

How to use the Koeppen Climatic Classification System Dichotomous Key- Oneonta as an Example

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year
°F	20.1	21.6	32.4	43.9	55.0	64.0	68.5	66.7	59.0	48.2	37.4	26.2	45.1
Inches	2.7	2.5	3.1	3.3	3.8	4.0	4.2	3.8	3.5	3.4	3.4	3.2	40.8

Source: Oneonta data derived from NCDC Cooperative Stations. 53 complete years between 1931 and 1992.

Note: t is Average Annual Temperature and r is Total Annual Rainfall

Classification 1 **No.** Warmest month = July 68.5° (if the answer is yes go to the subcategory (2); but if the answer is no go to the next correct answer (1))

Yes. Warmest month >50°. Go to (3)

Classification 3 **No.** >70% or r is concentrated in the warmest 6 months

We need to determine if precipitation is concentrated in the summer, winter or evenly distributed throughout the year (concentration = 70% or more of the average annual precipitation received during the summer or winter). Warmest months of the year = May(55°) to Oct. (48.2). Precipitation in the same months 22.7 (May = 3.8; June = 4.0; July = 4.2; Aug. = 3.8; Sept. = 3.5; Oct =3.4). Total summer precipitation/Total Annual Precipitation $22.7/40.8 \times 100 = 55\%$. 55% in summer and 45% in winter; so precipitation is evenly distributed throughout the year. Stay with (3)

Yes. <70% or r is concentrated in the warmest 6 months. Go to (8).

Classification 8 **No.** >70% or r is concentrated in the coolest 6 months. Stay with (8)

Yes. <70% or r is concentrated in the coolest 6 months. Go to (13).

Classification 13 **Yes.** $r > 0.44t - 8.5$: A, C, or D

Note: what you are calculating is whether or not evapotranspiration exceeds precipitation. $0.44 \times 45 = 19.8 - 8.5 = 11.3$. So is $40.8 > 11.3 = \text{yes}$. We now know that it is an ACD climate. Go to (17)

Classification 17 **No.** Coldest month >64.4°; the Coolest month = Jan. 20.1°. Stay with 17.

Yes. Coldest month <64.4°. So, now we know it is a C or D climate. Go to 21

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Classification 21 **No.** Coldest month $> 32^{\circ}$. **Yes.** Coldest month $< 32^{\circ}$. So, it is a D climate. Go to 28.

Classification 28 Driest winter month with $< 1/10$ rain of wettest winter month
Driest winter month is February at 2.5" of rain and the wettest winter month is December at 3.2" of rain
 $2.5/3.2 \times 100 = 78\%$.

No. 78% is much greater than 10%. (stay with 28)

Classification 28 Driest winter month with $> 1/10$ rain of wettest summer month
Yes. Driest winter month Feb. 2.5"/4.2 July wettest summer month = 59% is $> 10\%$
(Ds or Df go to 32)

Classification 32: Driest summer month with $< 1.6"$ rain, and also with $< 1/3$ rain of wettest winter month
No. Driest summer month Sept. at 3.5" is $>$ than 1.6" of rain (stay with 32)

Classification 32: Driest summer mo. with $> 1.6"$ rain, or with $> 1/3$ rain of wettest winter mo.
Yes. Driest summer mo. Sept. at 3.5" is more than 1.6" of rain (Df go to 34)

Classification 34: Warmest month > 71.60 : Dfa
No. July the warmest month is 68.5, thus is colder (stay with 34)
Yes. Warmest month < 71.60 (go to 35)

Classification 35: 4 or more months $> 50^{\circ}$
Yes. Dfb classification

**Oneonta is a Dfb Climate - Humid continental with no dry season,
long warm summers, and cold winters**