



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 ALCÁZARES

CÓDIGO: EMM-13

ENERO 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	22.6	18.1	14.4	4.0	1.2	803.3	90.0	76.5	54.0	0.0	1099.0	533.1	4.1
2	22.6	17.9	15.2	4.5	1.0	802.6	93.0	81.6	64.0	0.0	1141.0	551.2	4.0
3	20.6	16.8	13.5	5.4	1.1	802.5	94.0	82.1	70.0	6.8	1232.0	277.8	2.3
4	16.3	14.6	13.4	4.5	0.9	804.7	98.0	94.1	87.0	61.4	258.0	106.3	0.7
5	19.1	15.6	13.6	4.5	1.1	805.7	95.0	88.6	76.0	4.4	944.0	207.2	1.6
6	19.9	16.6	14.1	3.6	1.2	804.6	93.0	84.0	70.0	0.0	1074.0	259.9	2.0
7	19.3	16.3	13.7	4.0	1.2	804.2	95.0	86.9	74.0	0.0	912.0	223.9	1.7
8	19.4	16.5	14.6	4.0	0.8	803.4	94.0	88.4	77.0	0.0	1238.0	238.9	1.7
9	19.3	16.4	14.8	2.7	0.5	803.4	95.0	89.7	79.0	0.4	541.0	177.4	1.2
10	20.7	16.9	14.5	3.6	0.6	803.7	98.0	89.9	74.0	0.0	1220.0	216.1	1.6
11	22.9	18.5	14.8	4.0	1.3	803.0	92.0	80.2	61.0	0.0	1178.0	418.3	3.4
12	22.7	18.6	15.3	3.6	0.9	801.4	94.0	83.5	66.0	0.0	1035.0	347.7	2.8
13	21.1	17.7	15.8	3.6	0.9	802.2	96.0	88.3	80.0	0.0	1153.0	236.7	1.8
14	22.7	18.1	15.3	4.0	1.1	802.8	95.0	83.1	66.0	0.0	1067.0	334.8	2.6
15	23.3	18.3	16.1	4.5	1.1	802.5	88.0	80.6	64.0	0.8	1085.0	318.1	2.5
16	21.7	17.5	15.1	4.5	1.6	802.8	94.0	84.0	72.0	13.8	1097.0	349.5	2.7
17	22.8	18.2	15.1	3.6	1.2	803.0	94.0	80.9	65.0	0.0	1150.0	406.4	3.2
18	21.8	17.9	15.2	3.6	1.0	803.2	95.0	85.4	75.0	0.0	1137.0	283.2	2.3
19	22.5	18.0	15.2	4.0	1.0	804.0	93.0	83.2	65.0	0.0	1153.0	357.7	2.8
20	22.9	17.8	14.6	4.5	1.1	803.4	95.0	83.1	60.0	2.2	1118.0	441.5	3.4
21	22.7	18.0	14.6	4.0	1.3	802.7	87.0	77.6	63.0	0.0	1041.0	411.5	3.5
22	22.9	18.1	14.3	4.9	1.6	802.4	94.0	74.8	48.0	2.6	1085.0	526.0	4.1
23	23.2	18.2	14.4	4.9	1.6	802.1	89.0	71.4	43.0	0.0	1183.0	489.7	3.9
24	23.2	18.2	14.6	4.9	1.4	802.6	88.0	70.2	49.0	0.0	947.0	457.3	3.8
25	21.6	17.9	14.3	3.6	1.5	802.2	83.0	74.5	64.0	0.0	935.0	398.7	3.2
26	21.9	17.2	15.3	4.9	1.3	802.9	91.0	79.7	64.0	0.0	1141.0	290.8	2.3
27	21.4	17.0	13.7	4.9	0.8	804.4	95.0	83.7	67.0	0.0	888.0	333.4	2.6
28	22.3	17.6	14.6	5.4	0.8	804.4	94.0	80.6	56.0	0.0	1013.0	440.8	3.4
29	22.1	17.2	14.5	3.6	1.0	805.3	97.0	84.1	62.0	0.0	1090.0	308.5	2.5
30	20.2	17.3	14.2	4.0	1.4	805.8	85.0	78.4	73.0	0.0	810.0	255.5	2.2
31	22.3	18.0	15.1	3.6	1.2	805.3	89.0	79.8	67.0	0.0	1120.0	341.1	2.9
MENSUAL	23.3	17.4	13.4	5.4	1.1	803.4	98.0	82.2	43.0	92.4	1238.0	340.0	82.9

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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ENERO 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	6%	1%	0%	0%	0%	9%	5%	1%	0%	0%	3%	2%	18%	28%	17%	10%
2	3%	0%	0%	0%	0%	0%	6%	6%	3%	1%	3%	6%	21%	28%	17%	5%
3	10%	3%	1%	1%	0%	0%	3%	13%	0%	0%	2%	7%	15%	22%	14%	8%
4	6%	1%	1%	0%	0%	1%	2%	1%	7%	7%	19%	10%	17%	11%	12%	6%
5	1%	0%	0%	0%	13%	6%	12%	7%	4%	9%	1%	5%	3%	29%	8%	2%
6	2%	1%	0%	0%	0%	3%	6%	11%	0%	6%	3%	3%	27%	22%	7%	10%
7	14%	3%	0%	1%	2%	2%	6%	8%	1%	1%	0%	1%	10%	33%	10%	9%
8	1%	0%	0%	0%	0%	10%	3%	3%	1%	3%	1%	3%	30%	27%	14%	3%
9	2%	0%	2%	0%	0%	0%	0%	8%	3%	13%	6%	5%	11%	31%	12%	7%
10	2%	1%	0%	0%	0%	0%	0%	0%	6%	5%	0%	6%	20%	38%	15%	9%
11	0%	0%	1%	3%	1%	0%	5%	6%	2%	3%	8%	9%	20%	25%	8%	10%
12	5%	3%	1%	0%	0%	1%	4%	8%	0%	1%	6%	8%	15%	24%	16%	10%
13	6%	1%	8%	1%	3%	3%	4%	6%	6%	1%	3%	1%	13%	20%	15%	10%
14	6%	1%	0%	0%	0%	0%	0%	0%	0%	1%	2%	15%	8%	25%	28%	15%
15	10%	3%	1%	0%	0%	0%	10%	2%	0%	1%	1%	8%	15%	19%	16%	13%
16	1%	3%	0%	3%	3%	1%	2%	10%	3%	7%	1%	8%	21%	19%	13%	7%
17	5%	1%	0%	0%	3%	3%	6%	1%	0%	1%	1%	7%	18%	23%	18%	12%
18	8%	2%	1%	0%	0%	0%	3%	11%	3%	0%	1%	3%	18%	22%	17%	10%
19	6%	3%	0%	0%	0%	1%	3%	10%	0%	2%	0%	8%	8%	24%	25%	10%
20	5%	1%	0%	0%	0%	0%	9%	8%	1%	0%	2%	4%	12%	29%	17%	13%
21	10%	1%	1%	0%	0%	0%	8%	8%	1%	3%	5%	6%	13%	26%	10%	8%
22	9%	1%	0%	1%	0%	0%	7%	10%	5%	1%	6%	6%	17%	20%	9%	8%
23	7%	1%	0%	0%	0%	0%	7%	10%	2%	1%	2%	6%	15%	25%	16%	10%
24	4%	1%	1%	1%	1%	1%	8%	5%	2%	1%	3%	8%	17%	32%	12%	5%
25	8%	1%	1%	3%	0%	0%	5%	9%	2%	1%	6%	3%	25%	21%	10%	4%
26	3%	1%	1%	1%	0%	2%	9%	13%	13%	3%	7%	6%	9%	16%	8%	8%
27	1%	0%	0%	0%	0%	1%	1%	5%	6%	1%	3%	8%	24%	23%	21%	6%
28	5%	3%	0%	0%	0%	0%	1%	1%	18%	0%	4%	9%	10%	28%	15%	6%
29	1%	2%	0%	0%	0%	0%	0%	0%	0%	0%	1%	4%	11%	49%	17%	15%
30	3%	1%	3%	0%	1%	1%	12%	4%	2%	0%	1%	5%	17%	24%	18%	8%
31	7%	1%	0%	0%	1%	1%	3%	2%	3%	1%	10%	3%	16%	20%	16%	16%
MENSUAL	5%	1%	1%	0%	1%	1%	5%	6%	3%	2%	4%	6%	16%	25%	15%	9%

DIRECCIÓN DEL VIENTO EN EL MES ORDENADA DE MAYOR A MENOR PREDOMINANCIA																
R. V.	ONO	O	NO	NNO	SSE	OSO	N	SE	SO	S	SSO	ESE	NNE	E	NE	ENE
F. R.	25%	16%	15%	9%	6%	6%	5%	5%	4%	3%	2%	1%	1%	1%	1%	0%

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



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ENERO 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%	1%	0%	3%	6%	28%	35%	3%	0%	0%	7%	0%	11%	4%	1%
2	0%	11%	0%	6%	1%	3%	17%	8%	3%	9%	3%	0%	0%	10%	28%	1%
3	1%	1%	0%	0%	3%	3%	23%	31%	14%	6%	0%	0%	3%	10%	0%	3%
4	1%	1%	0%	1%	6%	6%	27%	22%	10%	2%	15%	1%	4%	1%	1%	2%
5	0%	0%	0%	0%	15%	6%	39%	22%	17%	0%	0%	0%	0%	0%	0%	0%
6	0%	0%	0%	0%	0%	3%	46%	26%	14%	0%	0%	0%	0%	0%	0%	11%
7	0%	0%	8%	0%	0%	3%	33%	24%	21%	1%	3%	1%	3%	3%	0%	0%
8	1%	0%	3%	1%	2%	1%	13%	59%	8%	2%	0%	0%	8%	0%	2%	0%
9	9%	1%	0%	0%	24%	3%	19%	22%	3%	13%	0%	2%	1%	2%	0%	0%
10	0%	0%	1%	2%	21%	3%	11%	8%	19%	1%	11%	6%	15%	0%	0%	0%
11	1%	2%	1%	0%	5%	15%	24%	37%	0%	0%	0%	4%	2%	9%	0%	0%
12	1%	33%	8%	0%	4%	8%	14%	8%	1%	4%	0%	0%	11%	4%	1%	5%
13	0%	0%	0%	0%	3%	16%	14%	12%	8%	6%	5%	6%	31%	0%	0%	0%
14	0%	0%	1%	1%	2%	17%	25%	27%	5%	1%	0%	1%	4%	0%	10%	6%
15	0%	0%	0%	0%	0%	0%	21%	38%	6%	2%	0%	0%	0%	0%	33%	0%
16	0%	0%	0%	0%	1%	5%	43%	31%	10%	10%	0%	0%	0%	0%	0%	0%
17	0%	0%	0%	0%	1%	8%	23%	49%	1%	1%	0%	0%	17%	0%	0%	0%
18	0%	0%	1%	0%	3%	10%	10%	8%	14%	1%	1%	4%	3%	1%	30%	13%
19	3%	0%	7%	10%	1%	18%	11%	18%	13%	2%	4%	1%	0%	0%	8%	3%
20	3%	0%	3%	3%	8%	3%	7%	6%	6%	5%	17%	8%	17%	3%	0%	9%
21	20%	0%	0%	5%	0%	1%	13%	38%	11%	4%	1%	0%	0%	0%	6%	1%
22	0%	0%	0%	0%	0%	6%	24%	31%	6%	1%	3%	2%	5%	17%	5%	0%
23	0%	0%	2%	8%	6%	2%	26%	42%	3%	4%	1%	3%	0%	3%	0%	0%
24	0%	0%	0%	0%	1%	8%	32%	41%	8%	1%	0%	6%	0%	3%	0%	0%
25	0%	0%	0%	0%	4%	1%	38%	33%	6%	1%	4%	0%	0%	13%	0%	0%
26	0%	0%	6%	0%	1%	1%	49%	27%	6%	1%	0%	0%	0%	0%	9%	0%
27	3%	1%	2%	12%	10%	6%	6%	6%	11%	6%	0%	8%	3%	13%	9%	4%
28	0%	32%	0%	1%	2%	1%	6%	13%	22%	0%	0%	1%	0%	14%	0%	8%
29	2%	1%	0%	0%	0%	0%	23%	16%	5%	4%	1%	3%	2%	30%	1%	11%
30	0%	0%	0%	0%	0%	0%	27%	49%	12%	1%	0%	0%	0%	0%	10%	0%
31	0%	0%	0%	0%	0%	1%	33%	30%	22%	1%	0%	0%	4%	10%	1%	0%
MENSUAL	1%	3%	1%	2%	4%	5%	23%	26%	9%	3%	2%	2%	4%	5%	5%	3%

DIRECCIÓN DEL VIENTO EN EL MES ORDENADA DE MAYOR A MENOR PREDOMINANCIA																
R. V.	SSE	SE	S	ESE	NO	ONO	O	E	SSO	NNE	NNO	SO	OSO	ENE	NE	N
F. R.	26%	23%	9%	5%	5%	5%	4%	4%	3%	3%	3%	2%	2%	2%	1%	1%

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