



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 LA PALMA

CÓDIGO: EMM-09

NOVIEMBRE 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 ²)		ET. (mm)
	Máxima	Media	Mínima	Máxima	Media	Media	Máxima	Media	Mínima	Suma	Máxima	Media	Suma
1	24.6	19.5	15.8	2.2	0.2	812.1	94.0	83.7	63.0	0.0	1123.0	426.1	3.2
2	25.9	20.4	17.1	2.7	0.2	811.3	97.0	86.9	62.0	3.6	1206.0	403.1	3.1
3	22.4	19.2	17.0	4.5	0.3	812.2	98.0	94.5	82.0	22.8	738.0	283.1	2.0
4	24.2	19.5	16.0	4.5	0.3	812.2	98.0	89.3	73.0	20.6	1093.0	373.5	2.8
5	25.3	19.5	15.7	2.7	0.3	811.7	98.0	89.1	67.0	0.6	1109.0	449.5	3.6
6	23.2	19.0	16.5	2.2	0.2	812.2	98.0	92.3	80.0	18.6	1132.0	293.4	2.2
7	23.4	18.6	16.5	3.1	0.3	812.2	98.0	93.8	79.0	52.8	1143.0	359.2	2.5
8	18.2	17.0	15.9	2.2	0.2	814.2	98.0	97.8	96.0	14.0	234.0	118.9	0.8
9	22.3	18.2	15.4	1.3	0.1	813.8	98.0	94.1	81.0	1.8	1201.0	345.2	2.4
10	22.3	18.0	16.1	2.2	0.3	813.2	98.0	96.3	84.0	30.2	1350.0	288.2	2.1
11	19.3	17.2	15.8	1.8	0.1	814.1	98.0	97.5	95.0	10.4	564.0	153.5	1.1
12	17.4	16.2	15.3	2.7	0.3	815.6	98.0	97.8	95.0	26.0	274.0	99.5	0.7
13	20.7	17.3	14.5	1.8	0.1	814.8	98.0	96.0	79.0	0.8	1111.0	310.5	2.2
14	23.8	19.1	15.6	2.7	0.2	812.6	98.0	90.4	72.0	0.0	1148.0	387.3	2.9
15	23.4	18.7	16.1	5.4	0.3	812.1	98.0	90.4	75.0	4.2	1250.0	338.4	2.5
16	21.4	17.5	15.2	2.7	0.2	813.1	98.0	95.8	86.0	4.6	1158.0	300.3	2.2
17	22.0	17.7	14.9	2.2	0.2	813.3	98.0	95.0	81.0	12.4	1243.0	340.3	2.4
18	21.7	17.1	15.6	2.7	0.2	814.4	98.0	96.7	87.0	31.0	1109.0	285.6	2.0
19	24.1	18.3	14.3	2.2	0.2	814.3	98.0	88.7	59.0	2.4	1172.0	472.0	3.5
20	19.4	17.1	15.7	2.2	0.2	814.3	98.0	96.7	91.0	42.0	817.0	177.6	1.3
21	22.8	17.9	14.4	4.0	0.3	814.2	98.0	93.3	77.0	16.6	1079.0	417.1	3.0
22	20.6	17.2	15.6	2.7	0.3	814.8	98.0	96.4	90.0	29.8	1260.0	219.3	1.4
23	23.4	18.5	15.4	2.7	0.3	814.6	97.0	91.7	72.0	0.6	1109.0	380.9	2.7
24	19.2	16.8	15.1	2.2	0.2	815.9	99.0	97.8	96.0	15.6	540.0	162.8	1.1
25	22.0	18.1	14.9	2.2	0.1	814.1	98.0	92.5	75.0	0.0	1078.0	281.7	2.0
26	23.0	18.9	16.1	4.5	0.2	812.5	97.0	89.4	71.0	0.0	796.0	258.7	1.9
27	22.7	18.6	16.2	4.5	0.3	811.2	98.0	90.8	80.0	0.0	1202.0	318.0	2.3
28	22.1	18.1	15.8	2.2	0.3	812.1	99.0	92.9	79.0	18.8	875.0	351.5	2.5
29	19.3	16.7	15.7	3.1	0.3	814.4	99.0	96.9	88.0	7.2	575.0	168.7	1.1
30	23.2	17.8	15.6	4.5	0.3	813.6	98.0	95.7	81.0	37.0	1197.0	377.8	2.6
31													
Mensual	25.9	18.1	14.3	5.4	0.2	813.4	99.0	93.3	59.0	424.4	1350.0	304.7	66.2

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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CÓDIGO: EMM-09

NOVIEMBRE 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%	1%	2%	1%	1%	0%	0%	0%	0%	1%	23%	26%	6%	6%	8%	17%
2	8%	3%	1%	0%	0%	1%	0%	1%	3%	1%	9%	16%	26%	10%	15%	6%
3	3%	1%	0%	4%	1%	25%	1%	10%	5%	4%	10%	9%	6%	8%	6%	8%
4	8%	3%	0%	0%	0%	10%	2%	4%	4%	7%	5%	13%	14%	11%	10%	9%
5	5%	1%	1%	0%	1%	1%	8%	8%	1%	1%	6%	14%	14%	13%	12%	17%
6	8%	3%	0%	1%	0%	4%	2%	13%	1%	12%	10%	13%	6%	11%	6%	9%
7	6%	1%	1%	1%	3%	1%	5%	15%	6%	10%	13%	8%	15%	4%	3%	8%
8	0%	11%	0%	0%	0%	1%	4%	7%	18%	9%	18%	17%	8%	6%	0%	0%
9	24%	7%	1%	0%	1%	0%	0%	0%	0%	16%	1%	6%	2%	13%	10%	20%
10	6%	1%	0%	3%	1%	1%	1%	6%	11%	6%	13%	15%	14%	9%	8%	3%
11	1%	0%	4%	2%	0%	0%	12%	7%	5%	8%	17%	18%	13%	10%	3%	1%
12	1%	0%	0%	3%	1%	1%	3%	3%	10%	7%	34%	15%	15%	5%	1%	0%
13	14%	4%	0%	2%	3%	13%	0%	1%	1%	0%	26%	14%	4%	6%	5%	7%
14	0%	3%	1%	1%	1%	2%	1%	0%	15%	4%	5%	21%	26%	4%	8%	9%
15	6%	1%	0%	2%	4%	1%	5%	12%	24%	3%	9%	9%	8%	4%	5%	8%
16	3%	1%	0%	1%	3%	1%	28%	13%	4%	3%	6%	7%	9%	6%	10%	4%
17	8%	1%	1%	0%	1%	10%	11%	2%	2%	8%	3%	10%	8%	15%	8%	11%
18	10%	14%	0%	1%	3%	6%	5%	7%	4%	0%	9%	6%	4%	9%	12%	11%
19	8%	4%	0%	0%	1%	0%	1%	1%	1%	1%	22%	8%	8%	16%	11%	17%
20	8%	0%	3%	0%	1%	3%	3%	7%	6%	2%	26%	26%	8%	1%	2%	5%
21	13%	8%	0%	0%	1%	6%	0%	1%	0%	8%	3%	13%	10%	8%	17%	13%
22	4%	0%	0%	0%	6%	3%	8%	10%	13%	6%	7%	9%	8%	7%	14%	6%
23	8%	1%	1%	5%	1%	6%	0%	18%	1%	1%	7%	4%	8%	13%	13%	13%
24	1%	1%	0%	0%	0%	0%	1%	24%	7%	6%	17%	10%	16%	10%	3%	4%
25	3%	0%	0%	0%	0%	0%	1%	1%	15%	1%	21%	30%	9%	6%	6%	8%
26	6%	4%	1%	3%	0%	3%	6%	13%	2%	1%	1%	6%	6%	8%	28%	11%
27	5%	2%	1%	0%	1%	4%	6%	23%	8%	4%	3%	11%	6%	6%	3%	15%
28	2%	1%	1%	1%	1%	1%	13%	1%	10%	6%	6%	7%	22%	11%	10%	6%
29	3%	0%	0%	2%	6%	6%	3%	6%	4%	24%	10%	8%	13%	8%	4%	3%
30	3%	1%	1%	0%	1%	1%	1%	1%	8%	10%	22%	12%	17%	7%	8%	8%
31																
Mensual	6%	3%	1%	1%	1%	4%	4%	7%	6%	6%	12%	13%	11%	8%	8%	9%

DIRECCIÓN DEL VIENTO EN EL MES ORDENADA DE MAYOR A MENOR PREDOMINANCIA																
R. V.	OSO	SO	O	NNO	ONO	NO	SSE	S	N	SSO	SE	ESE	NNE	E	ENE	NE
F. R.	13%	12%	11%	9%	8%	8%	7%	6%	6%	6%	4%	4%	3%	1%	1%	1%

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



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NOVIEMBRE 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	0%	0%	0%	0%	0%	0%	0%	44%	4%	1%	8%	1%	41%	0%	0%	0%
2	0%	0%	0%	0%	1%	12%	1%	1%	35%	1%	6%	8%	33%	1%	1%	1%
3	0%	0%	0%	4%	3%	7%	7%	3%	33%	1%	8%	7%	1%	3%	22%	0%
4	0%	0%	0%	1%	2%	3%	4%	26%	3%	26%	8%	25%	2%	1%	0%	0%
5	0%	0%	0%	0%	0%	1%	16%	56%	1%	6%	6%	6%	10%	0%	0%	0%
6	0%	0%	0%	7%	3%	0%	1%	31%	38%	2%	12%	7%	0%	0%	0%	0%
7	0%	0%	0%	0%	0%	0%	0%	37%	8%	2%	4%	48%	0%	1%	0%	0%
8	0%	0%	0%	0%	0%	0%	1%	5%	33%	3%	3%	54%	1%	0%	0%	0%
9	0%	0%	0%	0%	0%	0%	0%	6%	35%	35%	0%	0%	0%	24%	0%	0%
10	0%	0%	14%	1%	1%	25%	18%	8%	0%	33%	0%	0%	0%	0%	0%	0%
11	0%	0%	0%	6%	0%	1%	0%	0%	1%	5%	64%	23%	1%	0%	0%	0%
12	0%	0%	0%	0%	1%	34%	2%	4%	6%	1%	33%	15%	3%	0%	0%	0%
13	0%	0%	0%	0%	0%	50%	0%	0%	41%	0%	5%	1%	3%	0%	0%	0%
14	0%	0%	0%	0%	0%	0%	0%	0%	50%	0%	31%	19%	0%	0%	0%	0%
15	0%	0%	0%	0%	0%	0%	1%	25%	0%	7%	22%	12%	34%	0%	0%	0%
16	0%	0%	0%	0%	0%	1%	36%	3%	1%	10%	0%	38%	4%	6%	1%	0%
17	1%	1%	0%	0%	16%	3%	5%	40%	3%	13%	3%	14%	0%	0%	1%	1%
18	1%	0%	1%	0%	1%	9%	1%	5%	53%	0%	24%	3%	2%	0%	1%	1%
19	0%	0%	0%	0%	0%	1%	3%	13%	19%	9%	22%	8%	10%	8%	6%	1%
20	0%	0%	0%	0%	0%	0%	0%	5%	4%	18%	2%	20%	50%	1%	0%	0%
21	0%	0%	0%	0%	0%	0%	3%	15%	17%	12%	2%	51%	1%	0%	0%	0%
22	0%	0%	0%	0%	0%	1%	1%	54%	2%	3%	0%	1%	1%	38%	0%	0%
23	0%	0%	0%	0%	0%	0%	0%	25%	32%	15%	28%	1%	0%	0%	0%	0%
24	0%	0%	0%	0%	0%	0%	4%	18%	5%	54%	1%	7%	11%	0%	0%	0%
25	0%	0%	0%	0%	0%	0%	0%	0%	0%	47%	3%	50%	0%	0%	0%	0%
26	0%	0%	0%	0%	0%	0%	1%	22%	45%	27%	0%	4%	0%	0%	1%	0%
27	0%	0%	0%	0%	0%	0%	0%	42%	6%	48%	3%	1%	0%	0%	0%	0%
28	1%	1%	1%	3%	12%	12%	8%	13%	3%	1%	28%	1%	16%	0%	0%	1%
29	0%	0%	0%	0%	0%	0%	31%	10%	40%	19%	1%	0%	0%	0%	0%	0%
30	0%	0%	0%	0%	0%	0%	1%	36%	11%	0%	10%	28%	1%	0%	8%	5%
31																
Mensual	0%	0%	1%	1%	1%	5%	5%	18%	18%	13%	11%	15%	8%	3%	1%	0%

DIRECCIÓN DEL VIENTO EN EL MES ORDENADA DE MAYOR A MENOR PREDOMINANCIA																
R. V.	SSE	S	OSO	SSO	SO	O	ESE	SE	ONO	E	NO	ENE	NE	NNO	N	NNE
F. R.	18%	18%	15%	13%	11%	8%	5%	5%	3%	1%	1%	1%	1%	0%	0%	0%

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