



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

SEPTIEMBRE 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	26.8	17.8	12.6	4.0	1.4	794.8	88.0	65.6	33.0	0.0	952.0	415.4	3.6
2	24.6	16.5	10.9	3.6	1.2	794.4	92.0	71.2	39.0	0.0	1290.0	397.1	3.3
3	22.1	15.1	10.9	3.6	0.9	794.0	94.0	81.5	58.0	2.3	1036.0	229.8	1.8
4	25.3	15.6	10.6	3.1	1.1	793.3	95.0	77.9	48.0	1.0	1188.0	273.4	2.3
5	25.9	17.0	10.1	4.0	1.6	793.3	94.0	71.3	39.0	0.0	1285.0	514.1	4.3
6	25.7	16.6	11.6	3.6	1.0	793.8	94.0	76.9	41.0	0.0	1295.0	361.5	2.8
7	24.2	16.1	12.3	4.9	0.6	794.0	94.0	81.6	55.0	2.8	1171.0	292.5	2.3
8	20.7	14.6	12.1	6.3	0.7	794.0	95.0	87.8	66.0	25.9	863.0	247.9	1.5
9	26.7	16.1	11.3	4.5	0.8	793.1	95.0	77.5	43.0	27.2	930.0	389.0	2.8
10	26.3	16.1	10.9	5.8	1.1	793.0	97.0	82.4	49.0	34.5	1210.0	548.6	3.6
11	26.2	15.6	11.8	3.1	0.6	793.5	97.0	84.8	50.0	3.3	756.0	274.6	2.0
12	27.3	16.5	12.8	3.1	0.8	794.1	97.0	79.8	43.0	8.1	1087.0	267.3	2.3
13	25.9	17.3	12.3	4.5	1.2	794.0	91.0	71.6	34.0	0.3	1244.0	445.4	3.6
14	28.7	16.7	11.6	4.5	1.2	793.6	94.0	78.9	41.0	2.0	1198.0	386.2	3.0
15	25.9	17.1	12.3	3.1	0.8	793.9	95.0	75.8	43.0	0.0	1278.0	309.0	2.5
16	21.5	15.6	13.1	2.7	0.5	794.0	94.0	84.3	62.0	2.0	691.0	193.7	1.5
17	23.2	15.7	12.2	3.6	0.6	793.6	95.0	84.2	53.0	4.8	1130.0	290.5	2.3
18	22.8	14.9	12.7	3.6	0.4	793.9	97.0	89.2	58.0	15.2	873.0	251.7	1.5
19	22.8	15.9	11.6	3.1	0.4	793.4	97.0	85.3	54.0	1.5	1188.0	287.4	2.0
20	25.2	16.1	12.2	2.7	0.5	793.7	98.0	84.8	49.0	18.0	1350.0	260.4	1.8
21	23.6	16.8	11.3	4.0	0.7	793.5	96.0	80.3	54.0	0.3	1173.0	329.5	2.3
22	25.5	17.0	13.2	3.6	0.9	794.1	96.0	82.4	46.0	0.3	1133.0	331.3	2.5
23	26.9	16.1	12.7	3.1	0.9	794.7	94.0	83.9	48.0	10.4	1162.0	332.7	2.8
24	23.3	15.1	12.1	3.6	1.0	793.7	96.0	88.3	62.0	22.1	1229.0	263.4	1.8
25	21.7	15.4	12.2	3.1	0.4	793.3	96.0	88.1	66.0	9.4	741.0	181.4	1.3
26	24.8	16.8	12.8	4.5	1.1	792.9	95.0	82.4	49.0	0.3	1365.0	361.2	2.5
27	27.8	18.4	12.1	4.0	1.0	792.5	93.0	70.2	38.0	0.0	1231.0	569.1	4.8
28	26.9	17.6	12.9	3.6	0.8	792.0	92.0	78.6	46.0	0.0	1122.0	422.6	3.3
29	24.4	16.1	12.6	3.1	1.1	791.1	95.0	85.8	58.0	3.3	1082.0	294.8	2.0
30	22.2	16.3	11.9	3.1	1.2	792.4	94.0	79.6	56.0	0.0	1119.0	363.4	1.8
Mensual	28.7	16.3	10.1	6.3	0.9	793.5	98.0	80.4	33.0	195.1	1365.0	336.2	76.0

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

SEPTIEMBRE 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	1%	0%	3%	6%	4%	2%	5%	0%	0%	1%	1%	1%	3%	14%	37%	22%
2	3%	0%	4%	14%	31%	8%	0%	0%	0%	0%	0%	0%	1%	1%	17%	19%
3	9%	14%	1%	3%	12%	1%	1%	0%	0%	0%	0%	4%	3%	9%	17%	26%
4	1%	1%	6%	2%	17%	15%	4%	2%	0%	0%	0%	1%	7%	18%	12%	13%
5	0%	0%	0%	1%	19%	0%	0%	0%	0%	0%	0%	3%	8%	22%	26%	21%
6	0%	0%	0%	8%	1%	1%	6%	0%	0%	1%	6%	6%	15%	30%	18%	9%
7	15%	0%	0%	13%	10%	1%	2%	4%	0%	0%	1%	3%	5%	17%	17%	13%
8	0%	17%	1%	3%	3%	4%	9%	2%	1%	1%	1%	5%	2%	10%	24%	15%
9	1%	0%	0%	6%	27%	0%	0%	0%	1%	2%	11%	3%	2%	9%	35%	2%
10	0%	1%	1%	5%	23%	3%	2%	1%	1%	0%	1%	1%	3%	15%	30%	13%
11	3%	0%	1%	0%	18%	1%	0%	0%	0%	1%	0%	1%	4%	21%	23%	27%
12	2%	1%	1%	2%	35%	1%	1%	4%	1%	3%	3%	3%	1%	3%	18%	21%
13	1%	1%	4%	19%	6%	3%	1%	1%	0%	0%	1%	1%	4%	16%	22%	19%
14	5%	1%	0%	3%	22%	10%	5%	0%	0%	0%	1%	1%	8%	15%	22%	7%
15	1%	7%	3%	12%	13%	1%	0%	0%	0%	0%	1%	2%	3%	9%	21%	28%
16	3%	0%	5%	42%	2%	0%	0%	0%	0%	0%	0%	0%	3%	17%	24%	3%
17	2%	4%	0%	2%	29%	0%	0%	0%	0%	0%	1%	6%	3%	22%	13%	18%
18	5%	0%	0%	5%	19%	3%	4%	0%	1%	0%	1%	8%	8%	18%	22%	7%
19	1%	0%	0%	1%	29%	0%	7%	0%	15%	0%	1%	4%	4%	13%	17%	8%
20	10%	1%	1%	1%	1%	0%	0%	0%	1%	4%	3%	0%	5%	19%	21%	34%
21	3%	1%	4%	6%	8%	6%	0%	0%	0%	0%	1%	2%	1%	8%	33%	26%
22	6%	0%	2%	0%	16%	3%	3%	4%	3%	2%	2%	3%	2%	10%	31%	11%
23	0%	1%	0%	9%	16%	3%	1%	1%	1%	0%	1%	2%	8%	14%	22%	19%
24	0%	1%	4%	11%	24%	1%	4%	1%	0%	3%	1%	0%	1%	8%	29%	10%
25	5%	0%	0%	5%	41%	7%	0%	4%	0%	0%	0%	1%	9%	4%	9%	15%
26	1%	0%	1%	8%	20%	1%	0%	0%	0%	0%	0%	0%	1%	19%	42%	8%
27	0%	0%	2%	9%	14%	2%	0%	0%	0%	1%	2%	5%	6%	26%	23%	9%
28	1%	0%	1%	3%	7%	2%	1%	8%	1%	0%	0%	2%	2%	18%	45%	8%
29	1%	8%	0%	19%	0%	1%	0%	0%	0%	0%	1%	3%	10%	21%	24%	14%
30	3%	0%	1%	6%	16%	15%	1%	1%	0%	0%	0%	0%	2%	10%	24%	22%
Mensual	3%	2%	2%	7%	16%	3%	2%	1%	1%	1%	1%	2%	5%	15%	24%	16%

DIRECCIÓN DEL VIENTO EN EL MES ORDENADA DE MAYOR A MENOR PREDOMINANCIA																
R. V.	NO	E	NNO	ONO	ENE	O	ESE	N	OSO	NNE	SE	NE	SO	SSE	S	SSO
F. R.	24%	16%	16%	15%	7%	5%	3%	3%	2%	2%	2%	2%	1%	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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SEPTIEMBRE DE 2011

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

DIA	N	NNE	NE	ENE	E	ESE	SE	SSE	S	SSO	SO	OSO	O	ONO	NO	NNO
1	0%	0%	3%	26%	57%	14%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%
2	3%	1%	0%	22%	65%	9%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%
3	1%	0%	1%	19%	72%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	7%
4	0%	1%	0%	19%	72%	8%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
5	0%	0%	0%	20%	63%	11%	1%	0%	1%	0%	1%	0%	0%	0%	3%	0%
6	0%	0%	0%	17%	76%	6%	0%	0%	1%	0%	0%	0%	0%	1%	0%	0%
7	0%	0%	4%	31%	56%	1%	0%	0%	0%	0%	0%	1%	6%	1%	0%	0%
8	17%	19%	0%	11%	38%	5%	1%	4%	5%	0%	0%	0%	0%	0%	0%	0%
9	0%	0%	0%	13%	56%	17%	6%	1%	3%	1%	2%	1%	0%	0%	0%	0%
10	1%	0%	1%	19%	48%	15%	3%	1%	1%	0%	0%	0%	1%	3%	3%	3%
11	3%	2%	2%	26%	58%	6%	1%	0%	0%	0%	0%	0%	0%	0%	0%	1%
12	0%	0%	0%	17%	76%	8%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
13	0%	0%	0%	25%	70%	5%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
14	0%	0%	0%	19%	74%	7%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
15	0%	0%	2%	23%	65%	10%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
16	0%	0%	0%	28%	72%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
17	0%	1%	5%	32%	56%	6%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
18	5%	0%	1%	21%	50%	8%	0%	0%	1%	0%	1%	6%	0%	6%	1%	1%
19	1%	6%	7%	9%	60%	0%	0%	0%	0%	0%	0%	0%	1%	2%	15%	0%
20	16%	1%	1%	33%	43%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%	3%
21	0%	0%	2%	15%	81%	1%	0%	0%	0%	0%	0%	0%	0%	1%	0%	0%
22	1%	0%	1%	24%	42%	10%	0%	0%	13%	0%	0%	1%	1%	0%	6%	0%
23	0%	0%	1%	31%	61%	8%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
24	3%	0%	3%	33%	59%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
25	0%	0%	8%	44%	47%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
26	0%	0%	0%	23%	74%	3%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
27	3%	1%	3%	38%	38%	6%	0%	0%	1%	0%	0%	1%	0%	3%	1%	4%
28	0%	7%	1%	25%	25%	6%	0%	0%	0%	0%	0%	0%	0%	10%	24%	3%
29	0%	4%	0%	50%	36%	3%	1%	0%	2%	1%	0%	0%	0%	2%	1%	0%
30	0%	0%	0%	22%	69%	9%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Mensual	2%	1%	1%	24%	59%	6%	1%	0%	1%	0%	0%	0%	0%	1%	2%	1%

DIRECCIÓN DEL VIENTO EN EL MES ORDENADA DE MAYOR A MENOR PREDOMINANCIA																
R. V.	E	ENE	ESE	N	NO	NE	NNE	ONO	S	NNO	SE	OSO	O	SSE	SO	SSO
F. R.	59%	24%	6%	2%	2%	1%	1%	1%	1%	1%	1%	0%	0%	0%	0%	0%

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