



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 YARUMOS

CÓDIGO: EMM-05

DICIEMBRE 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	20.2	14.4	11.7	2.7	0.5	794.1	98.0	93.1	76.0	19.1	1299.0	242.6	1.3
2	23.1	15.4	11.2	4.0	0.7	793.8	97.0	87.7	62.0	8.1	1120.0	320.7	2.0
3	20.7	15.1	11.8	3.6	1.0	794.2	97.0	92.7	74.0	9.9	1300.0	309.5	1.8
4	17.7	14.5	12.2	3.6	1.0	794.6	98.0	95.8	91.0	17.5	654.0	154.1	1.0
5	21.9	14.9	12.6	3.6	0.9	794.9	98.0	96.5	88.0	46.6	1240.0	293.0	1.8
6	16.2	13.8	12.4	4.5	0.3	793.3	98.0	94.1	87.0	14.0	446.0	136.1	0.8
7	17.5	13.8	12.2	3.1	0.3	793.9	97.0	92.9	80.0	20.1	552.0	181.2	1.0
8	19.3	14.5	11.6	1.8	0.1	794.0	98.0	90.5	70.0	1.0	404.0	187.4	1.0
9	23.0	16.3	12.1	4.0	0.7	794.0	96.0	84.5	60.0	0.3	1121.0	403.1	3.1
10	23.9	16.3	11.4	3.6	0.7	794.3	97.0	84.2	60.0	1.8	1145.0	366.0	2.3
11	22.0	15.5	12.9	2.7	0.3	794.5	97.0	86.8	63.0	0.3	1157.0	282.4	1.8
12	18.5	15.0	13.1	3.1	0.2	794.7	96.0	88.8	72.0	2.0	582.0	195.7	1.3
13	18.9	15.2	13.2	2.2	0.1	794.6	97.0	90.0	75.0	5.3	443.0	167.8	1.0
14	18.4	14.5	12.7	3.6	0.3	794.5	97.0	92.5	74.0	16.5	547.0	195.3	1.0
15	18.5	14.3	12.6	3.6	0.4	794.2	97.0	93.0	77.0	17.3	483.0	186.9	1.0
16	16.7	14.1	12.8	3.6	0.2	794.4	98.0	95.3	86.0	40.1	457.0	147.3	1.0
17	22.9	14.8	12.3	4.5	0.6	794.4	98.0	90.5	63.0	4.6	1005.0	238.1	1.3
18	21.2	15.0	12.3	3.6	0.6	794.5	97.0	90.1	67.0	9.2	800.0	230.1	1.3
19	19.4	14.2	12.5	3.1	0.4	794.4	97.0	93.5	76.0	27.7	986.0	183.5	1.3
20	22.1	15.4	12.0	3.6	0.8	793.9	98.0	86.1	60.0	0.0	1182.0	347.8	2.3
21	23.1	16.0	11.7	4.5	1.3	793.8	96.0	83.9	61.0	0.0	1109.0	366.3	2.5
22	24.7	17.1	11.5	4.5	1.3	794.4	95.0	79.6	51.0	0.0	1110.0	544.9	4.1
23	22.3	17.0	13.1	4.5	1.0	795.0	94.0	81.7	62.0	0.5	1165.0	339.0	2.5
24	21.4	16.7	13.1	3.6	0.6	795.2	96.0	85.6	67.0	0.3	1182.0	264.0	2.0
25	24.0	16.8	12.4	3.6	0.9	795.3	96.0	82.2	57.0	0.0	1271.0	294.5	2.3
26	26.1	16.6	13.5	4.9	0.7	795.2	94.0	83.5	50.0	1.8	1164.0	274.1	2.0
27	22.6	16.9	13.5	3.6	0.9	795.3	94.0	82.1	61.0	0.0	1153.0	279.6	2.3
28	24.7	17.0	12.6	3.6	1.1	795.5	95.0	81.5	52.0	0.0	1102.0	313.7	2.5
29	21.9	15.9	12.8	3.6	1.1	795.0	95.0	84.8	63.0	1.8	1086.0	247.8	2.0
30	21.7	15.9	13.2	3.1	0.7	794.7	96.0	87.2	67.0	4.3	1089.0	295.1	2.0
31	24.4	17.2	12.4	4.5	1.3	794.4	95.0	79.7	53.0	0.3	1104.0	448.8	3.3
Mensual	26.1	15.5	11.2	4.9	0.7	794.5	98.0	88.1	50.0	270.1	1300.0	272.1	56.9

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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CÓDIGO: EMM-05

DICIEMBRE 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%	1%	2%	33%	0%	0%	0%	0%	0%	0%	0%	1%	20%	24%	10%
2	8%	1%	0%	9%	20%	8%	0%	0%	0%	0%	0%	0%	2%	10%	17%	25%
3	4%	0%	0%	5%	31%	6%	1%	1%	3%	3%	1%	1%	1%	9%	26%	8%
4	0%	3%	0%	6%	38%	6%	1%	0%	0%	0%	2%	1%	6%	8%	17%	10%
5	0%	0%	0%	1%	17%	0%	0%	0%	0%	1%	0%	2%	10%	26%	24%	18%
6	0%	0%	3%	14%	19%	23%	2%	0%	0%	0%	0%	3%	1%	17%	8%	8%
7	6%	0%	0%	1%	39%	3%	1%	2%	1%	0%	0%	0%	1%	10%	25%	12%
8	0%	0%	1%	3%	28%	1%	1%	0%	0%	0%	0%	0%	1%	13%	26%	26%
9	3%	0%	0%	1%	18%	3%	1%	1%	0%	1%	1%	3%	4%	17%	33%	15%
10	6%	0%	0%	1%	8%	2%	9%	0%	0%	0%	1%	1%	2%	17%	32%	22%
11	5%	0%	0%	1%	31%	0%	1%	1%	6%	0%	0%	3%	2%	13%	13%	25%
12	1%	0%	0%	0%	15%	0%	8%	0%	0%	0%	0%	13%	3%	18%	30%	13%
13	10%	0%	0%	5%	15%	0%	0%	0%	0%	0%	0%	1%	4%	15%	35%	15%
14	7%	0%	0%	4%	26%	1%	0%	0%	0%	0%	0%	0%	2%	15%	12%	32%
15	1%	0%	0%	0%	40%	0%	1%	0%	0%	0%	1%	0%	3%	21%	22%	10%
16	1%	0%	0%	27%	0%	0%	0%	0%	0%	16%	1%	2%	6%	28%	12%	8%
17	1%	0%	0%	3%	30%	4%	0%	0%	0%	0%	0%	1%	3%	19%	24%	15%
18	0%	0%	0%	7%	25%	0%	0%	0%	0%	0%	0%	1%	2%	22%	22%	22%
19	0%	0%	0%	1%	35%	0%	3%	0%	0%	1%	0%	0%	1%	8%	33%	18%
20	6%	0%	0%	0%	19%	0%	1%	0%	0%	0%	1%	2%	8%	36%	16%	12%
21	1%	0%	1%	0%	22%	5%	0%	0%	0%	0%	0%	8%	8%	24%	19%	13%
22	3%	0%	0%	1%	14%	1%	1%	1%	0%	0%	1%	4%	7%	24%	23%	19%
23	7%	1%	1%	0%	26%	0%	0%	0%	0%	0%	0%	1%	6%	18%	17%	23%
24	10%	1%	0%	3%	19%	0%	0%	0%	0%	0%	0%	1%	5%	19%	19%	23%
25	4%	0%	1%	0%	11%	8%	0%	0%	0%	0%	0%	0%	0%	12%	33%	31%
26	6%	1%	5%	1%	22%	3%	0%	5%	1%	8%	3%	10%	0%	3%	18%	15%
27	3%	0%	0%	11%	10%	0%	1%	0%	0%	0%	0%	0%	1%	17%	24%	33%
28	2%	0%	0%	0%	24%	0%	0%	0%	0%	0%	1%	2%	2%	22%	29%	18%
29	1%	0%	0%	11%	26%	2%	3%	0%	0%	0%	0%	0%	3%	6%	17%	31%
30	4%	1%	3%	15%	10%	0%	0%	0%	0%	0%	1%	1%	2%	17%	28%	17%
31	1%	0%	0%	0%	11%	3%	4%	0%	0%	0%	0%	1%	2%	22%	40%	17%
Mensual	3%	0%	1%	4%	22%	3%	1%	0%	0%	1%	0%	2%	3%	17%	23%	18%

DIRECCIÓN DEL VIENTO EN EL MES ORDENADA DE MAYOR A MENOR PREDOMINANCIA																
R. V.	NO	E	NNO	ONO	ENE	N	O	ESE	OSO	SE	SSO	NE	SO	S	SSE	NNE
F. R.	23%	22%	18%	17%	4%	3%	3%	3%	2%	1%	1%	1%	0%	0%	0%	0%

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



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DICIEMBRE 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%	2%	98%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
2	0%	0%	1%	30%	69%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
3	0%	0%	0%	3%	96%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
4	0%	0%	8%	14%	78%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
5	0%	0%	3%	22%	58%	5%	1%	0%	0%	3%	2%	0%	1%	0%	2%	4%
6	0%	0%	0%	30%	50%	20%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
7	0%	0%	0%	0%	99%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
8	0%	0%	0%	20%	68%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	12%
9	0%	0%	0%	1%	87%	1%	0%	0%	0%	0%	0%	0%	0%	0%	10%	0%
10	1%	0%	0%	0%	35%	15%	6%	4%	5%	0%	0%	0%	0%	20%	1%	12%
11	3%	0%	2%	10%	78%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	5%
12	0%	0%	0%	10%	67%	1%	22%	0%	0%	0%	0%	0%	0%	0%	0%	0%
13	12%	0%	0%	6%	44%	19%	0%	0%	0%	1%	0%	0%	1%	5%	6%	8%
14	0%	0%	0%	19%	56%	0%	0%	0%	0%	0%	0%	0%	0%	24%	1%	0%
15	0%	34%	0%	0%	63%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	3%
16	0%	28%	8%	40%	0%	0%	0%	0%	0%	2%	0%	0%	1%	1%	20%	0%
17	0%	0%	0%	51%	49%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
18	0%	0%	0%	3%	97%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
19	0%	0%	0%	1%	99%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
20	0%	0%	0%	5%	92%	0%	3%	0%	0%	0%	0%	0%	0%	0%	0%	0%
21	0%	0%	0%	13%	85%	3%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
22	0%	0%	1%	3%	87%	2%	0%	0%	0%	0%	0%	0%	0%	0%	8%	0%
23	0%	6%	0%	1%	65%	20%	0%	1%	0%	0%	0%	0%	0%	6%	1%	0%
24	0%	0%	0%	1%	72%	0%	0%	0%	0%	0%	0%	0%	0%	0%	28%	0%
25	0%	0%	1%	23%	52%	2%	0%	0%	0%	0%	0%	0%	0%	15%	3%	5%
26	1%	0%	0%	5%	86%	8%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
27	7%	0%	5%	12%	65%	2%	0%	0%	0%	0%	0%	0%	0%	0%	3%	7%
28	0%	0%	0%	2%	82%	3%	0%	0%	0%	0%	0%	0%	0%	0%	2%	10%
29	0%	0%	0%	3%	91%	6%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%
30	0%	0%	0%	7%	87%	3%	1%	2%	0%	0%	0%	0%	0%	0%	0%	0%
31	0%	0%	0%	0%	95%	2%	0%	0%	0%	0%	0%	0%	0%	1%	2%	0%
Mensual	1%	2%	1%	11%	72%	4%	1%	0%	0%	0%	0%	0%	0%	2%	3%	2%

DIRECCIÓN DEL VIENTO EN EL MES ORDENADA DE MAYOR A MENOR PREDOMINANCIA																
R. V.	E	ENE	ESE	NO	ONO	NNE	NNO	SE	NE	N	SSE	SSO	S	O	SO	OSO
F. R.	72%	11%	4%	3%	2%	2%	2%	1%	1%	1%	0%	0%	0%	0%	0%	0%

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