



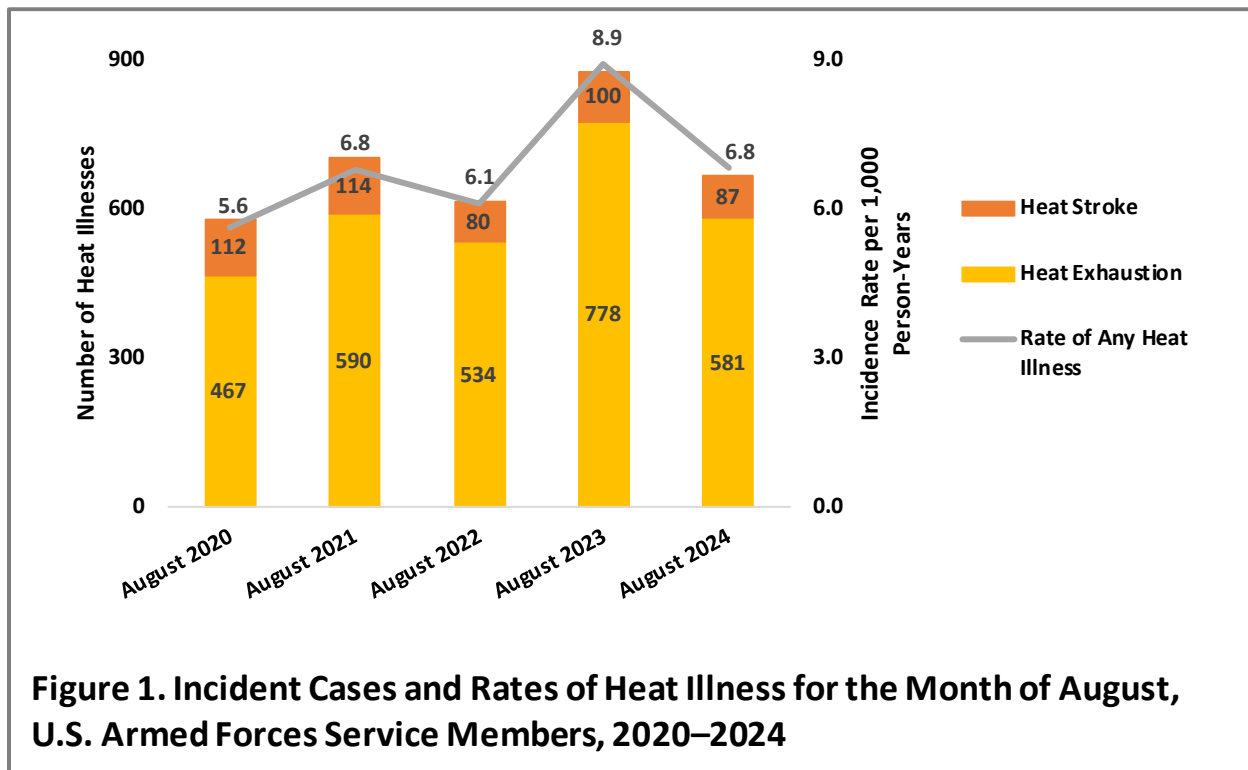
U.S. Armed Forces Heat Illness Report

August 2024

This report serves to describe incident heat illness (HI) cases among U.S. Armed Forces Service members (SMs) including Active Duty, trainees, Reserve, and Guard members. Non-Service member beneficiaries are excluded. The data for this report are obtained from the Defense Health Agency’s Weather-related Injury Repository (WRIR), which captures a selection of *International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM)* codes in inpatient and outpatient medical encounter records from the Military Health System Data Repository (MDR), as well as medical event reports of heat exhaustion and heat stroke submitted through the Disease Reporting System-internet (DRSi).¹ The medical event reports used to identify HIs are adapted from standard case definitions established by the Armed Forces Health Surveillance Division (AFHSD).² SMs are counted as an incident case if they have an initial encounter for an HI within the calendar year. Consistent with the AFHSD case definition, SMs are considered an incident case only once per calendar year. Denominators used for the rate of any heat illness were obtained from MHS Mart (M2) by service branch and month. Due to late data entry and delayed processing of data in the MDR, values for 2024 may be artificially low.

Beginning in 2024, Coast Guard data were added to the WRIR. Coast Guard data from 2018 to 2023 were included in the WRIR for historical comparisons and new records will be included in the monthly updates to the WRIR moving forward. The completeness of the Coast Guard data is unknown at this time. The data in this report are not comparable to those of previous HI reports due to the addition of Coast Guard data.

In August 2024, 668 HIs (581 heat exhaustion cases, 87 heat stroke cases) were diagnosed among SMs (Figure 1). Of these, 47 cases were hospitalized (26 heat exhaustion cases, 21 heat stroke cases) (data not shown). The incidence rate of any HI in SMs for August 2024 was 6.8 cases of HI per 1,000 person-years. In the month of August during the last 5 years, HI rates were lowest in 2020 (5.6 cases of HI per 1,000 person-years) and increased in 2021 before decreasing in 2022. HI rates reached their highest level in 2023 (8.9 cases of HI per 1,000 person-years) and decreased in 2024 (6.8 cases of HI per 1,000 person-years) (Figure 1).



References

1. Armed Forces Health Surveillance Branch, Defense Health Agency. In collaboration with U.S. AirForce School of Aerospace Medicine, U.S. Army Public Health Center, and Navy and Marine Corps Public Health Center. Armed Forces Reportable Medical Events. Guidelines and Case Definitions, October 2022. Accessed May 20, 2024. <https://www.med.navy.mil/Portals/62/Documents/NMFA/NMCPHC/root/Documents/program-and-policy-support/DRSI/Armed-Forces-Reportable-Medical-Events-Oct-2022.pdf>
2. Armed Force Health Surveillance Branch. Surveillance Case Definition: Heat Illness. Accessed May 6, 2024. <https://health.mil/Reference-Center/Publications/2019/10/01/Heat-Injuries>

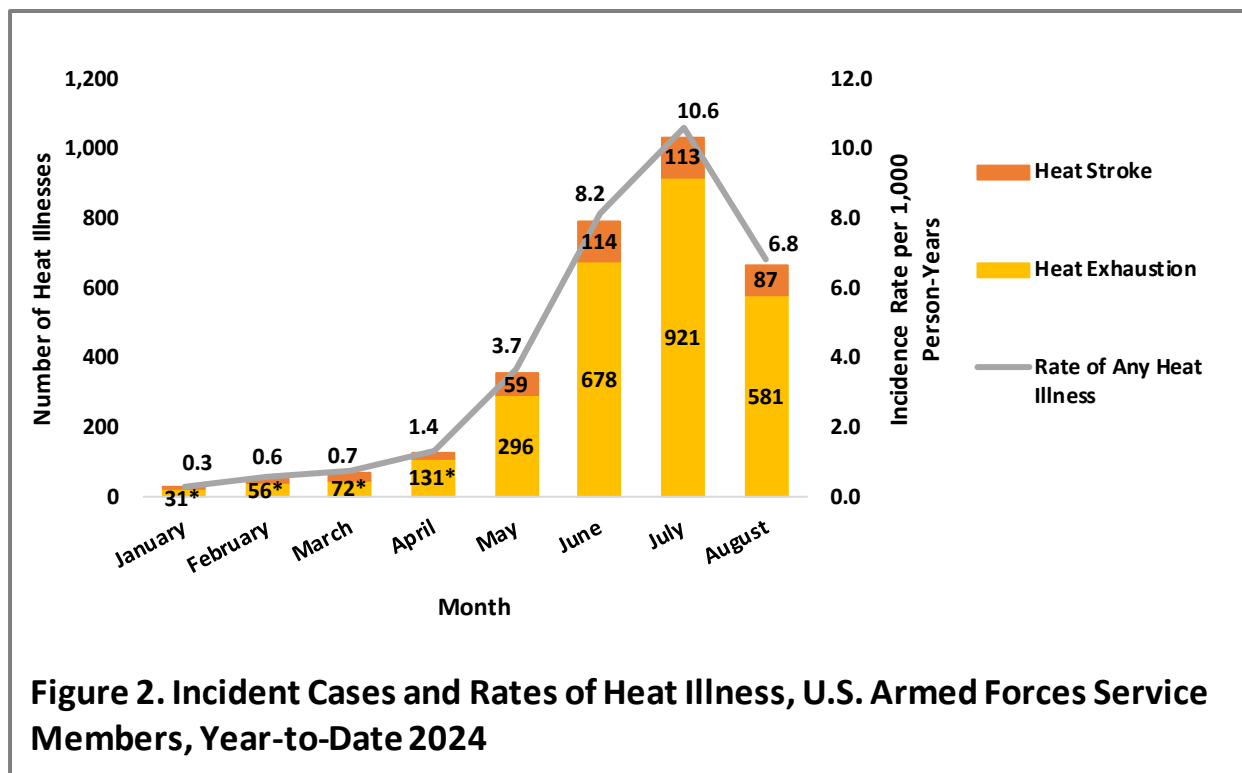


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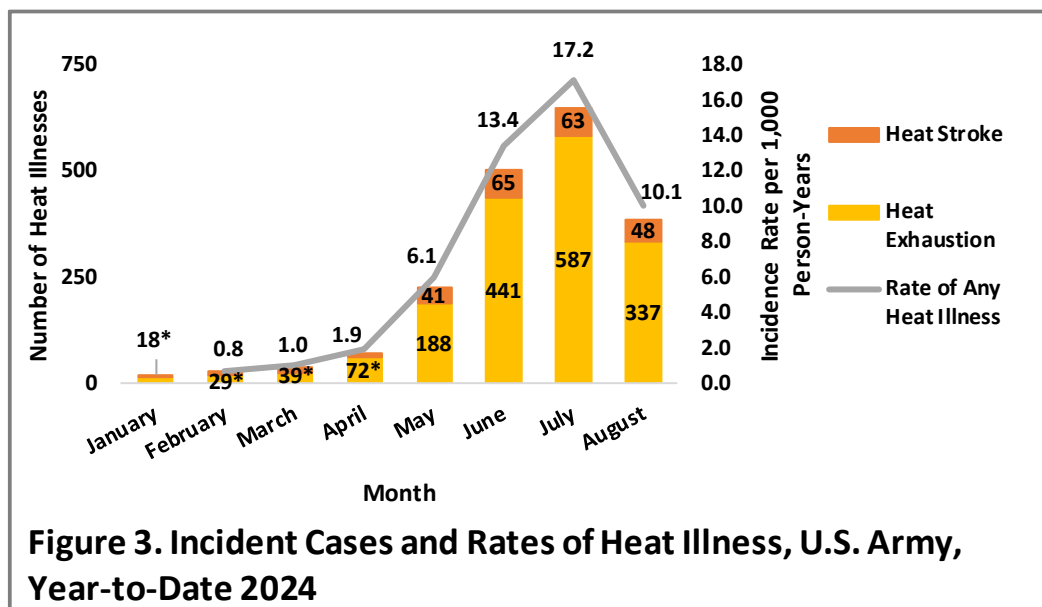
August 2024

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During the 2024 heat year, the rate of HIs among SMs increased monthly to a season high in July 2024 and decreased in August 2024 (Figure 2).



This section of the report contains additional figures and tables. Figures 3—7 present the number of HIs by service branch; rates are also presented when 20 or more cases of HI were recorded for the month. Table 1 provides a summary of HI cases by service branch, type of HI, hospitalizations, rank, sex, and age group. Figures 8 and 9 present HIs by installation for the month and the year, when 10 or more HIs occurred at the installation.



*Sum of heat exhaustion and heat stroke cases.

Note: Due to small numbers, rates are not calculated for each service when fewer than 20 heat illness cases are reported in the month.

Air Force and Space Force

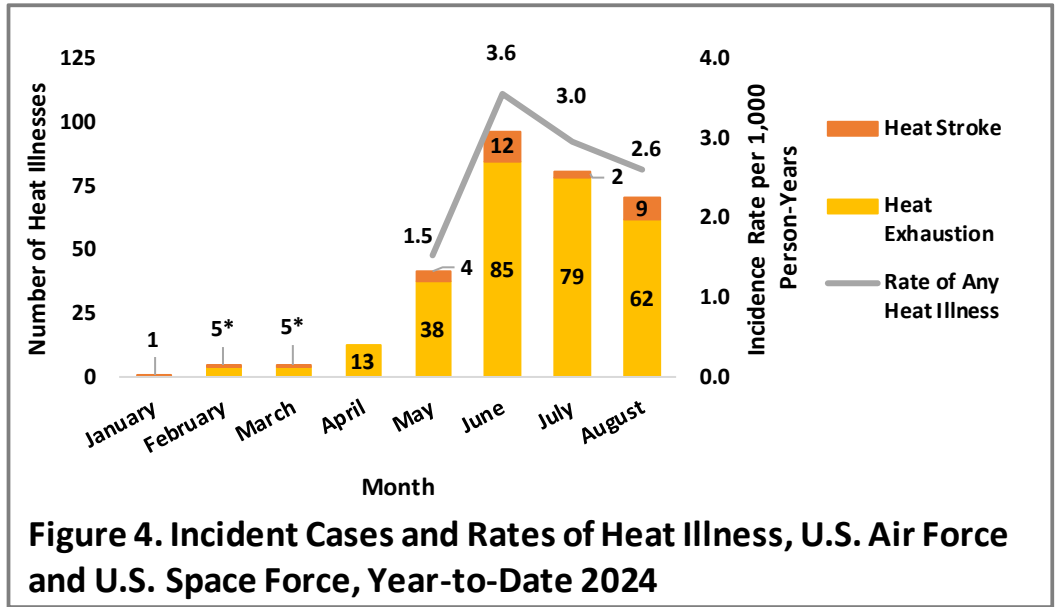


Figure 4. Incident Cases and Rates of Heat Illness, U.S. Air Force and U.S. Space Force, Year-to-Date 2024

Navy

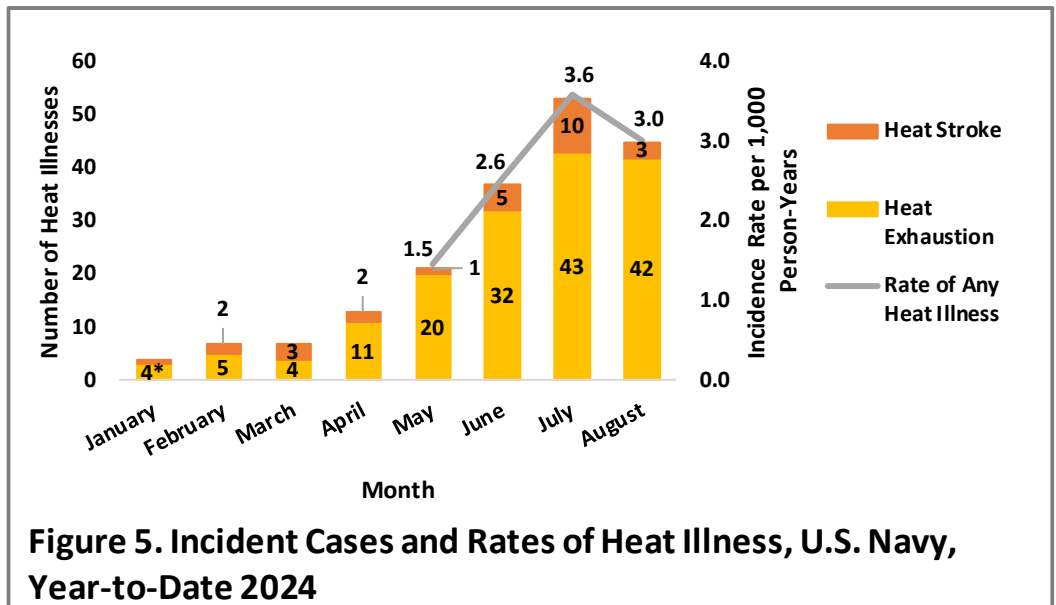


Figure 5. Incident Cases and Rates of Heat Illness, U.S. Navy, Year-to-Date 2024

*Sum of heat exhaustion and heat stroke cases.

Note: Due to small numbers, rates are not calculated for each service when fewer than 20 heat illness cases are reported in the month.

Marine Corps

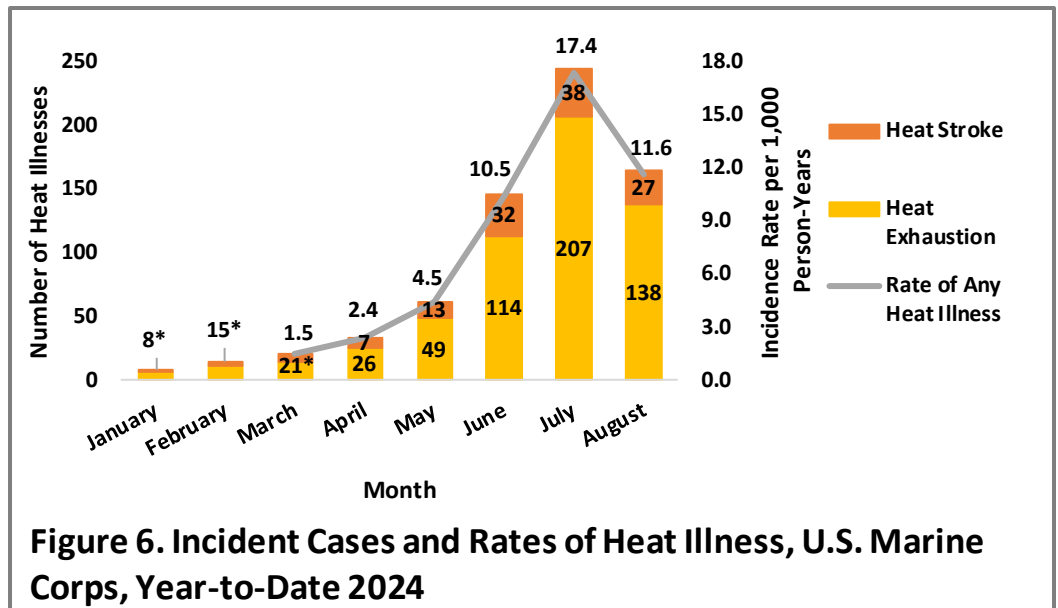


Figure 6. Incident Cases and Rates of Heat Illness, U.S. Marine Corps, Year-to-Date 2024

Coast Guard

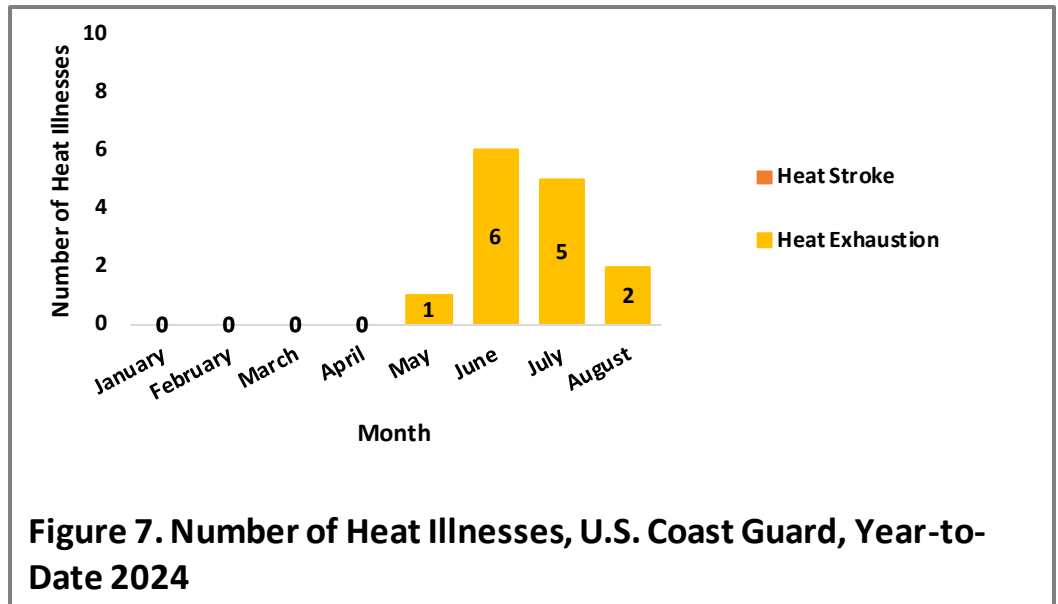


Figure 7. Number of Heat Illnesses, U.S. Coast Guard, Year-to-Date 2024

*Sum of heat exhaustion and heat stroke cases.

Note: Due to small numbers, rates are not calculated for each service when fewer than 20 heat illness cases are reported in the month.



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Table 1. Heat Illnesses by Service, Year-To-Date 2024

| | Number of Cases by Service Branch | | | | |
|--------------------------------------|-----------------------------------|---------------------------|------------|--------------|-------------|
| | Army | Air Force and Space Force | Navy | Marine Corps | Coast Guard |
| Total Heat Illness Cases | 1,928 | 315 | 187 | 695 | 14 |
| Heat Exhaustion | 1,679 | 285 | 160 | 566 | 14 |
| Heat Stroke | 249 | 30 | 27 | 129 | 0 |
| Heat Illness Hospitalizations | | | | | |
| Heat Exhaustion | 85 | 2 | 2 | 19 | 0 |
| Heat Stroke | 116 | 11 | 7 | 29 | 0 |
| Rank | | | | | |
| Cadets and Midshipmen | 9 | 1 | 1 | 0 | 1 |
| Junior Enlisted (E1–E4) | 494 | 62 | 53 | 117 | 3 |
| Senior Enlisted (E5–E9) | 153 | 34 | 29 | 12 | 4 |
| Officer (O1–O10) | 35 | 4 | 8 | 4 | 1 |
| Warrant Officer (W1–W5) | 5 | 0 | 0 | 0 | 0 |
| Unknown | 1,232 | 214 | 96 | 562 | 5 |
| Sex | | | | | |
| Female | 459 | 89 | 45 | 81 | 1 |
| Male | 1,469 | 164 | 108 | 592 | 6 |
| Unknown | 0 | 62 | 34 | 22 | 7 |
| Age Group (Years) | | | | | |
| <25 | 1,155 | 185 | 106 | 586 | 7 |
| 25–34 | 600 | 91 | 55 | 99 | 3 |
| 35–44 | 138 | 32 | 23 | 10 | 4 |
| 45+ | 35 | 7 | 3 | 0 | 0 |

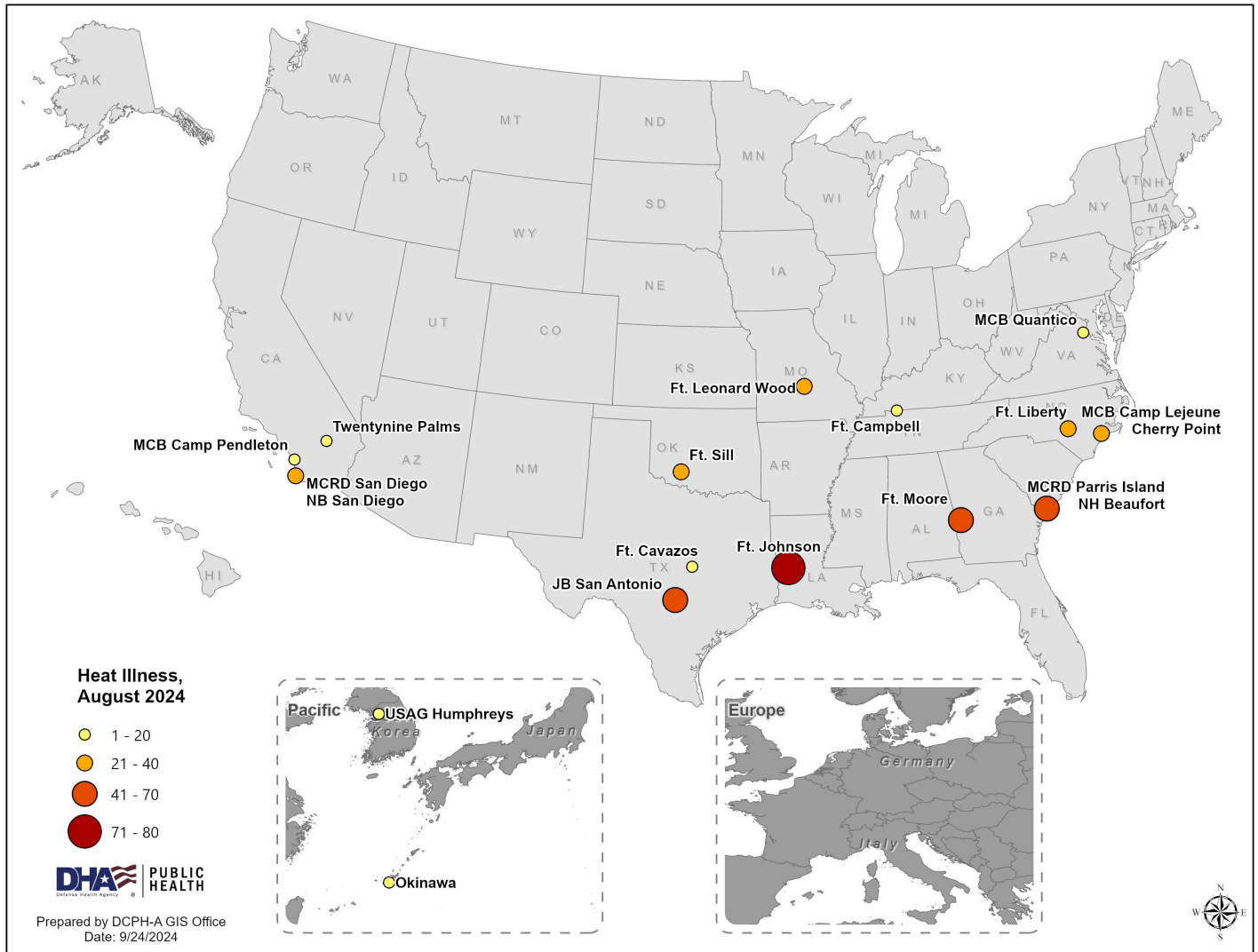


Figure 8. Heat Illnesses by Installation, August 2024

Installations where the total number of diagnosed cases were less than 10 are not shown.

Ft.=Fort

JB=Joint Base

MCB=Marine Corps Base

MCRD=Marine Corps Recruit Depot

NB=Naval Base

NH=Naval Hospital

USAG=U.S. Army Garrison

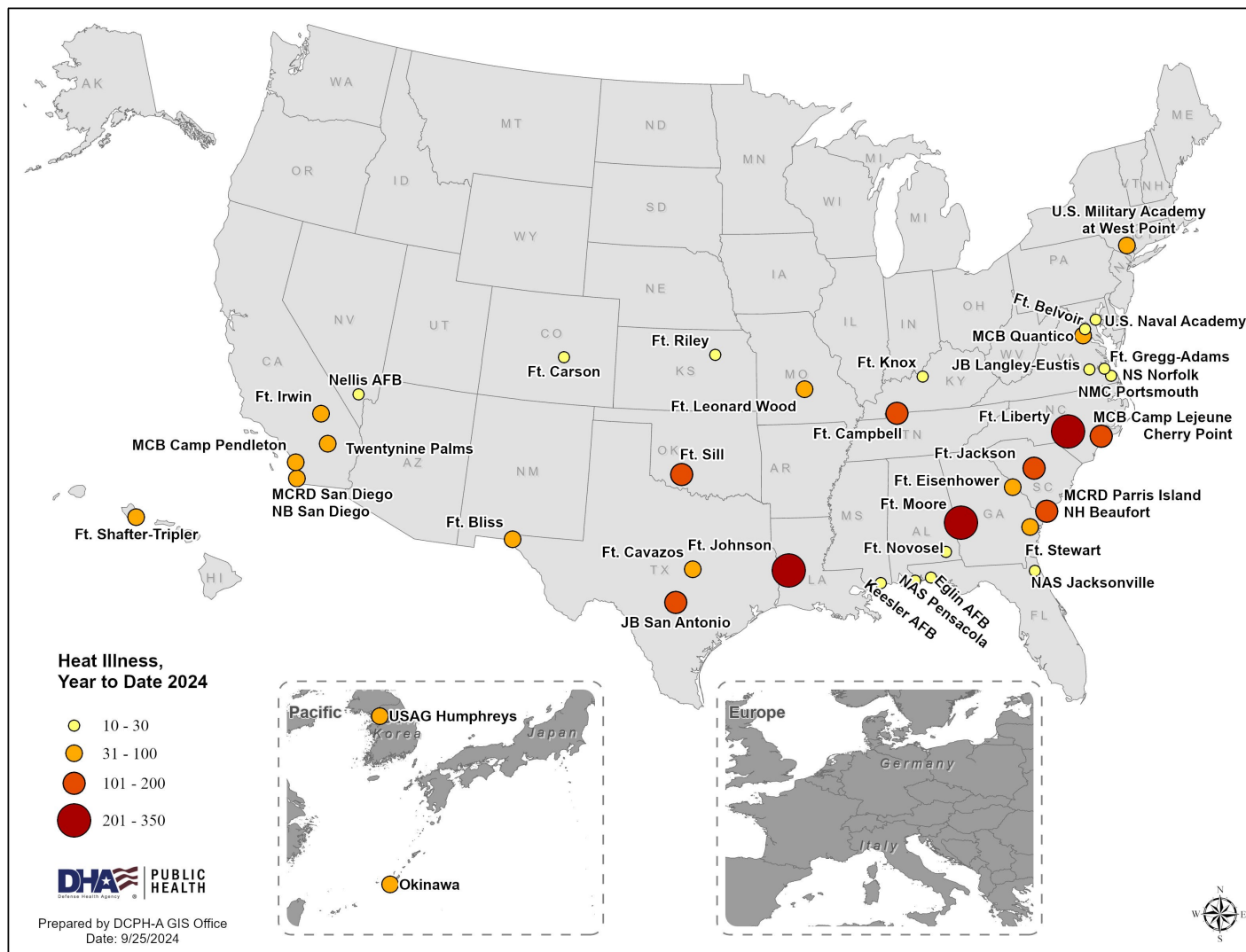


Figure 9. Heat Illnesses by Installation, Year-to-Date 2024

Installations where the total number of diagnosed cases were less than 10 are not shown.

AFB=Air Force Base

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USAG=U.S. Army Garrison