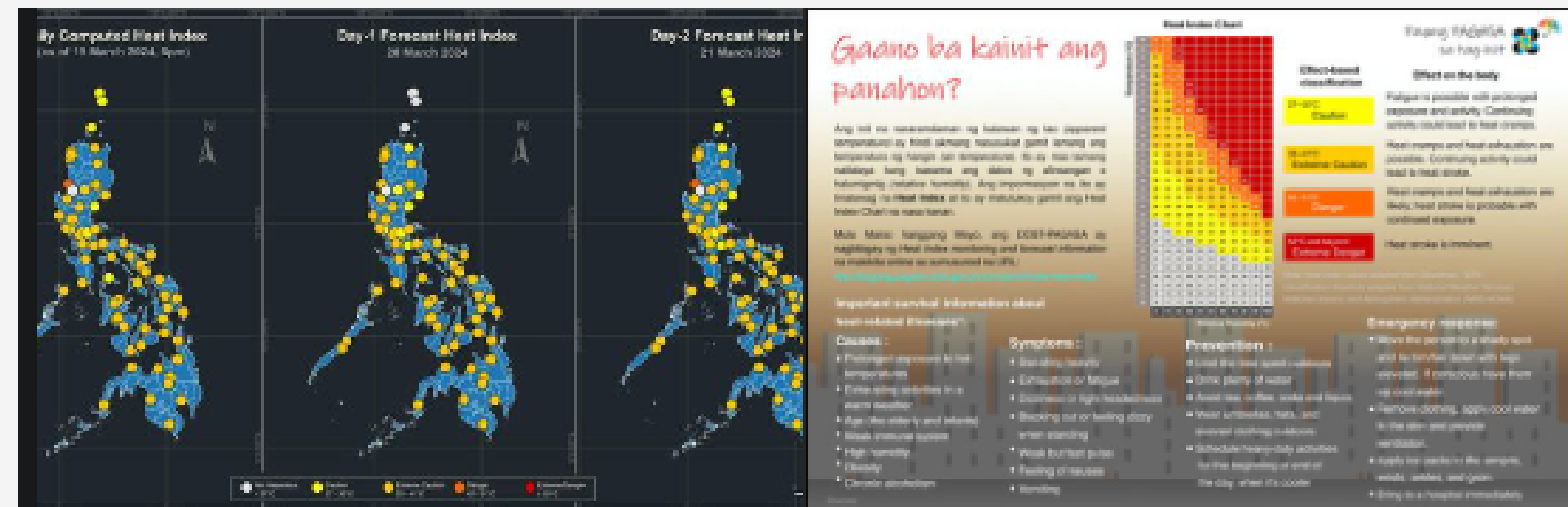
Information from the DOH Philippines about heat-related illnesses during extremely hot weather:

<https://bit.ly/DOHph-HeatStrokeAdvisory>

Don't forget to take necessary precautions and stay cool and hydrated everyone! ☀️ 🌡️

#HeatIndex #AngInit

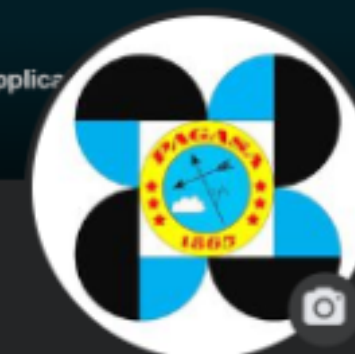
Region	Station	15-Mar	16-Mar	17-Mar	18-Mar	19-Mar	1-day (20-Mar)	2-day (21-Mar)
National Capital Region	NAVA Pasay City, M. Manila	33	36	36	36	35	34	36
	Science Garden Quezon City, Metro Manila	32	34	34	34	32	32	35
Region I (Ilocos Region)	Small, Ilocos Sur	35	35	35	34	35	33	34
	Lanang City, Ilocos Norte	35	37	35	35	36	33	34
	Dagupan City, Pangasinan	39	43	40	41	40	37	39
	MtMts, Batas, Ilocos Norte	35	35	36	35	35	34	34
	Bacongan, La Union	39	34	39	42	47	40	43
Region II (Cagayan Valley)	Itbayat, Batanes	26	29	29	29	28	23	27
	Casayan, Cagayan	34	33	33	32	32	26	26
	Baco (Radar), Batanes	24	29	28	29	29	23	27
	Ayam, Cagayan	40	37	37	36	35	28	29
	Tuguegarao City, Cagayan	36	37	37	37	36	34	36
	MySU Bayombong, Nueva Vizcaya	33	34	35	34	33	32	33
Cordillera Administrative Region	ISU Echague, Ibadan	36	36	36	35	35	33	35
	Baguio City, Benguet	25	25	25	23	23	23	23
Region III (Central Luzon)	ISU La Trinidad, Benguet	26	24	24	24	22	23	23
	Iba, Zambales	37	38	36	37	36	35	35
	Clark Airport (DMA), Pampanga	33	33	36	34	35	34	34
	CLSU Marikina, Nueva Ecija	33	34	36	34	34	34	35
	Baler (Radar), Aurora	28	25	26	24	21	21	22
	Casiguran, Aurora	32	31	35	33	33	31	32
	Aburay, Batangas	31	32	33	31	32	31	32
Region IV-A (CALABARZON)	Cute PL, Subic Bay (Olongapo) City	36	36	35	36	34	34	36
	Tayabas City, Quezon	33	36	34	29	34	30	32
	Banghay Point, Cavite	33	36	37	36	37	36	37
	Ambulong, Tanauan Batangas	34	37	36	34	34	35	36
	Taney, Rizal (Radar)	23	29	29	28	29	30	31
	Infanta, Quezon	26	32	33	33	34	35	36
	Alabul, Quezon	33	36	34	32	34	35	36
	Mulanay, Quezon	37	35	34	31	36	37	38
Region IV-B (MIMAROPA)	Catapan, Oriental Mindoro	35	36	36	32	35	36	37
	Coron, Palawan	36	39	35	36	34	34	35
	San Jose, Occidental Mindoro	39	41	40	38	39	38	39
	Romblon City, Romblon	32	34	34	32	32	33	34
	Puerto Princesa City, Palawan	39	39	40	38	38	39	38



Department of Science and Technology
Philippine Atmospheric, Geophysical, and Astronomical Services Administration
Climatology and Agrometeorology Division

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