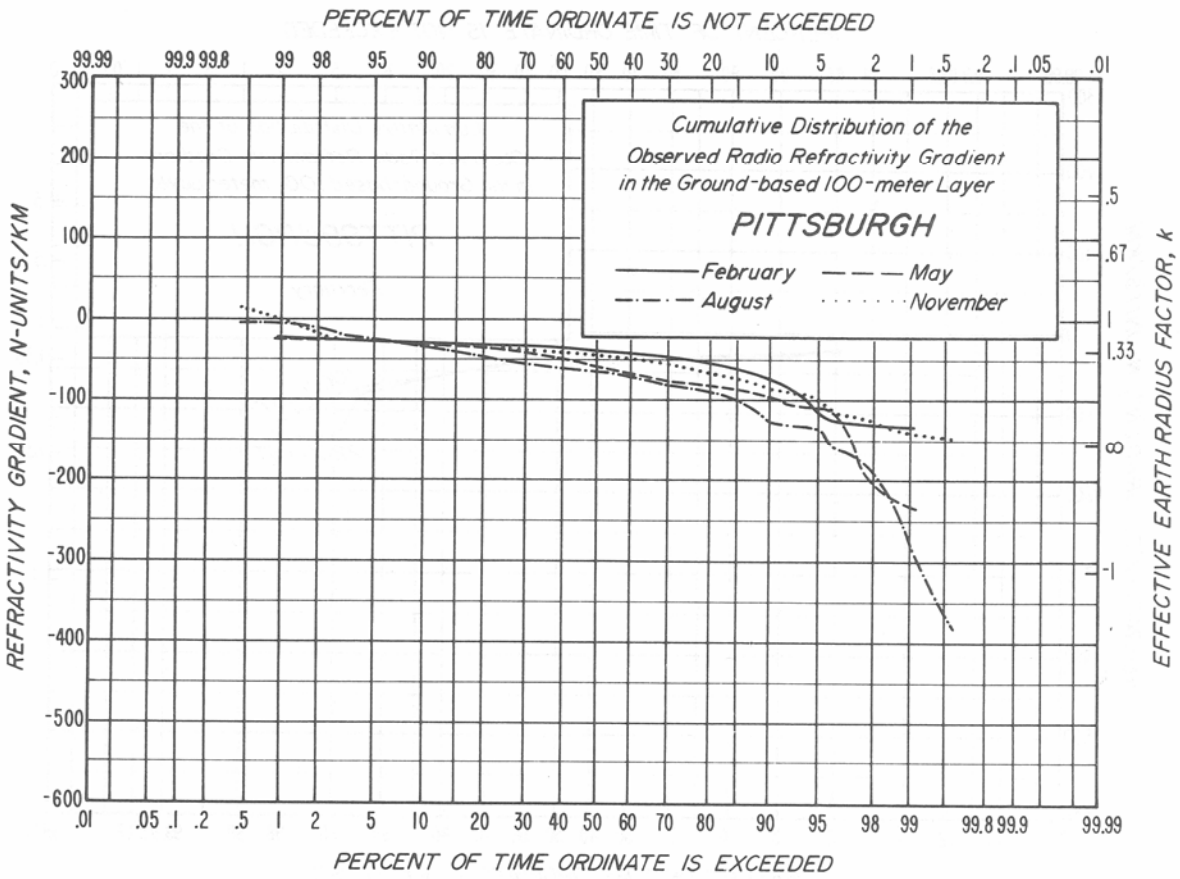


Pittsburgh, Pennsylvania

40° 30' N, 80° 13' W 351 m m.s.l.

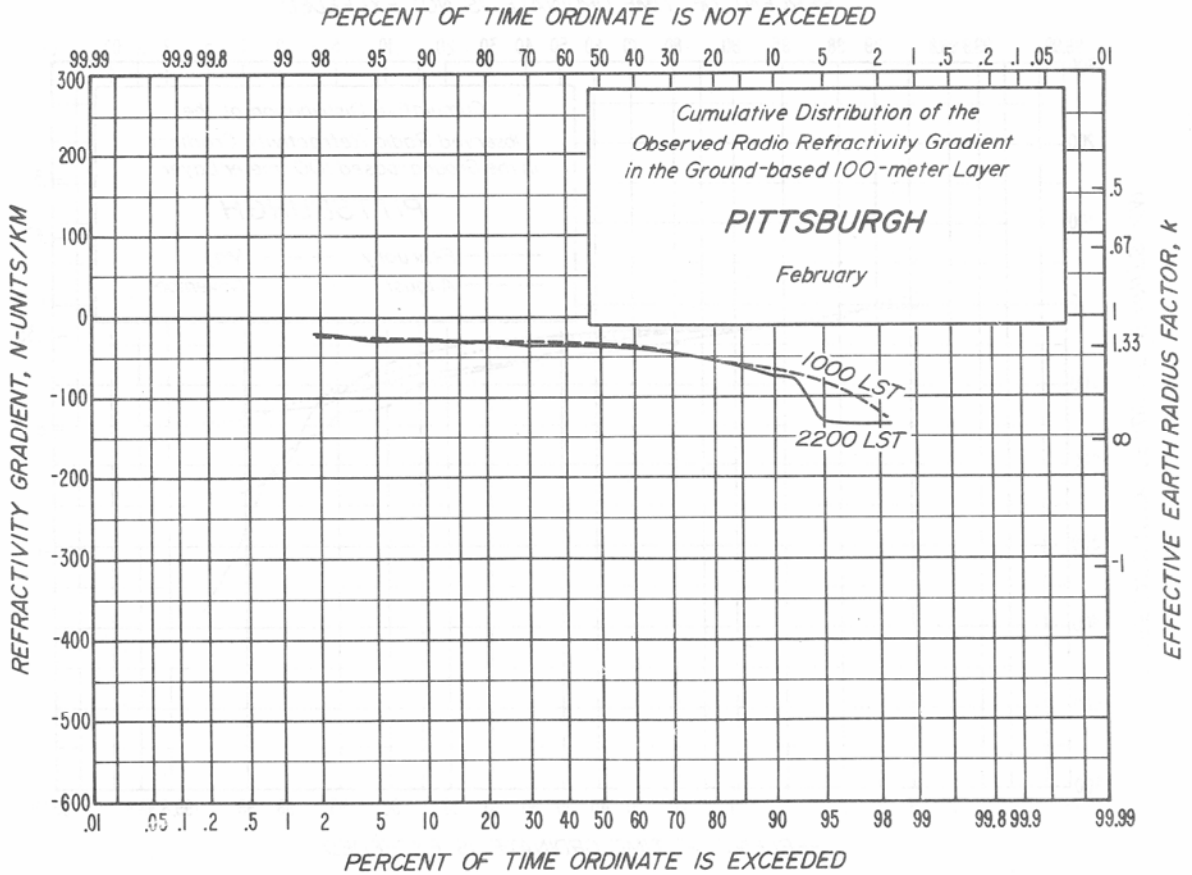
Data: Radiosonde. 0300 and 1500Z (2200 and 1000 LST): 7/51 - 1/53

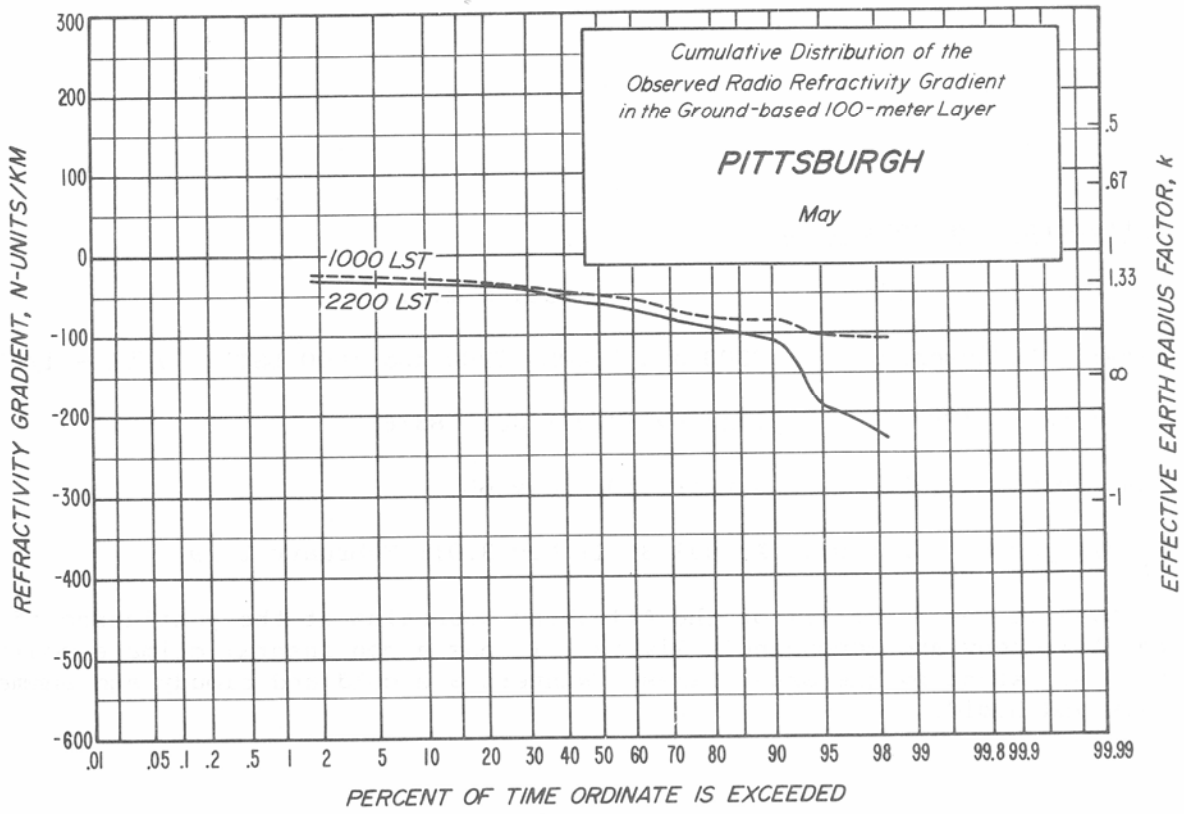
Temperature (°F): January 37/21; July 83/61

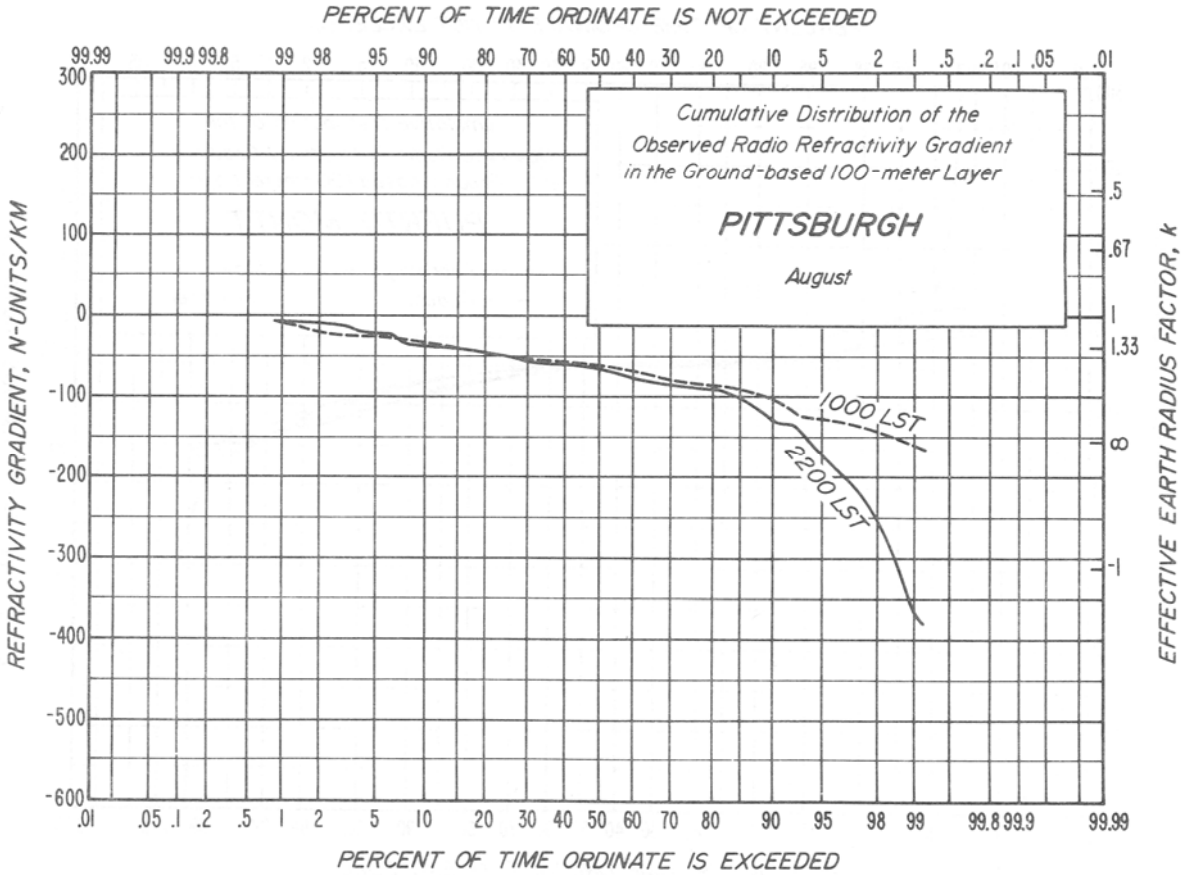
Mean Dewpoint (°F): January 19; July 60

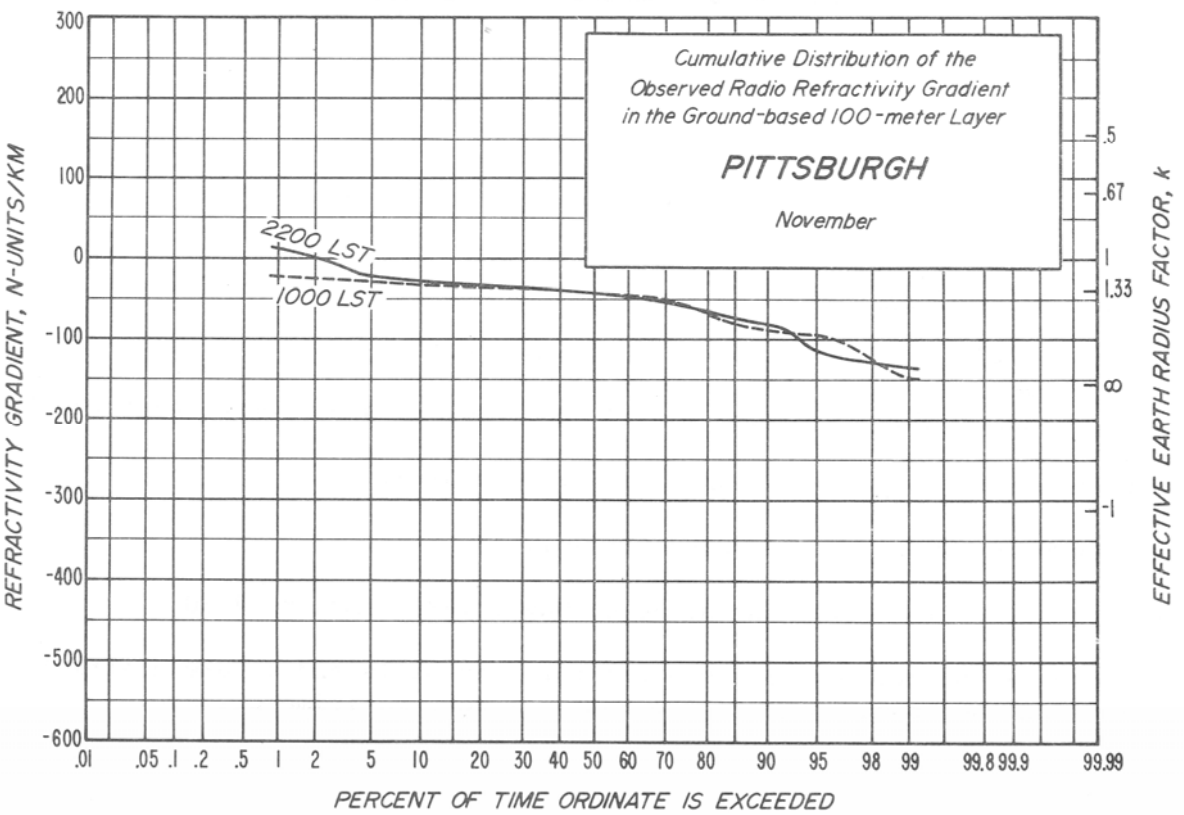
Precipitation (inches): Annual 36.1; May 3.91; February 2.19

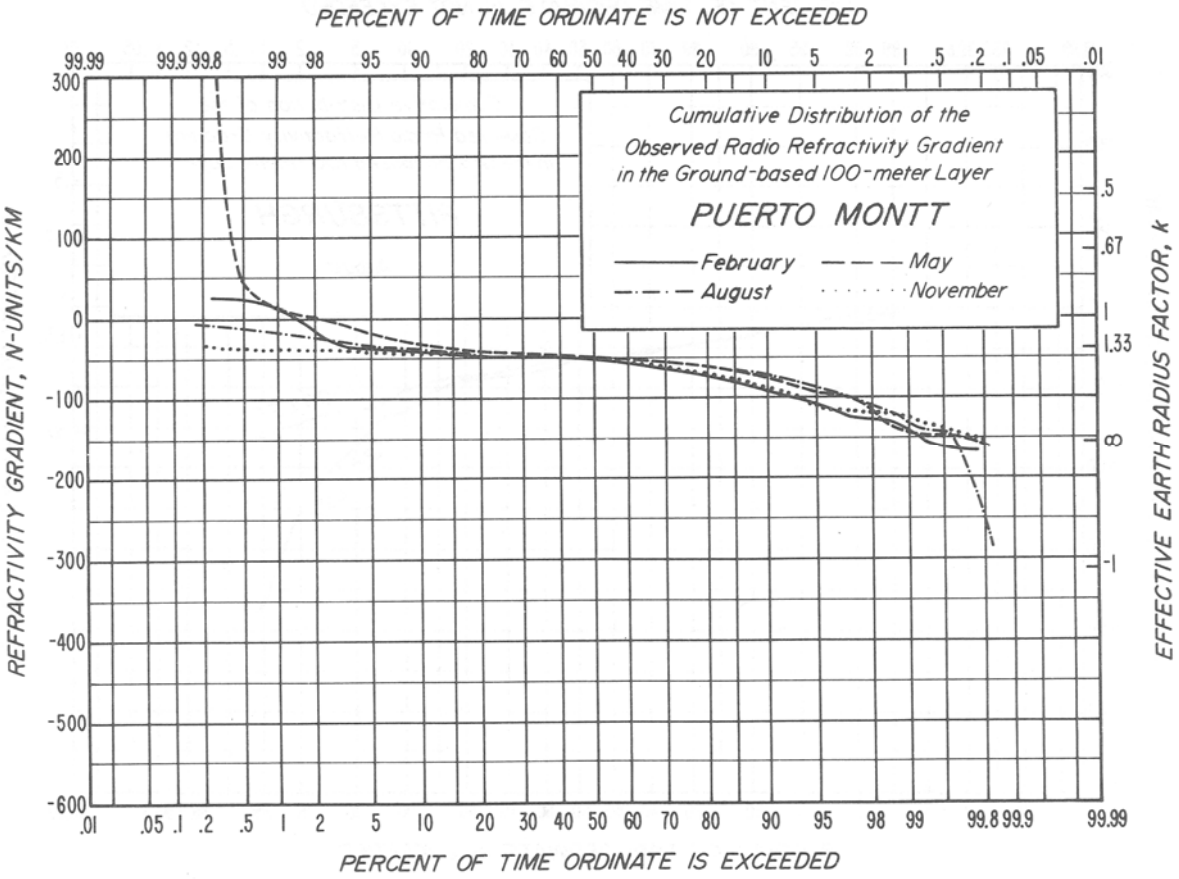
Located at the foothills of the Allegheny Mountains at the confluence of the Allegheny and Monongahela Rivers. It has a continental climate modified to some extent by the Great Lakes. Winters are cold and cloudy and summers warm and humid.


PERCENT OF TIME ORDINATE IS NOT EXCEEDED
99.99 99.9 99.8 99 98 95 90 80 70 60 50 40 30 20 10 5 2 1 .5 .2 .1 .05 .01
Cumulative Distribution of the
Observed Radio Refractivity Gradient
in the Ground-based 100-meter Layer
PITTSBURGH
February
1000 LST
2200 LST
REFRACTIVITY GRADIENT, N-UNITS/KM
300 200 100 0 -100 -200 -300 -400 -500 -600
EFFECTIVE EARTH RADIUS FACTOR, k
.5 .67 1 1.33 ∞ -1
.01 .05 .1 .2 .5 1 2 5 10 20 30 40 50 60 70 80 90 95 98 99 99.8 99.9 99.99
PERCENT OF TIME ORDINATE IS EXCEEDED


Cumulative Distribution of the
Observed Radio Refractivity Gradient
in the Ground-based 100-meter Layer
PITTSBURGH
May
1000 LST
2200 LST
REFRACTIVITY GRADIENT, N-UNITS/KM
300 200 100 0 -100 -200 -300 -400 -500 -600
EFFECTIVE EARTH RADIUS FACTOR, k
.5 .67 1 1.33 ∞ -1
.01 .05 .1 .2 .5 1 2 5 10 20 30 40 50 60 70 80 90 95 98 99 99.8 99.9 99.99
PERCENT OF TIME ORDINATE IS EXCEEDED


PERCENT OF TIME ORDINATE IS NOT EXCEEDED
99.99 99.9 99.8 99 98 95 90 80 70 60 50 40 30 20 10 5 2 1 .5 .2 .1 .05 .01
Cumulative Distribution of the
Observed Radio Refractivity Gradient
in the Ground-based 100-meter Layer
PITTSBURGH
August
1000 LST
2200 LST
REFRACTIVITY GRADIENT, N-UNITS/KM
300 200 100 0 -100 -200 -300 -400 -500 -600
EFFECTIVE EARTH RADIUS FACTOR, k
.5 .67 1 1.33 ∞ -1
.01 .05 .1 .2 .5 1 2 5 10 20 30 40 50 60 70 80 90 95 98 99 99.8 99.9 99.99
PERCENT OF TIME ORDINATE IS EXCEEDED


Cumulative Distribution of the
Observed Radio Refractivity Gradient
in the Ground-based 100-meter Layer
PITTSBURGH
November
2200 LST
1000 LST
REFRACTIVITY GRADIENT, N-UNITS/KM
300 200 100 0 -100 -200 -300 -400 -500 -600
EFFECTIVE EARTH RADIUS FACTOR, k
.5 .67 1 1.33 ∞ -1
.01 .05 .1 .2 .5 1 2 5 10 20 30 40 50 60 70 80 90 95 98 99 99.8 99.9 99.99
PERCENT OF TIME ORDINATE IS EXCEEDED



Puerto Montt, Chile

41° 29 S, 72° 51' W 6 m m.s.l.

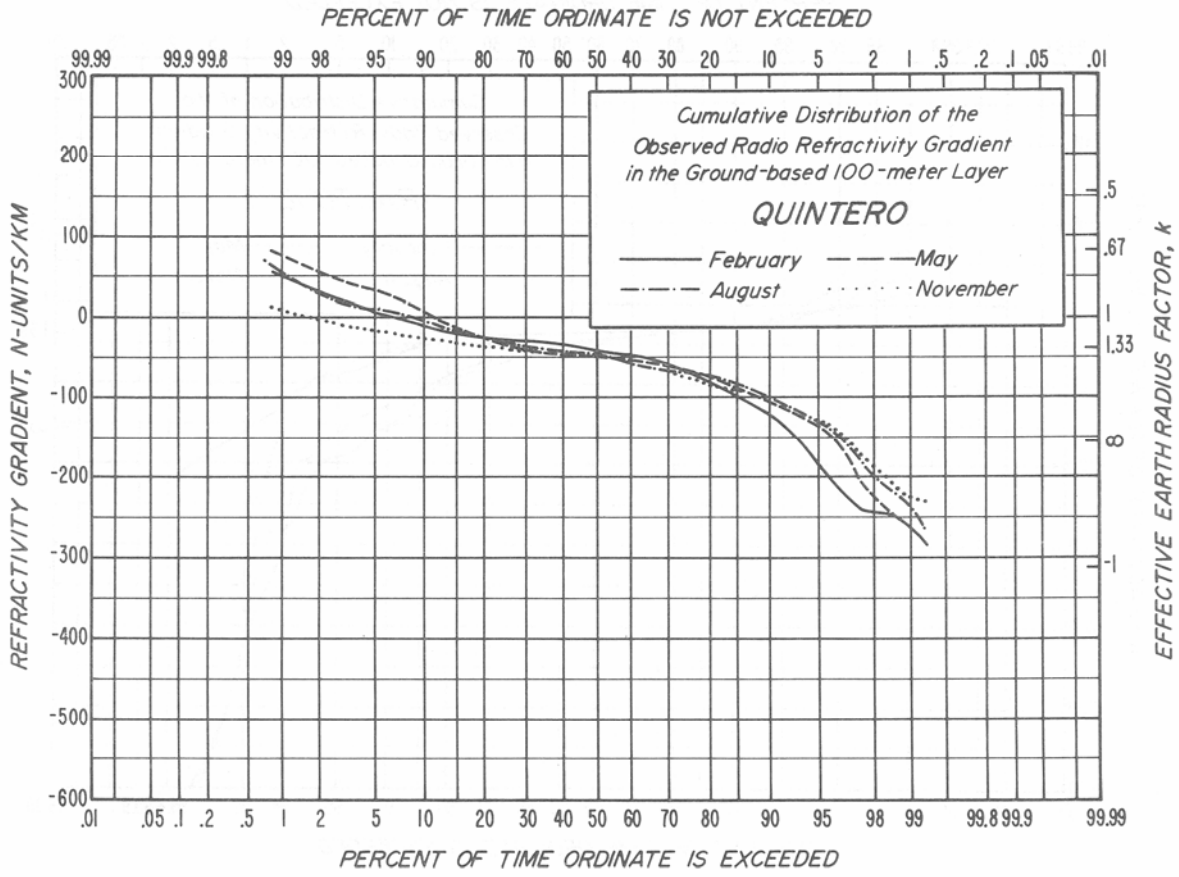
Data: Radiosonde. 0000 and 1200Z (1900 and 0700 LST): 8/57 - 8/61

Temperature (°F): January 68/52; July 51/41

Mean Dewpoint (°F): January 54; July 43

Precipitation (inches): Annual 86.0; May 10.88; February 4.30

A port on Reloncavi Sound; there are forested hills and a lake district nearby and the Andes range to the East. A cool maritime climate.



Quintero, Chile

32° 47' S, 71° 32' W 7 m m.s.l.

Data: Radiosonde. 0000 and 1200Z (1900 and 0700 LST): 3 years (in period 1957-67)

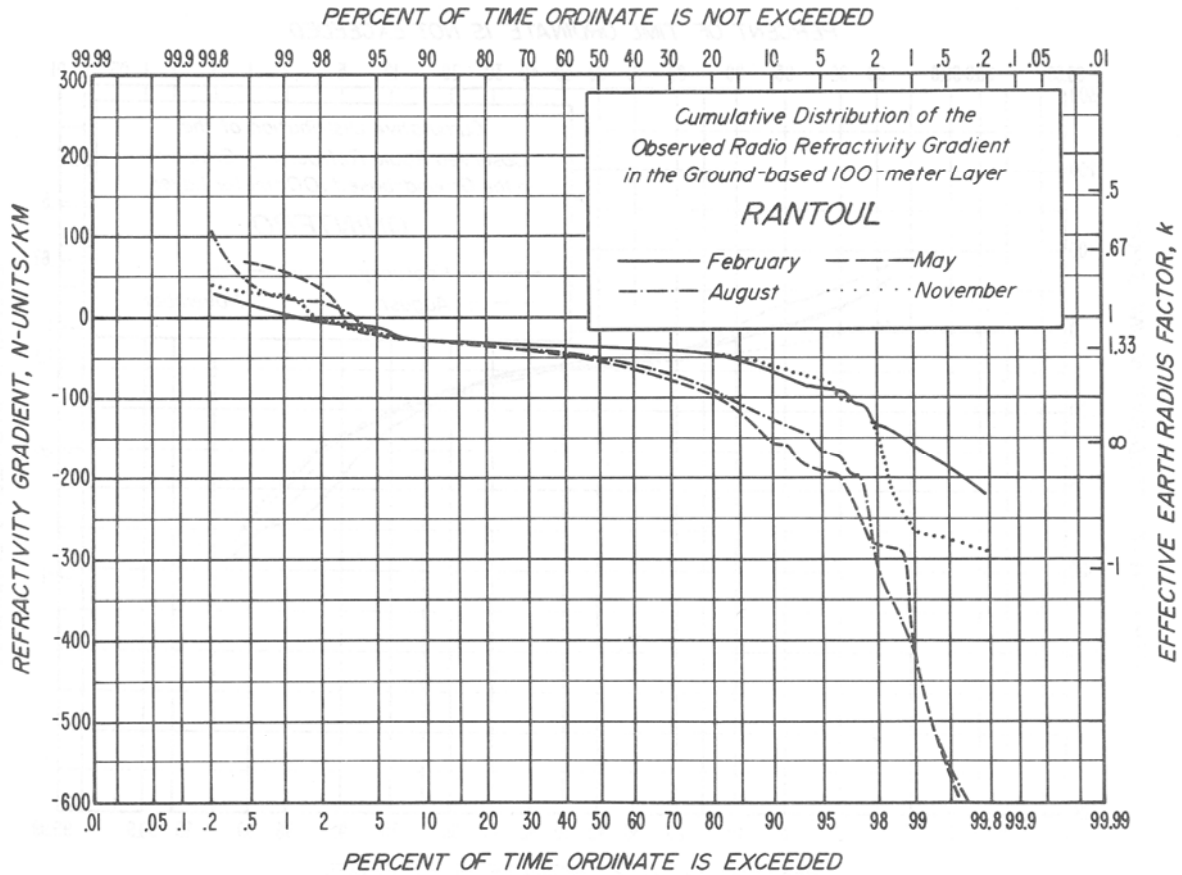
Analyzed by: Dept. of Geophysics and Geodesy, University of Chile, Santiago

Temperature (°F): January 72/56; July 60/47

Mean Dewpoint (°F): January 58; July 49

Precipitation (inches): Annual 19.9; June 5.90; February 0.05

Located on the Pacific coast near Valparaiso in central Chile. A cool maritime climate.



Rantoul, Illinois (Chanute AFB)

40° 18' N, 88° 09' W 228 m m.s.l.

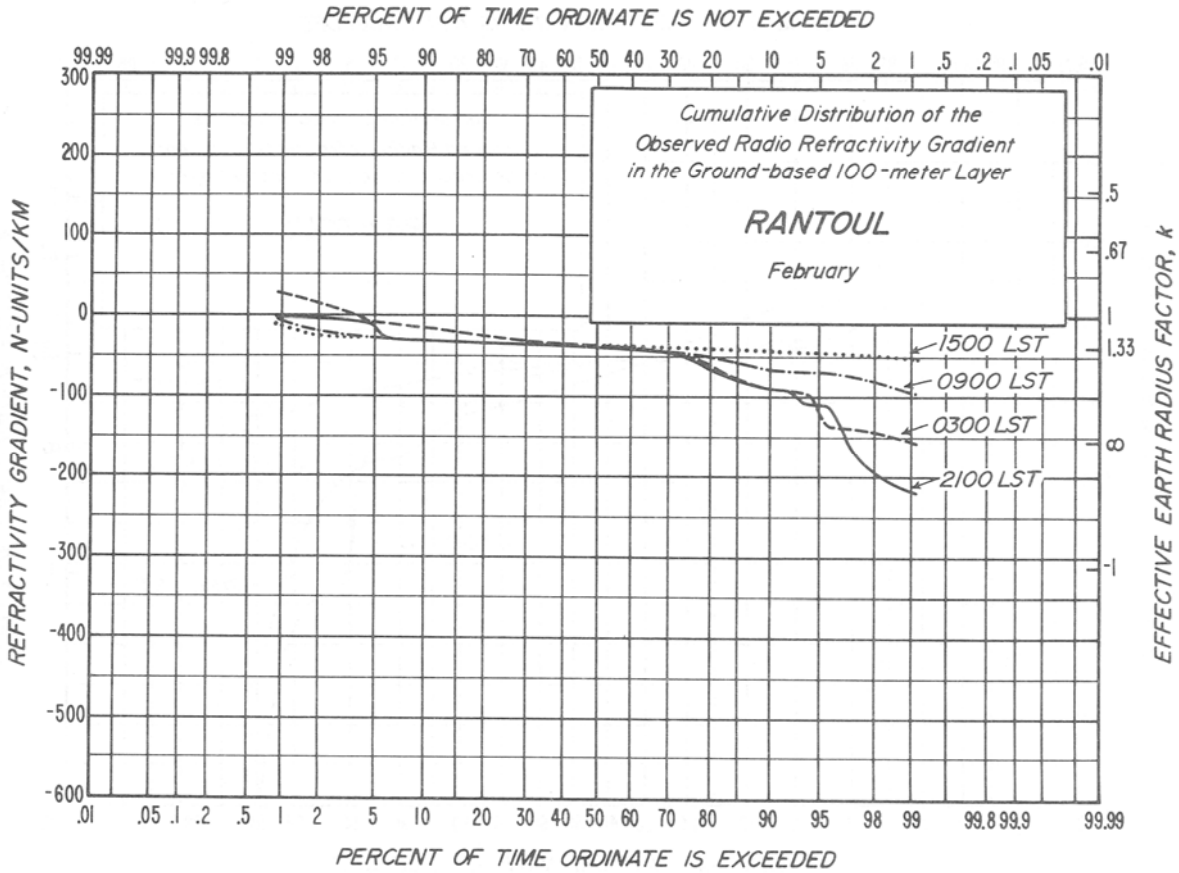
Data: Radiosonde. 0300, 0900, 1500, 2100Z (2100, 0300, 0900, 1500 LST): 7/50 - 6/52

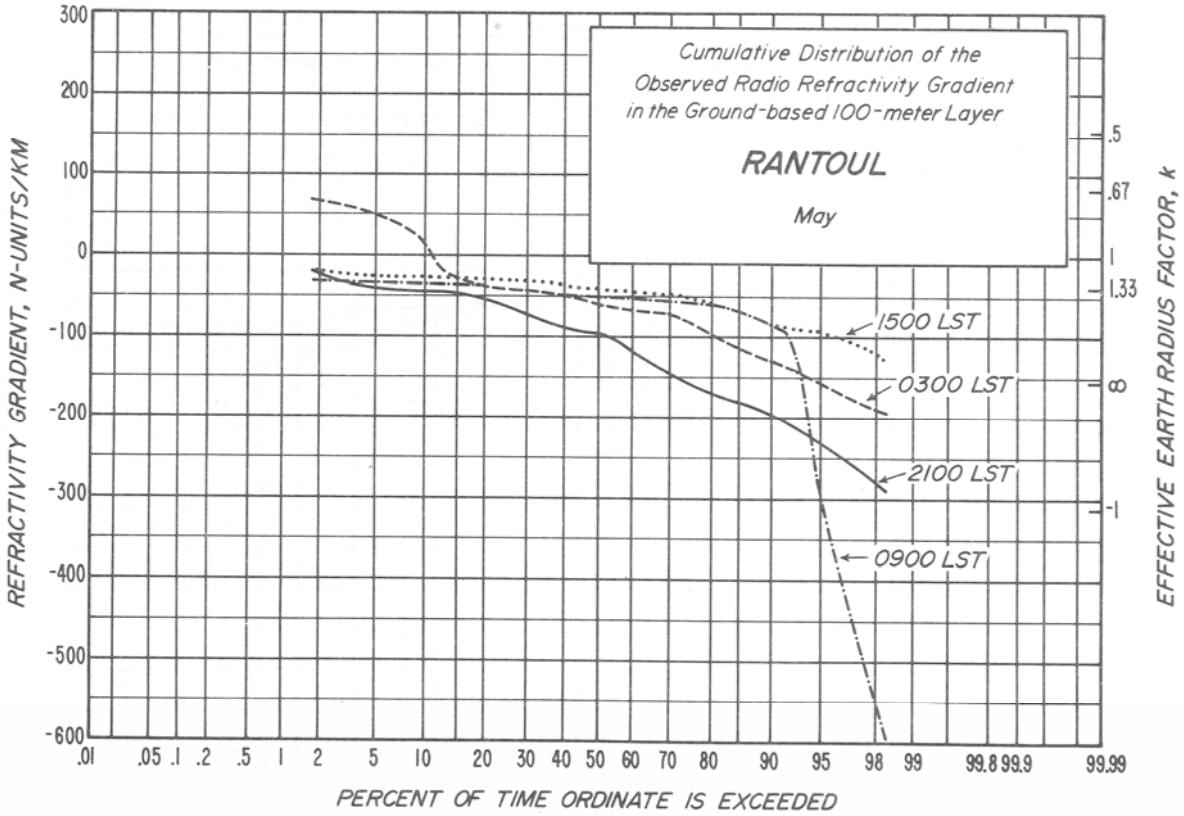
Temperature (°F): January 34/19; July 85/65

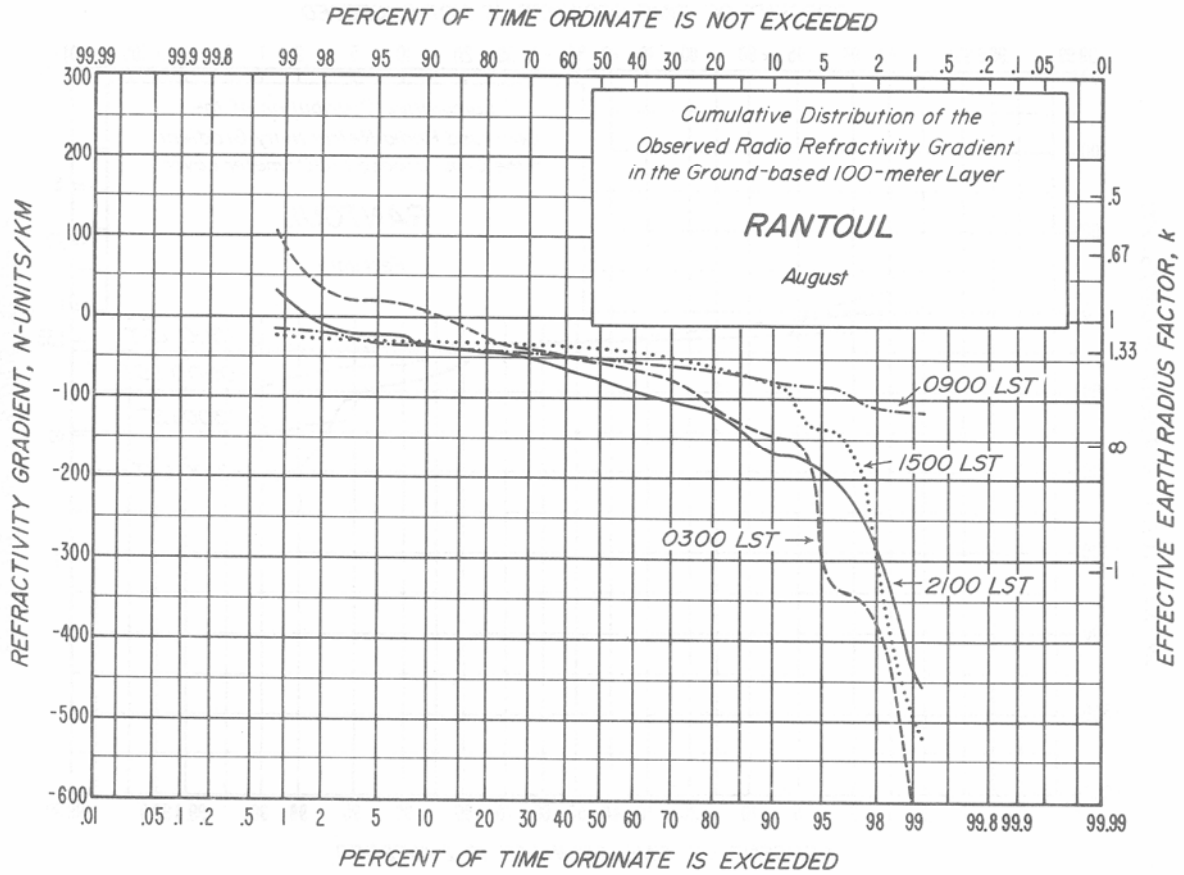
Mean Dewpoint (°F): January 21; July 64

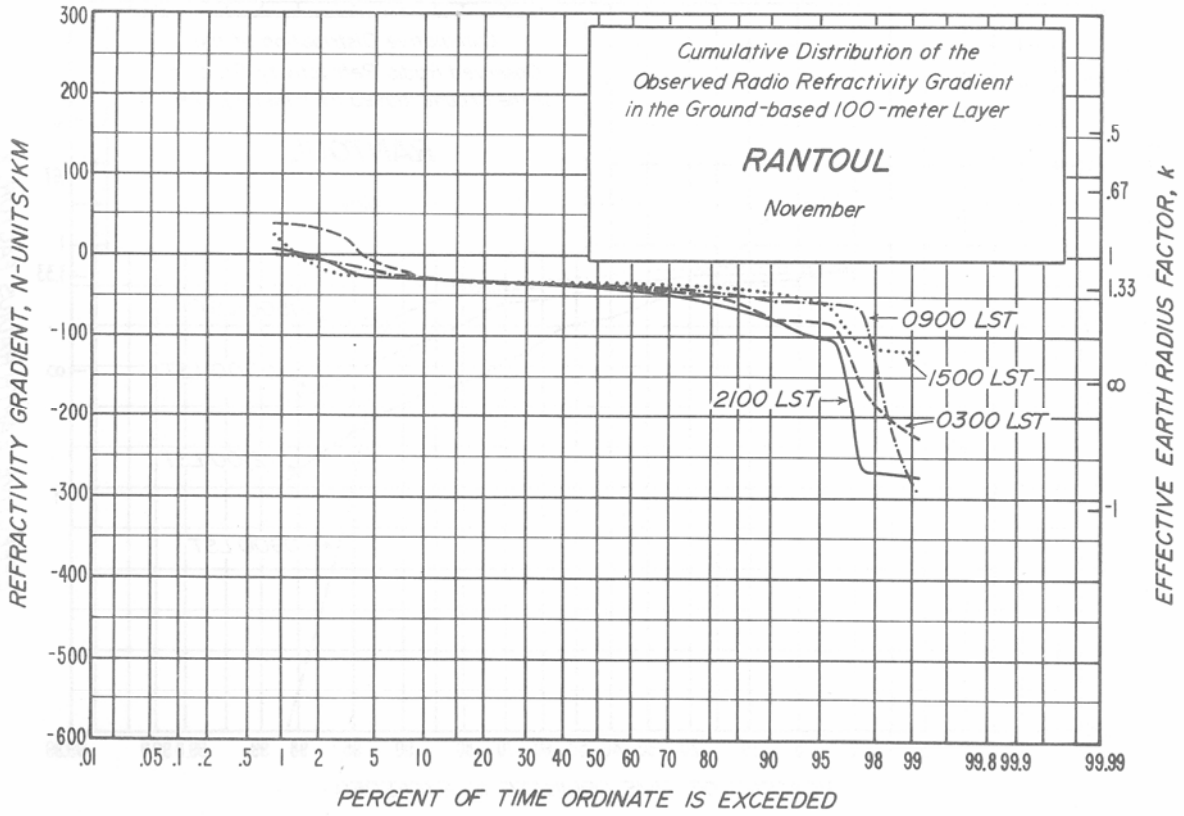
Precipitation (inches): Annual 35.6; June 4.78; December 1.74

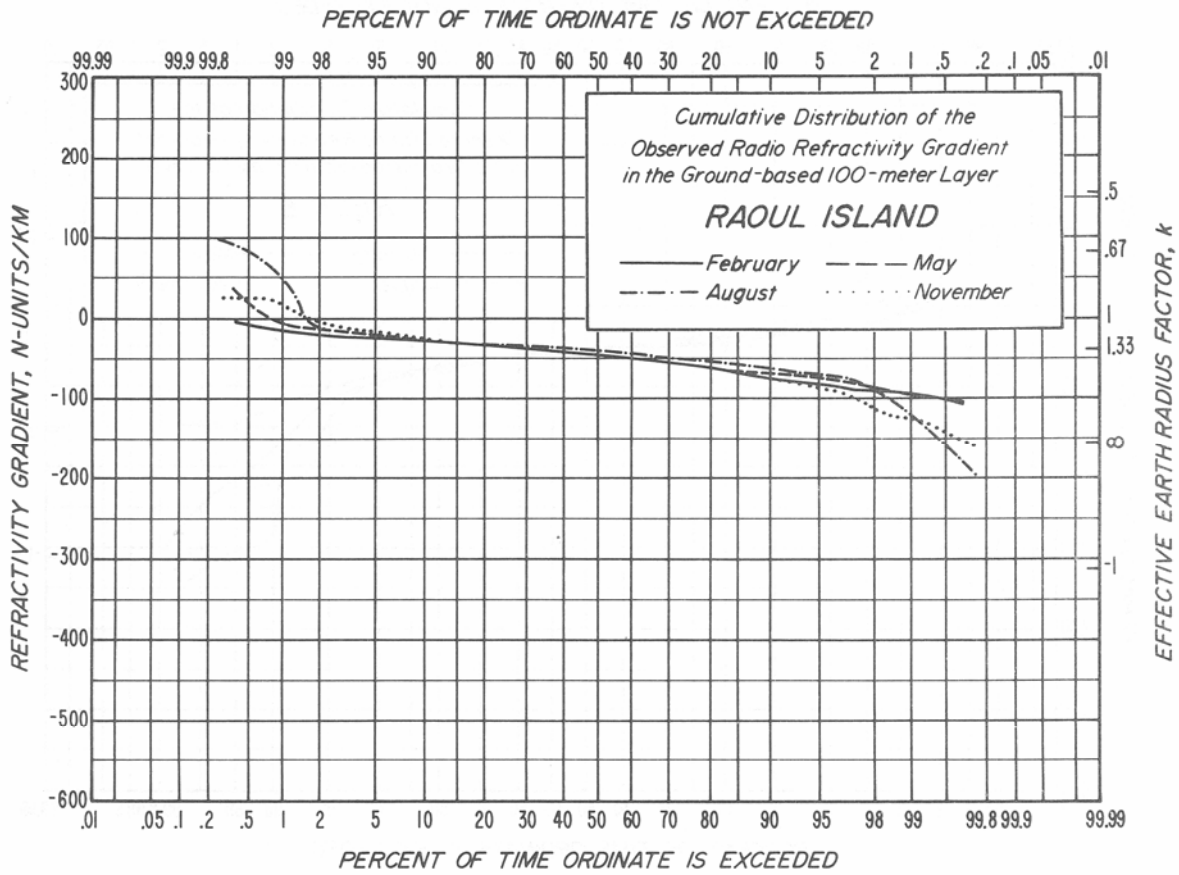
Located in the plains area of east-central Illinois. A continental climate with hot, humid summers and cold winters.


PERCENT OF TIME ORDINATE IS NOT EXCEEDED
99.99 99.9 99.8 99 98 95 90 80 70 60 50 40 30 20 10 5 2 1 .5 .2 .1 .05 .01
Cumulative Distribution of the
Observed Radio Refractivity Gradient
in the Ground-based 100-meter Layer
RANTOUL
February
1500 LST
0900 LST
0300 LST
2100 LST
REFRACTIVITY GRADIENT, N-UNITS/KM
300 200 100 0 -100 -200 -300 -400 -500 -600
EFFECTIVE EARTH RADIUS FACTOR, k
.5 .67 1 1.33 ∞ -1
.01 .05 .1 .2 .5 1 2 5 10 20 30 40 50 60 70 80 90 95 98 99 99.8 99.9 99.99
PERCENT OF TIME ORDINATE IS EXCEEDED


Cumulative Distribution of the
Observed Radio Refractivity Gradient
in the Ground-based 100-meter Layer
RANTOUL
May
1500 LST
0300 LST
2100 LST
0900 LST
REFRACTIVITY GRADIENT, N-UNITS/KM
300 200 100 0 -100 -200 -300 -400 -500 -600
EFFECTIVE EARTH RADIUS FACTOR, k
.5 .67 1 1.33 ∞ -1
.01 .05 .1 .2 .5 1 2 5 10 20 30 40 50 60 70 80 90 95 98 99 99.8 99.9 99.99
PERCENT OF TIME ORDINATE IS EXCEEDED


PERCENT OF TIME ORDINATE IS NOT EXCEEDED
99.99 99.9 99.8 99 98 95 90 80 70 60 50 40 30 20 10 5 2 1 .5 .2 .1 .05 .01
Cumulative Distribution of the
Observed Radio Refractivity Gradient
in the Ground-based 100-meter Layer
RANTOUL
August
0900 LST
1500 LST
0300 LST
2100 LST
REFRACTIVITY GRADIENT, N-UNITS/KM
300 200 100 0 -100 -200 -300 -400 -500 -600
EFFECTIVE EARTH RADIUS FACTOR, k
.5 .67 1 1.33 ∞ -1
.01 .05 .1 .2 .5 1 2 5 10 20 30 40 50 60 70 80 90 95 98 99 99.8 99.9 99.99
PERCENT OF TIME ORDINATE IS EXCEEDED


Cumulative Distribution of the
Observed Radio Refractivity Gradient
in the Ground-based 100-meter Layer
RANTOUL
November
0900 LST
1500 LST
2100 LST
0300 LST
REFRACTIVITY GRADIENT, N-UNITS/KM
300 200 100 0 -100 -200 -300 -400 -500 -600
EFFECTIVE EARTH RADIUS FACTOR, k
.5 .67 1 1.33 ∞ -1
.01 .05 .1 .2 .5 1 2 5 10 20 30 40 50 60 70 80 90 95 98 99 99.8 99.9 99.99
PERCENT OF TIME ORDINATE IS EXCEEDED



Raoul Island, Kermadec Islands, Pacific

29° 15' S, 177° 55' W 49 m m.s.l.

Data: Radiosonde.

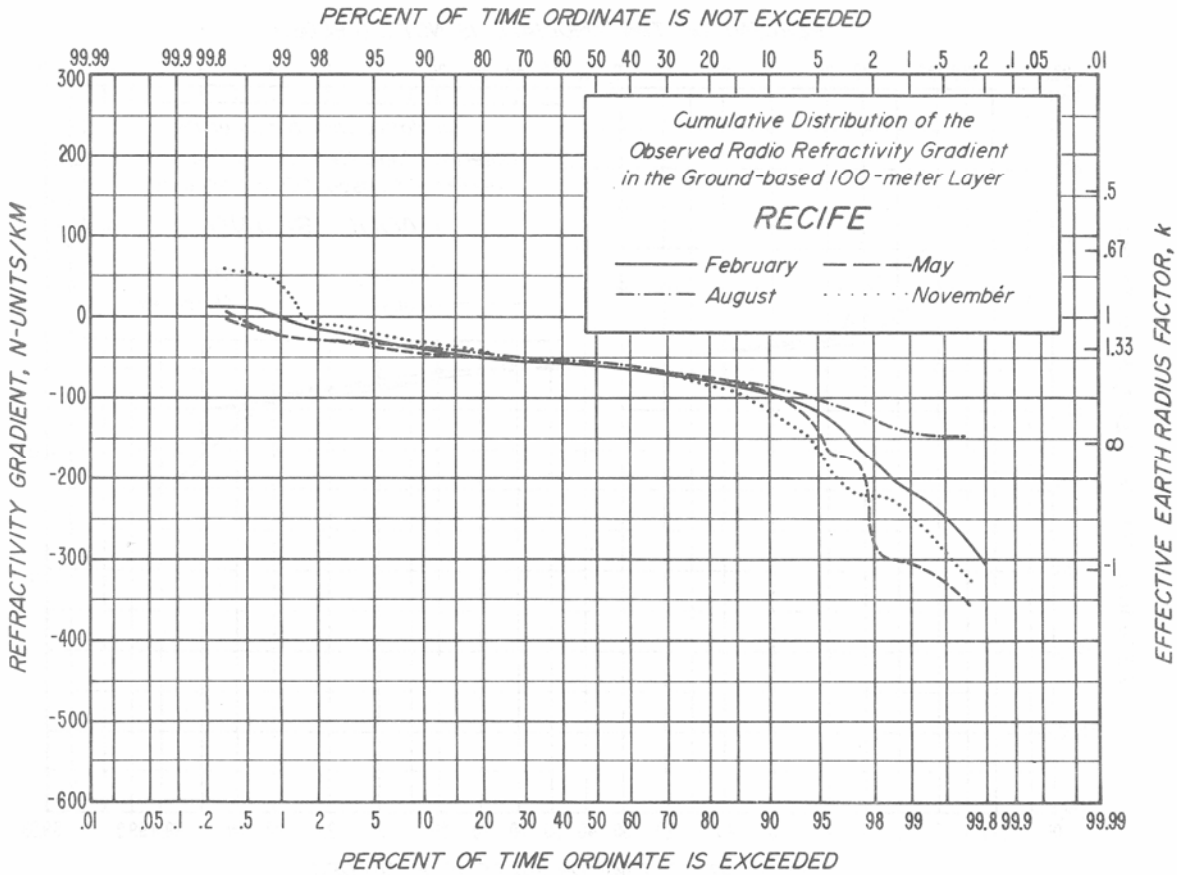
1000Z (2200 LST):	8/52
0400Z (1600 LST):	11/52 - 2/57
0000Z (1200 LST):	5/57 - 11/57

Temperature (°F): January 75/65; July 65/56

Mean Dewpoint (°F): Not available

Precipitation (inches): Annual 57.2; May 6.9; November 2.0

A forested, mountainous, volcanic island of about 18 sq. km area. A mild maritime climate.



Recife, Brazil

08° 07' S, 34° 55' W 10 m m.s.l.

Data: Radiosonde. 1200Z (1000 LST): 2/55 - 8/57
0000 and 1200Z (2200 and 1000 LST): 11/57 - 2/61

Temperature (°F): January 86/77; July 80/71

Mean Dewpoint (°F): January 71; July 69

Precipitation (inches): Annual 63.4; June 10.90; October, November 1.00

A seaport on the Atlantic Ocean near the easternmost point of South America. A humid tropical maritime climate with small seasonal temperature changes.