



# UNIVERSIDAD NACIONAL DE COLOMBIA SEDE MANIZALES

OBSERVATORIOS AMBIENTALES PARA EL DESARROLLO URBANO SOTENIBLE EN MANIZALES

RED DE ESTACIONES HIDROMETEOROLÓGICAS PARA PREVENCIÓN DE DESASTRES DE MANIZALES



## ESTACIÓN METEOROLÓGICA NIZA

CÓDIGO: EMM-12

JULIO DE 2011

### RESUMEN DIARIO Y MENSUAL DE VARIABLES METEOROLÓGICAS

Variables Día	Temperatura del Aire (°C)			V.V. (m/s)		P.B. (HPa)	Humedad Relativa (%)			LI. (mm)	Radiación Solar (W/m <sup>2</sup> )		ET. (mm)
	Máxima	Media	Mínima	Máxima	Media	Media	Máxima	Media	Mínima	Suma	Máxima	Media	Suma
1	21.4	16.3	13.3	3.1	0.7	784.0	96.0	89.6	77.0	1.0	1227.0	369.9	2.8
2	19.3	15.9	14.0	2.7	0.4	783.9	95.0	89.2	80.0	1.6	1218.0	203.7	1.5
3	22.1	17.4	13.7	3.6	0.8	783.2	92.0	84.4	68.0	0.0	1311.0	475.9	3.7
4	20.6	16.8	14.6	3.6	0.6	782.7	96.0	88.2	78.0	0.6	1269.0	265.1	2.0
5	22.3	17.4	14.2	3.1	0.6	783.2	92.0	84.0	71.0	0.0	1146.0	382.2	2.9
6	18.5	15.9	14.1	3.6	0.5	783.8	96.0	91.7	85.0	10.6	891.0	198.5	1.4
7	22.5	17.3	13.7	2.7	0.4	784.2	93.0	81.3	64.0	0.0	1194.0	374.2	3.0
8	22.7	18.0	14.5	3.6	0.7	781.9	95.0	81.3	63.0	0.0	1345.0	474.5	3.7
9	21.6	17.8	14.3	4.0	0.7	781.8	93.0	84.6	72.0	0.0	1194.0	283.8	2.3
10	21.8	17.7	15.1	3.6	0.8	782.0	93.0	85.8	71.0	0.0	1215.0	346.1	2.9
11	21.8	17.8	14.8	3.1	0.9	783.4	95.0	85.1	65.0	0.0	1202.0	358.6	2.8
12	19.1	16.3	14.3	4.0	0.7	784.4	96.0	90.6	77.0	2.2	1051.0	242.6	2.0
13	16.2	14.7	13.8	2.7	0.4	785.9	98.0	95.9	93.0	7.6	434.0	148.2	0.9
14	17.9	14.9	13.2	2.2	0.4	786.8	98.0	93.1	77.0	7.8	817.0	218.8	1.5
15	18.6	14.8	12.3	2.7	0.6	787.3	97.0	93.6	85.0	17.8	1269.0	262.4	1.9
16	21.4	16.3	12.9	3.1	0.7	785.5	96.0	89.8	75.0	1.4	1308.0	467.3	3.4
17	20.1	16.6	14.3	3.6	0.4	784.5	96.0	90.5	80.0	0.8	1132.0	303.1	2.2
18	21.5	17.0	14.9	2.7	0.5	784.4	96.0	88.6	66.0	2.8	1396.0	334.0	2.6
19	22.2	17.4	14.1	3.1	0.7	784.0	94.0	86.4	71.0	0.4	1218.0	399.3	3.3
20	21.7	17.7	14.9	3.6	0.6	783.4	90.0	82.3	67.0	0.2	1354.0	332.6	2.6
21	22.2	18.0	14.7	3.1	0.5	782.6	92.0	79.7	56.0	0.0	1039.0	423.1	3.3
22	23.2	18.3	15.2	3.1	0.7	782.1	94.0	81.2	60.0	0.0	1241.0	412.8	3.2
23	21.9	18.2	15.9	2.7	0.5	782.6	93.0	82.7	66.0	0.0	1035.0	295.4	2.4
24	21.7	18.1	15.6	4.0	0.6	783.1	89.0	77.0	64.0	0.0	1238.0	337.7	2.8
25	22.7	18.3	15.6	2.7	0.5	782.1	90.0	77.5	62.0	0.0	1238.0	329.7	3.0
26	22.3	17.8	15.1	4.0	0.6	781.4	95.0	84.7	69.0	0.0	1139.0	315.2	2.5
27	21.3	17.3	14.8	2.7	0.5	782.2	93.0	85.9	73.0	0.0	1042.0	245.0	2.0
28	19.6	16.0	14.1	3.1	0.4	783.3	96.0	91.6	76.0	11.0	970.0	215.8	1.6
29	16.6	14.1	12.8	3.1	0.5	785.4	97.0	95.5	91.0	18.4	909.0	168.0	1.1
30	19.3	15.0	12.6	2.7	0.4	786.2	97.0	92.7	74.0	7.8	705.0	274.7	1.9
31	20.0	15.8	13.7	2.7	0.4	785.2	96.0	89.5	77.0	0.8	1278.0	330.4	2.4
<b>Mensual</b>	<b>23.2</b>	<b>16.8</b>	<b>12.3</b>	<b>4.0</b>	<b>0.6</b>	<b>783.8</b>	<b>98.0</b>	<b>86.9</b>	<b>56.0</b>	<b>92.8</b>	<b>1396.0</b>	<b>315.8</b>	<b>75.4</b>

Convenciones: V.V.: Velocidad del Viento P.B.: Presión Barométrica LI.: Lluvia diaria ET.: Evapotranspiración. Nota: Datos resaltados en rojo están incompletos.



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**ESTACIÓN METEOROLÓGICA NIZA**

CÓDIGO: EMM-12

**JULIO DE 2011**

**JORNADA DIURNA - DIRECCIÓN DEL VIENTO SEGÚN LA ROSA DE LOS VIENTOS (Frecuencia relativa)**

Día	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSO	SO	OSO	O	ONO	NO	NNO
1	8%	0%	1%	0%	17%	0%	0%	0%	0%	1%	1%	3%	5%	16%	28%	21%
2	15%	1%	0%	0%	18%	1%	0%	3%	1%	1%	6%	3%	4%	8%	19%	19%
3	9%	0%	7%	1%	3%	5%	0%	0%	1%	1%	4%	9%	9%	13%	22%	17%
4	6%	2%	4%	14%	0%	3%	0%	0%	0%	1%	0%	10%	6%	10%	28%	15%
5	11%	0%	6%	3%	1%	3%	3%	0%	0%	3%	8%	7%	10%	10%	22%	14%
6	4%	0%	1%	1%	1%	6%	22%	2%	1%	1%	1%	2%	10%	9%	22%	17%
7	8%	0%	2%	0%	3%	12%	4%	4%	3%	1%	3%	6%	16%	9%	14%	7%
8	1%	0%	15%	2%	3%	0%	0%	0%	2%	2%	10%	12%	11%	13%	15%	15%
9	6%	1%	0%	3%	0%	6%	9%	0%	1%	1%	1%	6%	10%	15%	26%	16%
10	6%	9%	1%	1%	3%	7%	1%	1%	0%	1%	1%	6%	10%	11%	22%	21%
11	6%	1%	0%	1%	13%	5%	0%	0%	1%	1%	2%	5%	8%	18%	25%	15%
12	2%	0%	10%	0%	1%	2%	3%	8%	1%	1%	1%	8%	10%	13%	17%	24%
13	1%	1%	0%	0%	1%	14%	3%	4%	4%	0%	1%	4%	9%	14%	20%	24%
14	4%	1%	0%	27%	0%	2%	6%	4%	3%	3%	1%	6%	6%	10%	15%	11%
15	4%	2%	0%	0%	0%	0%	5%	9%	3%	0%	6%	1%	3%	14%	35%	18%
16	1%	2%	2%	1%	15%	0%	9%	1%	1%	0%	4%	2%	8%	10%	26%	18%
17	5%	3%	7%	6%	0%	1%	4%	3%	0%	3%	4%	6%	8%	11%	26%	13%
18	3%	3%	16%	0%	0%	0%	0%	0%	0%	1%	6%	6%	19%	8%	24%	14%
19	17%	1%	0%	0%	8%	0%	0%	5%	0%	5%	5%	6%	10%	14%	17%	12%
20	5%	1%	0%	1%	0%	18%	6%	10%	1%	3%	5%	6%	2%	8%	19%	16%
21	12%	0%	1%	0%	2%	3%	6%	7%	3%	4%	9%	10%	13%	12%	13%	6%
22	11%	9%	0%	1%	0%	4%	0%	0%	0%	2%	3%	3%	11%	14%	23%	19%
23	3%	2%	0%	0%	0%	0%	6%	14%	7%	9%	2%	8%	11%	12%	17%	9%
24	3%	0%	10%	1%	1%	4%	6%	10%	3%	6%	2%	9%	12%	11%	15%	8%
25	3%	8%	6%	5%	1%	1%	2%	6%	4%	5%	3%	3%	10%	11%	22%	12%
26	17%	0%	1%	0%	0%	0%	0%	0%	1%	0%	3%	8%	13%	19%	17%	19%
27	12%	2%	0%	0%	0%	0%	0%	19%	0%	1%	3%	5%	6%	9%	28%	15%
28	13%	0%	0%	0%	0%	1%	3%	8%	1%	6%	8%	8%	3%	18%	10%	19%
29	1%	1%	0%	0%	0%	1%	13%	1%	1%	3%	1%	3%	7%	32%	19%	17%
30	1%	0%	0%	4%	17%	0%	14%	7%	3%	6%	8%	7%	5%	3%	18%	7%
31	6%	0%	0%	2%	7%	8%	0%	7%	1%	1%	3%	5%	10%	10%	31%	11%
Mensual	7%	2%	3%	2%	4%	3%	4%	4%	2%	2%	4%	6%	9%	12%	21%	15%

DIRECCIÓN DEL VIENTO EN EL MES ORDENADA DE MAYOR A MENOR PREDOMINANCIA																
R. V.	NO	NNO	ONO	O	N	OSO	SE	SSE	SO	E	ESE	NE	SSO	ENE	S	NNE
F. R.	21%	15%	12%	9%	7%	6%	4%	4%	4%	4%	3%	3%	2%	2%	2%	2%

Convenciones: R. V.: Rosa de los Vientos F. R.: Frecuencia Relativa. Nota: Datos resaltados en rojo están incompletos.



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**JULIO DE 2011**

**JORNADA NOCTURNA - DIRECCIÓN DEL VIENTO SEGÚN LA ROSA DE LOS VIENTOS (Frecuencia relativa)**

DÍA	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSO	SO	OSO	O	ONO	NO	NNO
1	4%	38%	8%	3%	1%	24%	5%	1%	5%	0%	3%	1%	1%	1%	1%	4%
2	8%	17%	1%	15%	26%	28%	0%	0%	0%	0%	0%	0%	0%	0%	0%	5%
3	0%	22%	8%	32%	8%	3%	0%	0%	0%	0%	0%	1%	3%	1%	19%	3%
4	17%	0%	18%	18%	19%	14%	6%	0%	0%	0%	0%	0%	0%	0%	1%	8%
5	7%	27%	15%	0%	47%	0%	3%	0%	0%	0%	0%	0%	0%	0%	0%	0%
6	10%	8%	1%	17%	34%	0%	0%	13%	4%	0%	0%	0%	1%	0%	6%	6%
7	0%	6%	14%	13%	42%	6%	8%	9%	0%	0%	0%	0%	0%	0%	0%	3%
8	3%	1%	10%	6%	27%	11%	0%	31%	0%	0%	0%	0%	0%	0%	0%	12%
9	18%	5%	18%	8%	3%	30%	1%	0%	0%	0%	1%	0%	0%	0%	9%	8%
10	6%	11%	10%	22%	31%	6%	1%	0%	2%	0%	0%	0%	0%	0%	7%	5%
11	28%	1%	6%	1%	11%	18%	0%	0%	1%	0%	5%	0%	0%	5%	8%	16%
12	42%	1%	0%	0%	22%	0%	0%	0%	0%	0%	0%	0%	0%	3%	10%	22%
13	0%	5%	0%	9%	21%	10%	0%	0%	0%	15%	0%	15%	3%	4%	8%	10%
14	0%	3%	24%	9%	16%	1%	10%	1%	0%	0%	1%	4%	0%	0%	6%	24%
15	6%	19%	0%	0%	5%	5%	0%	8%	0%	0%	0%	6%	10%	8%	14%	19%
16	0%	0%	1%	30%	58%	10%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%
17	0%	0%	2%	0%	33%	15%	1%	0%	0%	8%	2%	0%	8%	22%	10%	1%
18	0%	21%	6%	22%	7%	19%	2%	2%	0%	1%	0%	0%	8%	0%	12%	0%
19	6%	19%	7%	12%	17%	22%	0%	0%	0%	0%	0%	4%	0%	3%	10%	1%
20	6%	11%	1%	1%	24%	43%	3%	6%	3%	0%	0%	0%	0%	0%	0%	0%
21	8%	0%	14%	3%	33%	19%	0%	5%	8%	1%	0%	0%	0%	2%	2%	6%
22	10%	2%	10%	2%	15%	40%	11%	0%	1%	1%	0%	0%	0%	1%	0%	8%
23	17%	4%	13%	8%	1%	22%	23%	0%	0%	0%	0%	0%	0%	0%	0%	13%
24	1%	6%	8%	6%	19%	49%	11%	0%	0%	0%	0%	0%	0%	0%	0%	0%
25	7%	8%	31%	6%	9%	15%	21%	0%	0%	0%	0%	0%	1%	0%	1%	1%
26	17%	13%	11%	0%	26%	2%	8%	0%	0%	0%	0%	1%	1%	1%	14%	6%
27	18%	8%	10%	2%	29%	3%	3%	15%	0%	0%	0%	0%	0%	0%	0%	12%
28	0%	0%	6%	0%	3%	0%	0%	8%	1%	1%	19%	1%	14%	43%	5%	0%
29	6%	12%	1%	3%	17%	17%	15%	2%	1%	8%	1%	7%	5%	3%	3%	0%
30	29%	19%	1%	14%	4%	0%	0%	1%	0%	0%	0%	0%	0%	0%	17%	14%
31	1%	0%	10%	68%	0%	1%	0%	1%	0%	0%	0%	0%	0%	8%	4%	6%
Mensual	9%	9%	9%	11%	20%	14%	4%	3%	1%	1%	1%	1%	2%	3%	5%	7%

DIRECCIÓN DEL VIENTO EN EL MES ORDENADA DE MAYOR A MENOR PREDOMINANCIA																
R. V.	E	ESE	ENE	NNE	N	NE	NNO	NO	SE	ONO	SSE	O	OSO	SSO	SO	S
F. R.	20%	14%	11%	9%	9%	9%	7%	5%	4%	3%	3%	2%	1%	1%	1%	1%

Convenciones: R. V.: Rosa de los Vientos F. R.: Frecuencia Relativa. Nota: Datos resaltados en rojo están incompletos.