HEAT WAVE : HOW IT AFFECTS LIVES AND LIVING

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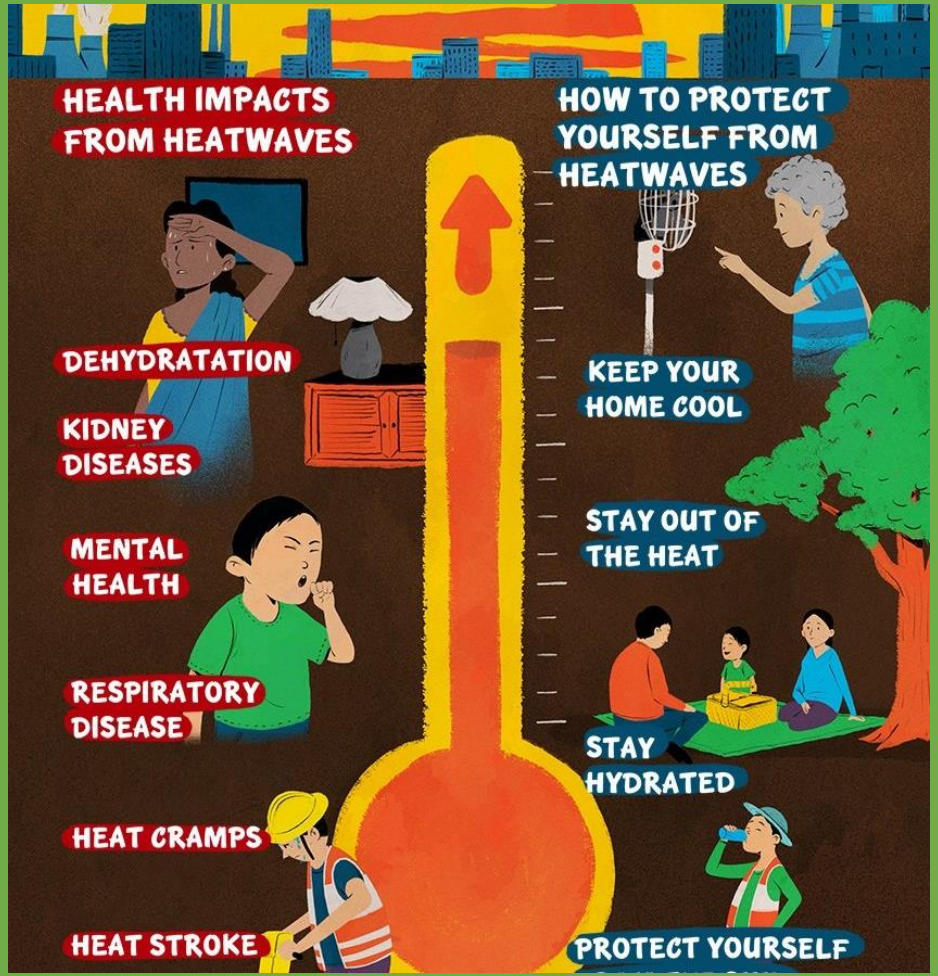
THEMATIC HEAD: CLIMATE AND RESILIENCE

KATHMANDU

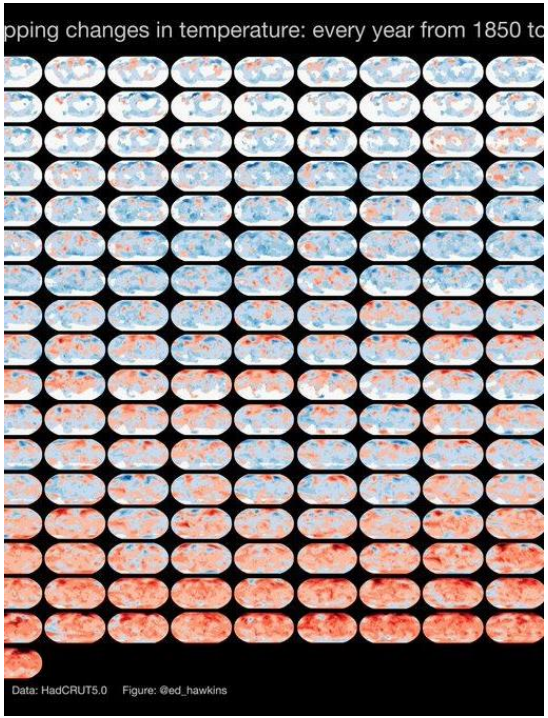
Practical ACTION

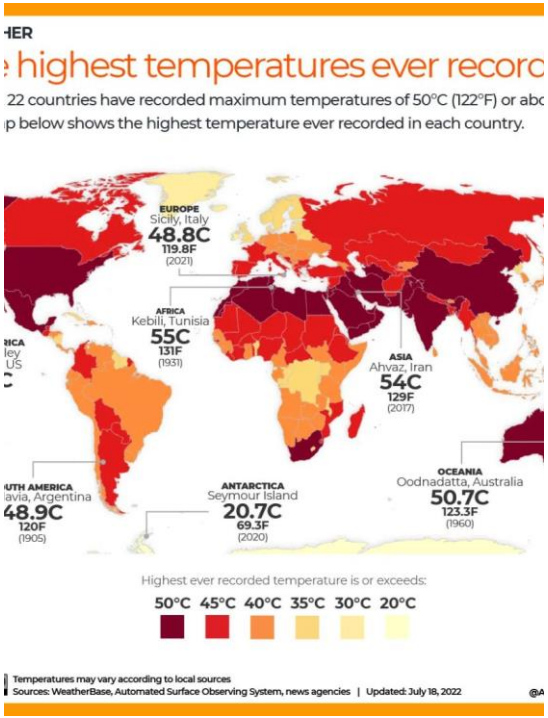


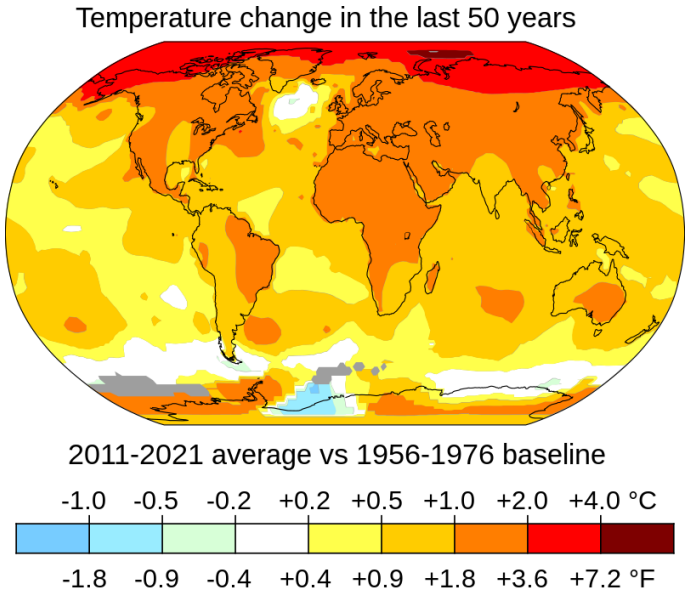
Contents

- Brief overview of climate change & drivers of such change
- Heat wave : definitions, threshold
- Seasonal outlook for heatwave
- Forecast based actions for Heat wave

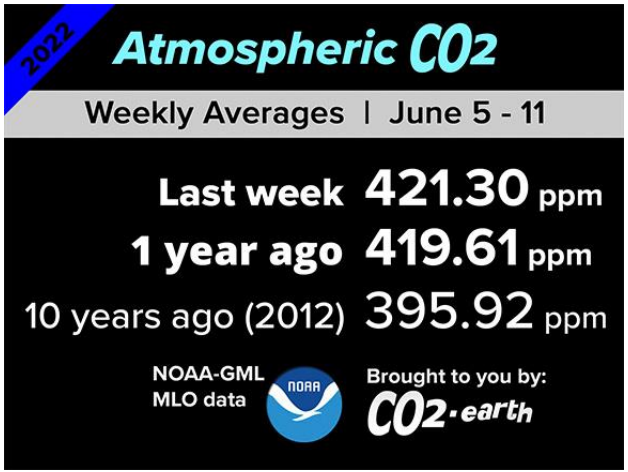
Global Temperature is rising- impacts are seen across the globe

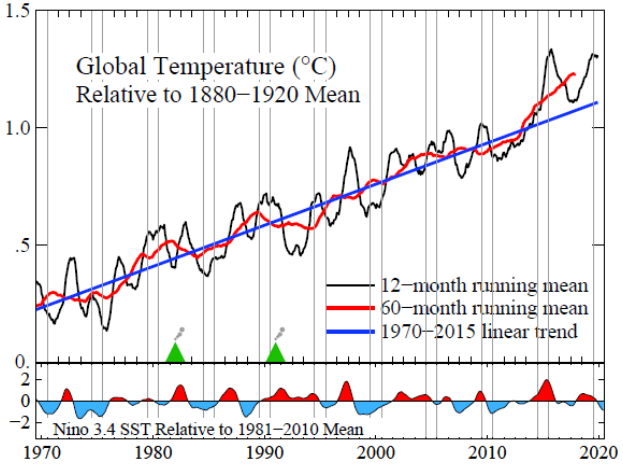




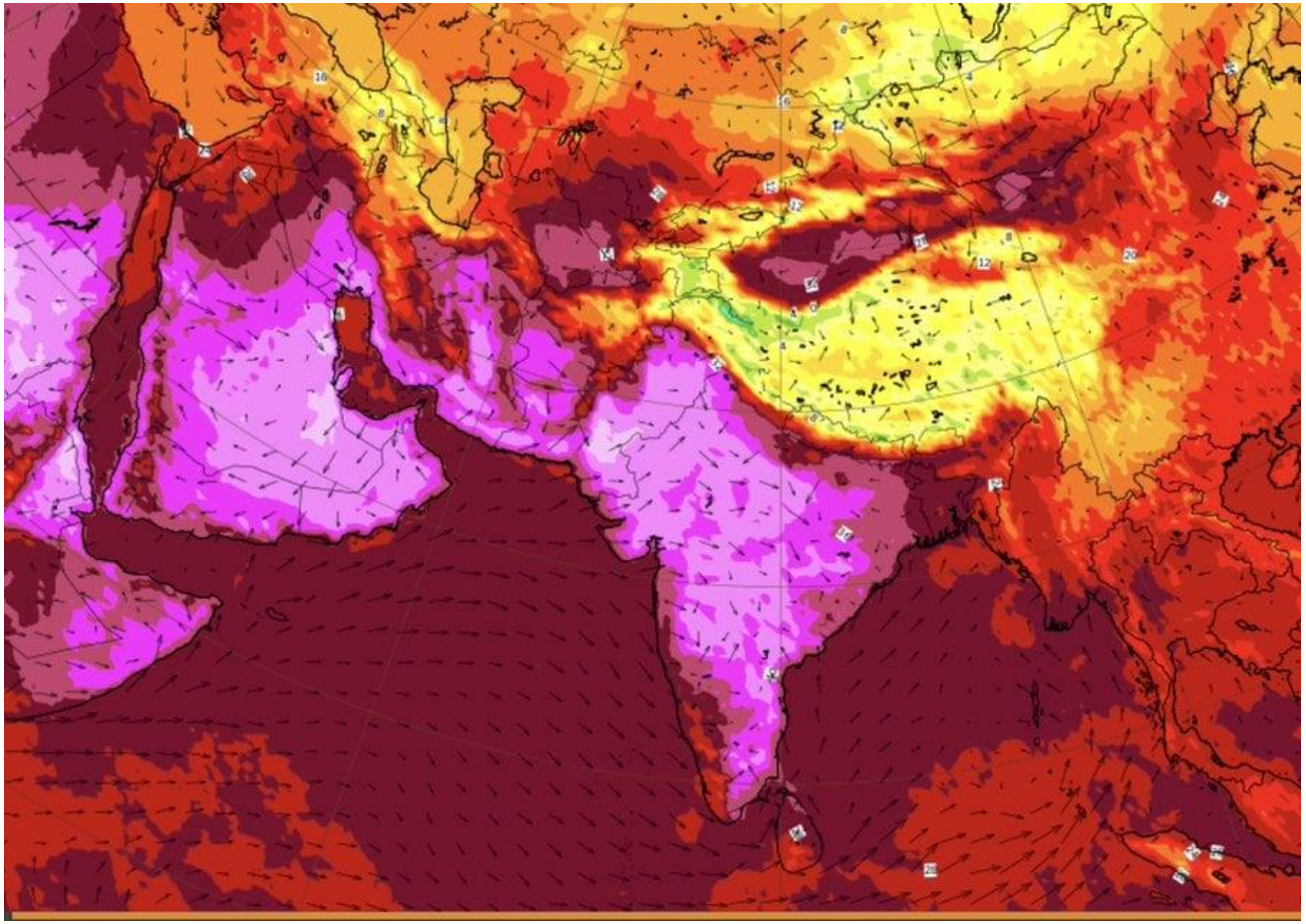


https://climate.nasa.gov/vital-signs/global-temperature/





- Driver of temperature rise – increasing CO_2 concentration



What is heatwave: definition and criteria?

Heat wave is considered if maximum temperature of a station reaches at least 40 °C or more for Plains and at least 30 °C or more for Hilly regions.

- **Quantitatively, it is defined based on the temperature thresholds over a region in terms of actual temperature or its departure from normal.**

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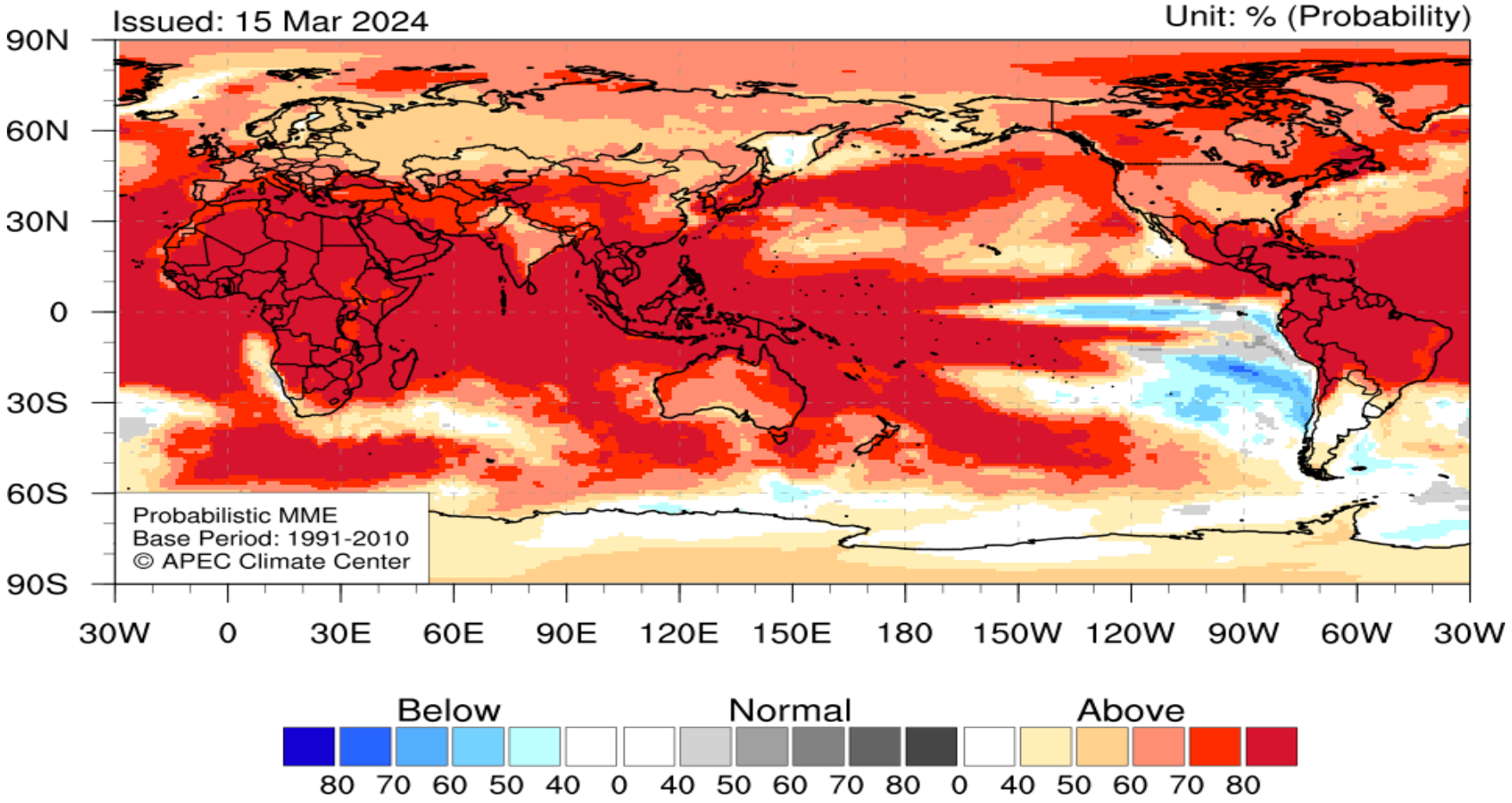
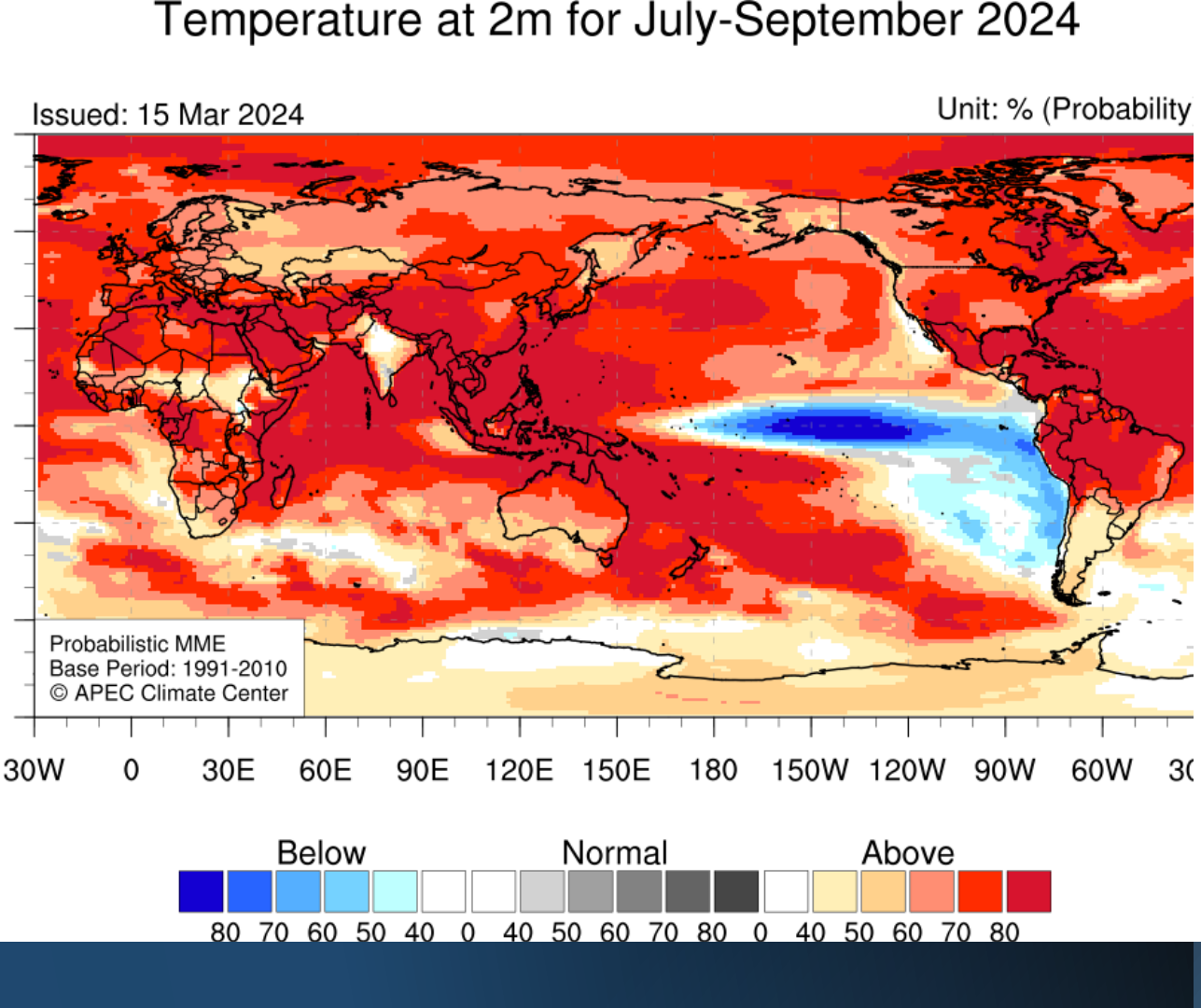
Based on Departure from Normal

- **Heat Wave**: Departure from normal is 4.5°C to 6.4 °C
- **Severe Heat Wave:** Departure from normal is >6.4 °C
- **Heat Wave:** When actual maximum temperature ≥ 45 °C Severe Heat Wave: When actual maximum temperature ≥47 °C

Temperature at 2m for April-June 2024

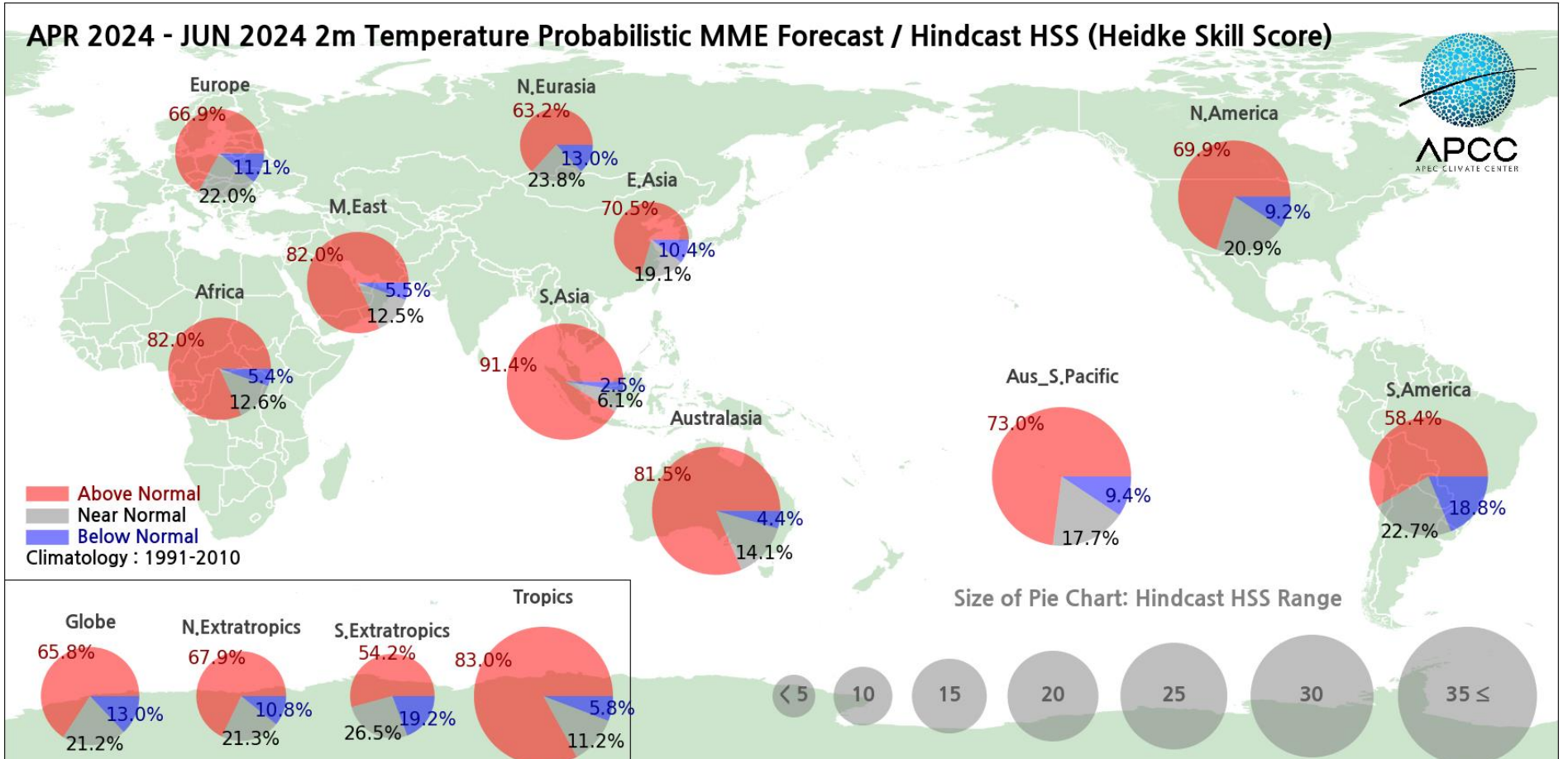




Temperature at 2m from April to June, 2024

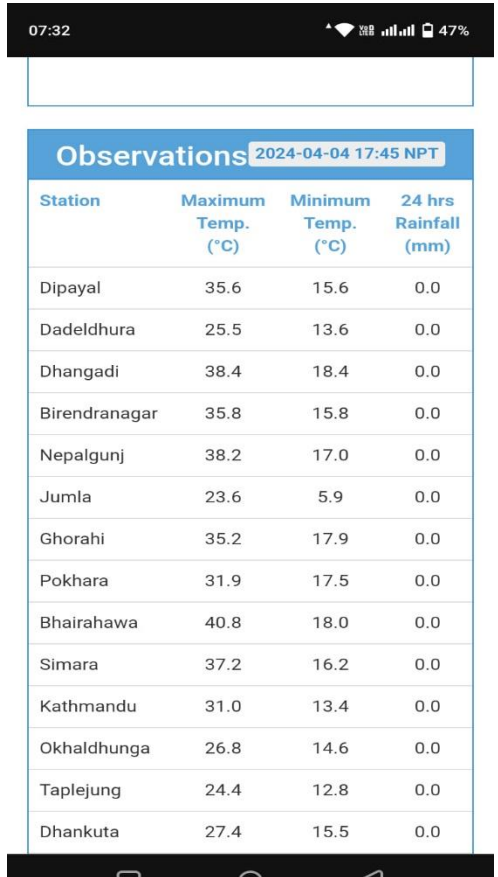
Source: [APEC Climate Center (apcc21.org)]

Strongly enhanced probability for above normal temperatures is predicted for most of the globe for April – September 2024.



Heat wave in India and Nepal

Maximum Temperatures Dated 29.04.20222 (>=44°C)			
Rajasthan		Haryana	
Ganganagar	46.4	Hissar	45.0
Churu	45.2	Rohtak	44.1
Vansthali	44.6	Narnaul	45.0
Alwar	44.0	Sirsa	44.8
Kota	44.6	Ambala	44.7
Bihar		Bhiwani	44.8
Gaya	44.1	Gurgaon	45.9
Jharkhand		Delhi	
Daltonganj	45.7	Palam	44.0
Jamshedpur	44.1	Ridge	45.7
Telangana		Ayanagar	44.6
Adilabad	44.8	Jafarpur	45.2
East Madhya Pradesh		Najafgarh	45.9
Nowgong	46.2	Pitampura	45.9
Khajuraho	45.4	Sports Complex	46.2
Sagar	44.2		
Damoh	45.0	West Madhya Pradesh	
Madhya Maharashtra		Gwalior	45.2
Jalgaon	44.8	Guna	44.5
Saurashtra-Kutch		Raigarh	45.0
Kandla	44.0	Hosangabad	44.6
Gujarat Division		Khargone	45.0
Ahmedabad	44.2	Khandawa	45.1
West Uttar Pradesh		Odisha	
Jhansi	46.2	Angul	44.7
Aligarh	44.2	Bolangir	44.0
Orai	44.5	Boudh	45.0
East Uttar Pradesh		Talcher	44.5
Hamirpur	44.2	Deogarh	44.6
Banda	47.4	Vidarbha	
Lucknow	45.1	Bramhapuri	45.6
Varanasi/BBT	45.0	Wardha	45.5



Suggested measure for HW

(a) Avoid heat exposure-keep cool

(b) Wear lightweight, light coloured, loose, cotton clothes.

(c) Cover your head: Use a cloth, hat or umbrella

(d) Avoid dehydration & Drink sufficient water- even if not thirsty.

(e) Take homemade drinks like lassi, lemon water, buttermilk, etc. to keep yourself hydrated

(f) Avoid high-protein food and do not eat stale food.

(g) Avoid alcohol, tea, coffee and carbonated soft drinks, which dehydrates the body

(h) Keep animals in shade and give them plenty of water to drink

(i) Keep your home cool, use curtains, shutters or sunshade and open windows at night.

Way forward

- **Early Warning Systems:** Implements systems to give people advance notice of heatwaves, allowing them to take precautions like staying hydrated and avoiding strenuous activity during peak heat hours.
- **Public Cooling Centers:** Establishing cooling centers in libraries, community centers, or public buildings provides refuge for people who can't cool their homes.
- **Urban Design:** Urban planning that incorporates green spaces, reflective surfaces, and strategically placed trees can significantly reduce the "urban heat island effect" that traps heat in cities .
- **Building Materials:** Using heat-resistant building materials like cool roofs and proper insulation in homes and buildings can keep indoor temperatures lower.
- **Long-Term Mitigation:** The most impactful strategy is addressing climate change by reducing greenhouse gas emissions to minimize future temperature increases. This involves a global shift towards renewable energy sources and sustainable practices.
- **Water Conservation:** Heatwaves often exacerbate drought conditions. Water conservation measures at home and in agriculture can help preserve this vital resource.
- **Protecting Ecosystems:** Healthy ecosystems with a variety of plants can help regulate temperatures and mitigate the effects of heatwaves. Initiatives to protect existing natural spaces and promote reforestation are crucial

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Thank YOU