

Dew Point (°C) and its Relationship with Relative Humidity and Ambient Temperature

Ambient Temperature	Relative Humidity								
	10%	20%	30%	40%	50%	60%	70%	80%	90%
0°C	-28.0	-20.3	-15.5	-12.0	-9.2	-6.8	-4.8	-3.0	-1.4
2°C	-26.4	-18.6	-13.7	-10.2	-7.3	-4.9	-2.9	-1.1	0.5
4°C	-24.9	-16.9	-12.0	-8.4	-5.5	-3.1	-1.0	0.9	2.5
6°C	-23.3	-15.3	-10.3	-6.6	-3.6	-1.2	0.9	2.8	4.5
8°C	-21.8	-13.6	-8.5	-4.8	-1.8	0.7	2.9	4.8	6.5
10°C	-20.2	-11.9	-6.8	-3.0	0.1	2.6	4.8	6.7	8.4
12°C	-18.7	-10.3	-5.0	-1.2	1.9	4.5	6.7	8.7	10.4
14°C	-17.1	-8.6	-3.3	0.6	3.7	6.4	8.6	10.6	12.4
16°C	-15.6	-7.0	-1.6	2.4	5.6	8.2	10.5	12.5	14.4
18°C	-14.1	-5.3	0.2	4.2	7.4	10.1	12.4	14.5	16.3
20°C	-12.5	-3.6	1.9	6.0	9.3	12.0	14.4	16.4	18.3
22°C	-11.0	-2.0	3.6	7.8	11.1	13.9	16.3	18.4	20.3
24°C	-9.5	-0.4	5.3	9.6	12.9	15.7	18.2	20.3	22.3
26°C	-8.0	1.3	7.1	11.3	14.8	17.6	20.1	22.3	24.2
28°C	-6.5	2.9	8.8	13.1	16.6	19.5	22.0	24.2	26.2
30°C	-4.9	4.6	10.5	14.9	18.4	21.4	23.9	26.2	28.2
32°C	-3.4	6.2	12.2	16.7	20.3	23.2	25.8	28.1	30.1
34°C	-1.9	7.8	13.9	18.5	22.1	25.1	27.7	30.0	32.1
36°C	-0.4	9.5	15.7	20.2	23.9	27.0	29.6	32.0	34.1
38°C	1.1	11.1	17.4	22.0	25.7	28.9	31.6	33.9	36.1
40°C	2.6	12.7	19.1	23.8	27.6	30.7	33.5	35.9	38.0
42°C	4.1	14.4	20.8	25.6	29.4	32.6	35.4	37.8	40.0
44°C	5.6	16.0	22.5	27.3	31.2	34.5	37.3	39.8	42.0

$$f(T, RH) = \frac{a \times T}{b + T} + \ln(RH)$$

$$T_d = \frac{b \times f(T, RH)}{a + f(T, RH)}$$

Terms

- T: Surrounding Air Temperature (°C)
- RH: Relative Humidity
- T_d: Dew Point Temperature (°C)

a: 17.27

b: 237.7

Range

- 0°C < T < 60°C
- 0.01 < RH < 1.00
- 0°C < T_d < 50°C

NOTE: The uncertainty in the calculated dew point temperature is ± 0.4°C