 

# Design conditions for TERRE HAUTE HULMAN REGION, IN, USA

## Station Information

| Station name | WMO# | Lat | Long | Elev | StdP | Hours +/- UTC | Time zone code | Period |
|---|---|---|---|---|---|---|---|---|
| *1a* | *1b* | *1c* | *1d* | *1e* | *1f* | *1g* | *1h* | *1i* |
| **TERRE HAUTE HULMAN REGION** | **724373** | **39.45N** | **87.30W** | **175** | **99.24** | **-5.00** | **NAI** | **8201** |

## Annual Heating and Humidification Design Conditions

| Coldest month | Heating DB | | Humidification DP/MCDB and HR | | | | | | Coldest month WS/MCDB | | | | MCWS/PCWD to 99.6% DB | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 99.6% | | | 99% | | | 0.4% | | 1% | | | |
| | 99.6% | 99% | DP | HR | MCDB | DP | HR | MCDB | WS | MCDB | WS | MCDB | MCWS | PCWD |
| *2* | *3a* | *3b* | *4a* | *4b* | *4c* | *4d* | *4e* | *4f* | *5a* | *5b* | *5c* | *5d* | *6a* | *6b* |
| **1** | **-18.5** | **-14.9** | **-23.2** | **0.5** | **-17.8** | **-19.4** | **0.7** | **-14.4** | **11.2** | **-1.9** | **10.7** | **-2.5** | **3.7** | **340** |

## Annual Cooling, Dehumidification, and Enthalpy Design Conditions

| Hottest month | Hottest month DB range | Cooling DB/MCWB | | | | | | Evaporation WB/MCDB | | | | | | MCWS/PCWD to 0.4% DB | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 0.4% | | 1% | | 2% | | 0.4% | | 1% | | 2% | | | |
| | | DB | MCWB | DB | MCWB | DB | MCWB | WB | MCDB | WB | MCDB | WB | MCDB | MCWS | PCWD |
| *7* | *8* | *9a* | *9b* | *9c* | *9d* | *9e* | *9f* | *10a* | *10b* | *10c* | *10d* | *10e* | *10f* | *11a* | *11b* |
| **7** | **11.0** | **33.6** | **24.7** | **32.3** | **24.4** | **31.0** | **23.7** | **26.5** | **31.7** | **25.6** | **30.6** | **24.8** | **29.3** | **4.5** | **230** |

| Dehumidification DP/MCDB and HR | | | | | | | | | Enthalpy/MCDB | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.4% | | | 1% | | | 2% | | | 0.4% | | 1% | | 2% | |
| DP | HR | MCDB | DP | HR | MCDB | DP | HR | MCDB | Enth | MCDB | Enth | MCDB | Enth | MCDB |
| *12a* | *12b* | *12c* | *12d* | *12e* | *12f* | *12g* | *12h* | *12i* | *13a* | *13b* | *13c* | *13d* | *13e* | *13f* |
| **25.0** | **20.6** | **29.7** | **24.1** | **19.4** | **28.7** | **23.3** | **18.5** | **27.7** | **83.5** | **31.5** | **79.7** | **30.8** | **76.1** | **29.2** |

## Extreme Annual Design Conditions

| Extreme Annual WS | | | Extreme Max | Extreme Annual DB | | | | n-Year Return Period Values of Extreme DB | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Mean | | Standard deviation | | n=5 years | | n=10 years | | n=20 years | | n=50 years | |
| 1% | 2.5% | 5% | WB | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max | Min |
| *14a* | *14b* | *14c* | *15* | *16a* | *16b* | *16c* | *16d* | *17a* | *17b* | *17c* | *17d* | *17e* | *17f* | *17g* | *17h* |
| **10.3** | **8.8** | **8.1** | **29.8** | **35.7** | **-23.0** | **1.9** | **4.5** | **37.1** | **-26.2** | **38.2** | **-28.9** | **39.2** | **-31.4** | **40.6** | **-34.7** |

## Monthly Design Dry Bulb and Mean Coincident Wet Bulb Temperatures

| | Jan | | Feb | | Mar | | Apr | | May | | Jun | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| % | DB | MCWB | DB | MCWB | DB | MCWB | DB | MCWB | DB | MCWB | DB | MCWB |
| | *18a* | *18b* | *18c* | *18d* | *18e* | *18f* | *18g* | *18h* | *18i* | *18j* | *18k* | *18l* |
| 0.4% | **16.0** | **13.6** | **18.8** | **13.7** | **24.3** | **16.2** | **27.9** | **19.3** | **31.4** | **21.8** | **35.1** | **23.8** |
| 1% | **14.8** | **12.9** | **17.4** | **12.7** | **23.0** | **15.5** | **26.7** | **18.8** | **30.5** | **21.4** | **34.0** | **23.7** |
| 2% | **13.3** | **11.7** | **16.0** | **11.4** | **21.8** | **15.2** | **25.0** | **17.8** | **29.3** | **20.8** | **33.0** | **23.2** |

| | Jul | | Aug | | Sep | | Oct | | Nov | | Dec | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| % | DB | MCWB | DB | MCWB | DB | MCWB | DB | MCWB | DB | MCWB | DB | MCWB |
| | *18m* | *18n* | *18o* | *18p* | *18q* | *18r* | *18s* | *18t* | *18u* | *18v* | *18w* | *18x* |
| 0.4% | **36.0** | **25.5** | **34.3** | **25.8** | **33.1** | **23.0** | **28.8** | **19.5** | **22.6** | **16.4** | **18.6** | **15.9** |
| 1% | **34.8** | **25.4** | **33.4** | **25.9** | **32.2** | **23.3** | **27.5** | **19.0** | **21.1** | **15.9** | **17.5** | **14.8** |
| 2% | **33.8** | **25.3** | **32.7** | **25.8** | **31.1** | **22.8** | **26.0** | **18.3** | **19.6** | **15.6** | **16.1** | **13.4** |

## Monthly Design Wet Bulb and Mean Coincident Dry Bulb Temperatures

| | Jan | | Feb | | Mar | | Apr | | May | | Jun | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| % | WB | MCDB | WB | MCDB | WB | MCDB | WB | MCDB | WB | MCDB | WB | MCDB |
| | *19a* | *19b* | *19c* | *19d* | *19e* | *19f* | *19g* | *19h* | *19i* | *19j* | *19k* | *19l* |
| 0.4% | **14.2** | **15.4** | **15.7** | **18.2** | **18.3** | **22.2** | **20.5** | **26.1** | **24.1** | **28.7** | **26.0** | **31.9** |
| 1% | **13.1** | **14.7** | **14.1** | **16.1** | **16.9** | **20.8** | **19.7** | **24.7** | **23.5** | **27.9** | **25.5** | **31.5** |
| 2% | **12.0** | **13.5** | **12.4** | **14.1** | **15.8** | **20.3** | **18.8** | **23.2** | **22.8** | **27.1** | **25.1** | **31.0** |

| | Jul | | Aug | | Sep | | Oct | | Nov | | Dec | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| % | WB | MCDB | WB | MCDB | WB | MCDB | WB | MCDB | WB | MCDB | WB | MCDB |
| | *19m* | *19n* | *19o* | *19p* | *19q* | *19r* | *19s* | *19t* | *19u* | *19v* | *19w* | *19x* |
| 0.4% | **27.5** | **32.7** | **27.7** | **32.3** | **25.6** | **30.7** | **21.7** | **25.1** | **18.2** | **20.2** | **16.4** | **18.6** |
| 1% | **27.0** | **32.3** | **27.1** | **31.9** | **24.8** | **29.8** | **20.7** | **24.2** | **17.4** | **19.2** | **15.3** | **17.4** |
| 2% | **26.7** | **31.9** | **26.5** | **31.5** | **24.1** | **28.8** | **19.9** | **23.8** | **16.5** | **18.7** | **14.1** | **15.6** |

## Monthly Mean Daily Temperature Range

| Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|---|---|---|---|---|---|---|---|---|---|---|---|
| *20a* | *20b* | *20c* | *20d* | *20e* | *20f* | *20g* | *20h* | *20i* | *20j* | *20k* | *20l* |
| **8.1** | **9.1** | **10.2** | **11.4** | **11.7** | **11.3** | **11.0** | **11.5** | **12.9** | **12.5** | **9.5** | **8.1** |

| | | | | | |
|---|---|---|---|---|---|
| WMO# | World Meteorological Organization number | Lat | Latitude, ° | Long | Longitude, ° |
| Elev | Elevation, m | StdP | Standard pressure at station elevation, kPa | | |
| DB | Dry bulb temperature, °C | DP | Dew point temperature, °C | WB | Wet bulb temperature, °C |
| WS | Wind speed, m/s | Enth | Enthalpy, kJ/kg | HR | Humidity ratio, grams of moisture per kilogram of dry air |
| MCDB | Mean coincident dry bulb temperature, °C | MCWB | Mean coincident wet bulb temperature, °C | MCWS | Mean coincident wind speed, m/s |
| PCWD | Prevailing coincident wind direction, °, 0 = North, 90 = East | | | | |