

May 1975

Department of Environment  
Atmospheric Environment Service

Humidex

1. In locations where the combined effects of summertime temperatures and humidities produce considerable discomfort to the general public, there is a need for expressing the composite effect of these elements in numerical terms. The term "Humidex" is used to convey this information to the general public.

2. Humidex is defined by the formula:  $H = T + h$

where H = Humidex

T = temperature in deg. C

h =  $e - 10$  (where e = vapour pressure in millibars)

3. Numerically, h equals the number of degrees which must be added to the dry bulb temperature to account for the effect of humidity. Humidex then is an effective temperature, the temperature of dry air equivalent in comfort to air of a specific temperature and moisture content.

4. Table 1 permits conversion from Dew Point to h. For example, with temperature of 32 degrees, Dew Point of 20 degrees, h equals 7 degrees and Humidex is therefore 32 plus 7, or 39 degrees.

5. Using Table 2 Humidex may be determined from dry bulb temperature and relative humidity. For example, with temperature 32 degrees, relative humidity 50%, Humidex is 39 degrees.

6. While the relation of Humidex to comfort is subjective and varies with individuals, the following table provides a reasonable guide:

<u>Humidex</u>	<u>Degree of Comfort</u>
20 - 29 degrees	Comfortable
30 - 39 "	Varying degrees of discomfort
40 - 45 "	Almost everyone uncomfortable
46 and over	Many types of labour must be restricted

7. While Humidex will not be normally included in routine public forecasts, the factor may be included together with other current weather data to radio and TV stations, newspapers and individual enquirers as appropriate. Predicted maximum values for Humidex can also be made available in the same manner.

8. Humidex is intended for use only as a measure of the "discomfort" effects of temperature and humidity combined. Where the user prefers to be advised of the humidity factor only, relative humidity will continue to be the standard.



Table 1

Conversion from Dew Point to "h"

D.P.	h	D.P.	h
10	1	20	7
11	1	21	8
12	2	22	9
13	2	23	10
14	3	24	11
15	4	25	11
16	4	26	12
17	5	27	12
18	6		
19	7		