<u>Dichotomous Key to the Koeppen Climatic Classification System.</u>

* Note: r = total annual precipitation and t = average annual temperature (AAT). All other temperature and rainfall statistics are mean monthly values. Temperature is in degrees Fahrenheit and precipitation is in inches. Example: to calculate r>0.44t-3 where r = 100 and t = 75 simply multiply .44 x 75 and then subtract 3, i.e. 100>0.44(75)-3 = 30 – the answer is "yes" 100 is greater than 30.

(1) Warmest month <50^0: E (POLAR)...go to (2)

    (2) Warmest month >32^0: ET (TUNDRA)
    (2) Warmest month <32^0: EF (GLACIAL)

(1) Warmest month >50^0: B, A, C, or D (NON-POLAR)...go to (3)

    (3) >70% of r concentrated in the warmest 6 months...go to (4)

        (4) r>0.44t-3: A, C, or D (Humid non-polar)...go to (17)
        (4) r<0.44t-3: B (ARID)...go to (5)

            (5) r>(0.44t-3)/2: BS (STEPPE)..go to (6)

                (6) Coldest month >32^0: BSh (TROPICAL or SUBTROPICAL
                (6) Coldest month <32^0: BSk (MID-LATITUDE STEPPE)

            (5) r<(0.44t-3)/2: BW (DESERT)...go to (7)

                (7) Coldest month >32^0: BWh (TROPICAL or SUBTROPICAL
                (7) Coldest month <32^0: BWk (MID-LATITUDE DESERT)

(3) <70% of r concentrated in the warmest 6 months...go to (8)

    (8) >70% r concentrated in the coolest 6 months...go to (9)

        (9) r>0.44t-14: A, C, or D (Humid non-polar)...go to (17)
        (9) r<0.44t-14: B (ARID)...go to (10)

            (10) r>(0.44t-14)/2: BS (STEPPE)...go to (11)

                (11) Coldest month >32^0: BSh (TROPICAL or SUBTROPICAL STEPPE)
                (11) Coldest month <32^0: BSk (MID-LATITUDE STEPPE)

            (10) r<(0.44t-14)/2: BW (DESERT)...go to (12)

                (12) Coldest month >32^0: BWh (TROPICAL or SUBTROPICAL DESERT)
                (12) Coldest month <32^0: BWk (MID-LATITUDE DESERT)

(8) <70% of r concentrated in the coolest 6 months...go to (13)

(13) r>0.44t-8.5: A, C, or D (Humid non-polar)...go to (17)

(13) r<0.44t-8.5: B (ARID)...go to (14)

(14) r>(0.44t-8.5)/2: BS (STEPPE)...go to (15)

(15) Coldest month >32^0: BSh (TROPICAL or SUBTROPICAL STEPPE)
(15) Coldest month <32^0: BSk (MID-LATITUDE STEPPE)

(14) r<(0.44t-8.5)/2: BW (DESERT)...go to (16)

(16) Coldest month >32^0: BWh (TROPICAL or SUBTROPICAL DESERT)

(16) Coldest month <32^0: BWk (MID-LATITUDE DESERT)

(17) Coldest month > 64.4^0: A (HUMID TROPICAL)...go to (18)

(18) Driest month with >2.4" rain: Af (TROPICAL RAIN FOREST)
(18) Driest month with <2.4" rain: Am, Aw, or As (TROPICAL WET-AND-DRY)
...go to (19)

(19) Rain of driest month >(3.94-r/25)": Am (TROPICAL MONSOON)
(19) Rain of driest month <(3.94-r/25)"...go to (20)

(20) Dry season during period of low sun (winter): Aw (TROPICAL
(20) Dry season during period of high sun (summer): As (TROPICAL

(17) Coldest month <64.4^0: C or D (Humid mid-latitude)...go to (21)

(21) Coldest month >32^0: C (HUMID MESOTHERMAL)...go to (22)

(22) Driest winter month with <1/10 rain of wettest summer month: Cw
(HUMID MESOTHERMAL WITH WINTER DROUGHT)...go to (23)

(23) Warmest month >71.6^0: Cwa (SUBTROPICAL MONSOON)
(23) Warmest month <71.6^0: Cwb (TROPICAL UPLAND)

(22) Driest winter month with >1/10 rain of the wettest summer month: Cf or Cs...go to (24)
24) Driest summer month with <1.6" of rain, and also with <1/3 rain of wettest winter
month: Cs (MEDITERRANEAN)...go to (25)

(25) Warmest month >71.6^0: Csa (MEDITERRANEAN, INTERIOR)
(25) Warmest month <71.6^0: Csb (MEDITERRANEAN, COASTAL)

(24) Driest summer month with >1.6" of rain, or with >1/3 rain of wettest winter
month: Cf (HUMID MESOTHERMAL WITH NO DRY SEASON)...go to (26)

(26) Warmest month $>71.6^0$: Cfa (HUMID SUBTROPICAL)
(26) Warmest month $<71.6^0$...go to (27)

      (27) 4 or more months $>50^0$: Cfb (MARINE WEST COAST)
      (27) 1-3 months $>50^0$: Cfc (HIGH LATITUDE MARINE)

(21) Coldest month $<32^0$: D (HUMID CONTINENTAL)...go to (28)

(28) Driest winter month with <1/10 rain of wettest winter month: Dw (HUMID CONTINENTAL WITH WINTER DROUGHT)...go to (29)

      (29) Warmest month $>71.6^0$: Dwa (HUMID CONTINENTAL WITH WINTER
      (29) Warmest month $<71.6^0$...go to (30)

           (30) 4 or more months $>50^0$: Dwb (HUMID CONTINENTAL WITH
           (30) 1-3 months $>50^0$...go to (31)

                  (31) Coldest month $>-36.4^0$: Dwc (SUBARCTIC WITH WINTER
                  (31) Coldest month $<-36.4^0$: Dwd (SUBARCTIC WITH WINTER
                      DROUGHT BITTERLY COLD WINTERS)

(28) Driest winter month with >1/10 rain of wettest summer month: Ds or Df...
      go to (32)
(32) Driest summer month with <1.6" rain, and also with <1/3 rain of wettest winter
      month: Ds (HUMID CONTINENTAL WITH SUMMER DROUGHT)...
      go to (33)

      (33) Warmest month $>71.6^0$: Dsa (HUMID CONTINENTAL WITH SUMMER
           DROUGHT AND LONG HOT SUMMERS)
      (33) Warmest month $<71.6^0$: Dsb (HUMID CONTINENTAL WITH SUMMER
           DROUGHT AND LONG WARM SUMMERS)

(32) Driest summer month with >1.6" rain, or with >1/3 rain of wettest winter month:
      Df (HUMID CONTINENTAL WITH NO DRY SEASON)...go to (34)

      (34) Warmest month $>71.6^0$: Dfa (HUMID CONTINENTAL WITH NO DRY
           SEASON AND LONG HOT SUMMERS)
      (34) Warmest month $<71.6^0$...go to (35)
           (35) 4 or more months $>50^0$: Dfb (HUMID CONTINENTAL WITH NO
               DRY SEASON AND LONG WARM SUMMERS)
           (35) 1-3 months $>50^0$...go to (36)

                  (36) Coldest month $>-36.4^0$: Dfc (SUBARCTIC WITH NO DRY
                  SEASON)
                  (36) Coldest month $<-36.4^0$: Dfd (SUBARCTIC WITH NO DRY
                  SEASON AND BITTERLY COLD WINTERS)

Source: Lewis, P. 1961. The dichotomous keys to the Koppen system. *The*

Professional Geographer, 13:25-31.