**Dry-bulb temperature**

From Wikipedia, the free encyclopedia

Jump to: [navigation](http://en.wikipedia.org/wiki/Dry-bulb_temperature#mw-navigation), [search](http://en.wikipedia.org/wiki/Dry-bulb_temperature#p-search)

The **dry-bulb temperature** (DBT) is the [temperature](http://en.wikipedia.org/wiki/Temperature) of [air](http://en.wikipedia.org/wiki/Air) measured by a [thermometer](http://en.wikipedia.org/wiki/Thermometer) freely exposed to the air but shielded from [radiation](http://en.wikipedia.org/wiki/Radiation) and [moisture](http://en.wikipedia.org/wiki/Moisture). DBT is the temperature that is usually thought of as air temperature, and it is the true thermodynamic temperature. As a matter of fact, it indicates the amount of heat in the air and it is directly proportional to the mean kinetic energy of the air molecules. Temperature is usually measured in degrees [Celsius](http://en.wikipedia.org/wiki/Celsius) (°C), [Kelvin](http://en.wikipedia.org/wiki/Kelvin) (K), or [Fahrenheit](http://en.wikipedia.org/wiki/Fahrenheit) (°F).

Unlike [wet bulb temperature](http://en.wikipedia.org/wiki/Wet_bulb_temperature), dry bulb temperature does not indicate the amount of moisture in the air. In [construction](http://en.wikipedia.org/wiki/Construction), it is an important consideration when [designing](http://en.wikipedia.org/wiki/Design) a [building](http://en.wikipedia.org/wiki/Building) for a certain [climate](http://en.wikipedia.org/wiki/Climate). Nall called it one of "the most important climate variables for human comfort and building energy efficiency."[[1]](http://en.wikipedia.org/wiki/Dry-bulb_temperature#cite_note-1)

DBT is indeed an important variable in [Psychrometrics](http://en.wikipedia.org/wiki/Psychrometrics), being the horizontal axis of the [Psychrometric chart](http://en.wikipedia.org/wiki/Psychrometrics#Psychrometric_charts).

**See also**

* [Psychrometric chart](http://en.wikipedia.org/wiki/Psychrometrics)
* [Wet-bulb temperature](http://en.wikipedia.org/wiki/Wet-bulb_temperature)
* [Hygrometer](http://en.wikipedia.org/wiki/Hygrometer)
* [Atmospheric thermodynamics](http://en.wikipedia.org/wiki/Atmospheric_thermodynamics)

**References**

1. [**Jump up ^**](http://en.wikipedia.org/wiki/Dry-bulb_temperature#cite_ref-1) Nall, D. H. (2004-11). Looking across the water: Climate-adaptive buildings in the United States & Europe. In *The Construction Specifier*, 57, 50 – 56.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| |  |  | | --- | --- | | **[**[**hide**](http://en.wikipedia.org/wiki/Dry-bulb_temperature)**]**   * [**v**](http://en.wikipedia.org/wiki/Template:Meteorological_variables) * [**t**](http://en.wikipedia.org/wiki/Template_talk:Meteorological_variables) * [**e**](http://en.wikipedia.org/w/index.php?title=Template:Meteorological_variables&action=edit)   **Meteorological data and variables** | | |  |  | | **General** | * [Adiabatic processes](http://en.wikipedia.org/wiki/Adiabatic_process) * [Lapse rate](http://en.wikipedia.org/wiki/Lapse_rate) * [Lightning](http://en.wikipedia.org/wiki/Lightning) * [Surface solar radiation](http://en.wikipedia.org/wiki/Solar_radiation) * [Surface weather analysis](http://en.wikipedia.org/wiki/Surface_weather_analysis) * [Visibility](http://en.wikipedia.org/wiki/Visibility) * [Vorticity](http://en.wikipedia.org/wiki/Vorticity) * [Wind](http://en.wikipedia.org/wiki/Wind) | |  |  | | [**Condensation**](http://en.wikipedia.org/wiki/Condensation) | * [Cloud](http://en.wikipedia.org/wiki/Cloud) * [Cloud condensation nuclei](http://en.wikipedia.org/wiki/Cloud_condensation_nuclei) * [Fog](http://en.wikipedia.org/wiki/Fog) * [Lifted condensation level (LCL)](http://en.wikipedia.org/wiki/Lifted_condensation_level) * [Precipitation](http://en.wikipedia.org/wiki/Precipitation) * [Water vapor](http://en.wikipedia.org/wiki/Water_vapor) | |  |  | | [**Convection**](http://en.wikipedia.org/wiki/Atmospheric_convection) | * [Convective available potential energy (CAPE)](http://en.wikipedia.org/wiki/Convective_available_potential_energy) * [Convective inhibition (CIN)](http://en.wikipedia.org/wiki/Convective_inhibition) * [Convective instability](http://en.wikipedia.org/wiki/Convective_instability) * [Convective temperature (Tc)](http://en.wikipedia.org/wiki/Convective_temperature) * [Equilibrium level (EL)](http://en.wikipedia.org/wiki/Equilibrium_level) * [Helicity](http://en.wikipedia.org/wiki/Helicity_%28fluid_mechanics%29#Meteorology) * [Level of free convection (LFC)](http://en.wikipedia.org/wiki/Level_of_free_convection) * [Lifted index (LI)](http://en.wikipedia.org/wiki/Lifted_index) * [Bulk Richardson number (BRN)](http://en.wikipedia.org/wiki/Bulk_Richardson_number) | |  |  | | [**Temperature**](http://en.wikipedia.org/wiki/Temperature) | * [Dew point (Td)](http://en.wikipedia.org/wiki/Dew_point) * [Equivalent temperature (Te)](http://en.wikipedia.org/wiki/Equivalent_temperature) * [Forest fire weather index](http://en.wikipedia.org/wiki/Forest_fire_weather_index) * [Haines Index](http://en.wikipedia.org/wiki/Haines_Index) * [Heat index](http://en.wikipedia.org/wiki/Heat_index) * [Humidex](http://en.wikipedia.org/wiki/Humidex) * [Humidity](http://en.wikipedia.org/wiki/Humidity) * [Potential temperature (θ)](http://en.wikipedia.org/wiki/Potential_temperature) * [Equivalent potential temperature (θe)](http://en.wikipedia.org/wiki/Equivalent_potential_temperature) * [Sea surface temperature (SST)](http://en.wikipedia.org/wiki/Sea_surface_temperature) * [Wet-bulb temperature](http://en.wikipedia.org/wiki/Wet-bulb_temperature) * [Wet-bulb potential temperature](http://en.wikipedia.org/wiki/Wet-bulb_potential_temperature) * [Wind chill](http://en.wikipedia.org/wiki/Wind_chill) | |  |  | | [**Pressure**](http://en.wikipedia.org/wiki/Pressure) | * [Atmospheric pressure](http://en.wikipedia.org/wiki/Atmospheric_pressure) * [Baroclinity](http://en.wikipedia.org/wiki/Baroclinity) * [Barotropicity](http://en.wikipedia.org/wiki/Barotropic) | |

|  |  |
| --- | --- |
| [Stub icon](http://en.wikipedia.org/wiki/File:Cyclone_Catarina_from_the_ISS_on_March_26_2004.JPG) | *This* [*climatology*](http://en.wikipedia.org/wiki/Climatology)*/*[*meteorology*](http://en.wikipedia.org/wiki/Meteorology)*-related article is a* [*stub*](http://en.wikipedia.org/wiki/Wikipedia:Stub)*. You can help Wikipedia by* [*expanding it*](http://en.wikipedia.org/w/index.php?title=Dry-bulb_temperature&action=edit)*.* |

[Categories](http://en.wikipedia.org/wiki/Help:Category):

* [Atmospheric science stubs](http://en.wikipedia.org/wiki/Category:Atmospheric_science_stubs)
* [Atmospheric thermodynamics](http://en.wikipedia.org/wiki/Category:Atmospheric_thermodynamics)

**Navigation menu**

* [Create account](http://en.wikipedia.org/w/index.php?title=Special:UserLogin&returnto=Dry-bulb+temperature&type=signup)
* [Log in](http://en.wikipedia.org/w/index.php?title=Special:UserLogin&returnto=Dry-bulb+temperature)
* [Article](http://en.wikipedia.org/wiki/Dry-bulb_temperature)
* [Talk](http://en.wikipedia.org/wiki/Talk:Dry-bulb_temperature)
* [Read](http://en.wikipedia.org/wiki/Dry-bulb_temperature)
* [Edit](http://en.wikipedia.org/w/index.php?title=Dry-bulb_temperature&action=edit)
* [View history](http://en.wikipedia.org/w/index.php?title=Dry-bulb_temperature&action=history)

Top of Form



Bottom of Form

* [Main page](http://en.wikipedia.org/wiki/Main_Page)
* [Contents](http://en.wikipedia.org/wiki/Portal:Contents)
* [Featured content](http://en.wikipedia.org/wiki/Portal:Featured_content)
* [Current events](http://en.wikipedia.org/wiki/Portal:Current_events)
* [Random article](http://en.wikipedia.org/wiki/Special:Random)
* [Donate to Wikipedia](https://donate.wikimedia.org/wiki/Special:FundraiserRedirector?utm_source=donate&utm_medium=sidebar&utm_campaign=C13_en.wikipedia.org&uselang=en)

[**Interaction**](http://en.wikipedia.org/wiki/Dry-bulb_temperature)

* [Help](http://en.wikipedia.org/wiki/Help:Contents)
* [About Wikipedia](http://en.wikipedia.org/wiki/Wikipedia:About)
* [Community portal](http://en.wikipedia.org/wiki/Wikipedia:Community_portal)
* [Recent changes](http://en.wikipedia.org/wiki/Special:RecentChanges)
* [Contact page](http://en.wikipedia.org/wiki/Wikipedia:Contact_us)

[**Toolbox**](http://en.wikipedia.org/wiki/Dry-bulb_temperature)

[**Print/export**](http://en.wikipedia.org/wiki/Dry-bulb_temperature)

[**Languages**](http://en.wikipedia.org/wiki/Dry-bulb_temperature)

* [Català](http://ca.wikipedia.org/wiki/Temperatura_seca)
* [Español](http://es.wikipedia.org/wiki/Temperatura#Temperatura_seca)
* [فارسی](http://fa.wikipedia.org/wiki/%D8%AF%D9%85%D8%A7%DB%8C_%D8%AD%D8%A8%D8%A7%D8%A8_%D8%AE%D8%B4%DA%A9)
* [日本語](http://ja.wikipedia.org/wiki/%E4%B9%BE%E7%90%83%E6%B8%A9%E5%BA%A6)
* [Edit links](http://www.wikidata.org/wiki/Q3276699#sitelinks-wikipedia)
* This page was last modified on 28 February 2013 at 07:45.
* Text is available under the [Creative Commons Attribution-ShareAlike License](http://en.wikipedia.org/wiki/Wikipedia:Text_of_Creative_Commons_Attribution-ShareAlike_3.0_Unported_License); additional terms may apply. By using this site, you agree to the [Terms of Use](http://wikimediafoundation.org/wiki/Terms_of_Use) and [Privacy Policy.](http://wikimediafoundation.org/wiki/Privacy_policy)   
  Wikipedia® is a registered trademark of the [Wikimedia Foundation, Inc.](http://www.wikimediafoundation.org/), a non-profit organization.
* [Privacy policy](http://wikimediafoundation.org/wiki/Privacy_policy)
* [About Wikipedia](http://en.wikipedia.org/wiki/Wikipedia:About)
* [Disclaimers](http://en.wikipedia.org/wiki/Wikipedia:General_disclaimer)
* [Contact Wikipedia](http://en.wikipedia.org/wiki/Wikipedia:Contact_us)
* [Developers](https://www.mediawiki.org/wiki/Special:MyLanguage/How_to_contribute)
* [Mobile view](http://en.m.wikipedia.org/wiki/Dry-bulb_temperature)
* [Wikimedia Foundation](http://wikimediafoundation.org/)
* [Powered by MediaWiki](http://www.mediawiki.org/)