



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

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	24.4	16.2	10.6	3.1	1.2	793.0	95.0	78.7	51.0	0.0	1148.0	378.2	2.8
2	25.3	17.6	12.3	4.0	1.0	793.8	95.0	78.1	52.0	0.3	1114.0	414.5	3.6
3	22.4	16.6	13.7	4.0	0.9	794.5	94.0	81.9	62.0	0.0	686.0	299.8	2.3
4	25.2	17.0	11.5	5.4	1.1	794.5	96.0	78.1	50.0	23.4	1170.0	441.4	3.6
5	27.6	16.8	11.6	4.9	1.2	794.4	96.0	81.0	45.0	2.0	1191.0	560.7	4.1
6	23.9	16.1	12.7	4.5	0.9	794.5	94.0	83.2	58.0	0.3	1198.0	324.2	2.3
7	22.2	15.7	12.1	4.0	0.8	794.1	97.0	86.3	63.0	37.1	1172.0	355.0	2.3
8	17.3	14.3	13.1	1.8	0.0	794.1	98.0	95.9	90.0	22.4	377.0	150.9	0.8
9	20.4	15.4	12.1	3.1	0.3	793.8	98.0	88.4	66.0	3.6	870.0	276.0	2.0
10	20.0	15.3	12.7	3.6	0.6	793.9	97.0	89.6	72.0	32.5	1189.0	292.2	1.5
11	17.2	14.3	12.5	2.7	0.2	793.7	97.0	92.9	80.0	16.8	742.0	135.7	1.0
12	14.7	13.3	12.2	3.1	0.4	793.8	98.0	96.2	92.0	60.7	203.0	98.0	0.5
13	22.6	14.8	11.1	4.0	0.6	793.5	99.0	93.8	81.0	2.0	1354.0	367.2	2.5
14	24.8	16.6	11.2	4.9	1.1	793.7	96.0	81.0	50.0	0.3	1140.0	542.2	4.1
15	22.2	15.4	11.6	5.4	1.1	794.0	95.0	84.7	57.0	1.0	1168.0	411.9	2.8
16	21.4	14.8	11.5	4.0	0.5	793.9	96.0	87.7	60.0	9.4	1180.0	273.0	2.0
17	22.8	15.2	10.9	4.5	1.0	793.9	97.0	86.1	57.0	31.5	1159.0	503.6	3.3
18	23.1	15.0	12.4	4.9	0.7	794.2	97.0	87.1	57.0	56.4	1170.0	510.9	3.1
19	22.6	15.4	10.7	4.0	0.6	794.1	97.0	84.3	53.0	32.5	1246.0	360.5	2.8
20	17.2	14.4	12.7	2.7	0.1	794.2	98.0	92.8	81.0	21.3	540.0	168.6	1.0
21	23.5	15.7	10.7	4.5	0.8	794.1	97.0	83.7	54.0	16.0	1078.0	492.0	3.6
22	22.7	14.5	12.1	3.1	0.6	794.4	97.0	90.2	63.0	25.7	1108.0	321.9	1.5
23	24.8	15.5	11.3	3.6	1.1	794.4	96.0	85.2	48.0	5.6	1174.0	347.3	2.5
24	19.2	14.2	11.9	2.7	0.5	794.6	97.0	91.8	70.0	11.7	593.0	183.0	1.0
25	21.6	15.1	10.4	4.0	1.1	793.8	96.0	84.3	59.0	0.5	965.0	319.6	2.3
26	20.8	15.0	11.3	3.6	1.2	793.6	96.0	85.2	62.0	2.0	893.0	240.2	1.8
27	22.8	14.6	11.6	3.6	1.0	793.2	96.0	87.5	63.0	12.7	1104.0	289.5	2.0
28	20.7	15.1	11.6	3.6	0.9	793.4	97.0	85.7	67.0	75.2	919.0	375.1	2.5
29	19.7	14.0	12.7	8.0	0.5	794.0	98.0	93.1	69.0	14.7	979.0	234.3	1.3
30	22.3	15.2	12.3	4.0	0.7	794.0	98.0	90.0	63.0	46.2	1259.0	383.1	2.5
31													
Mensual	27.6	15.3	10.4	8.0	0.8	794.0	99.0	86.8	45.0	563.6	1354.0	335.0	69.4

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



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	1%	0%	0%	1%	17%	0%	0%	0%	0%	0%	0%	0%	2%	10%	30%	38%
2	8%	0%	2%	5%	6%	10%	0%	0%	0%	0%	0%	0%	1%	15%	23%	31%
3	1%	0%	0%	1%	10%	1%	19%	0%	6%	2%	1%	2%	2%	11%	25%	20%
4	1%	1%	0%	1%	4%	3%	4%	1%	0%	1%	3%	2%	3%	22%	26%	27%
5	1%	0%	0%	4%	24%	3%	2%	0%	0%	0%	1%	1%	3%	17%	14%	29%
6	3%	1%	0%	1%	14%	1%	3%	1%	3%	0%	1%	6%	3%	21%	19%	24%
7	11%	1%	0%	2%	27%	6%	3%	2%	2%	0%	1%	1%	1%	10%	17%	18%
8	1%	1%	1%	1%	26%	1%	0%	0%	0%	0%	0%	0%	2%	10%	17%	40%
9	2%	0%	0%	0%	0%	22%	0%	0%	0%	0%	0%	0%	1%	17%	27%	32%
10	1%	1%	1%	22%	6%	0%	0%	0%	0%	0%	0%	1%	3%	16%	26%	24%
11	5%	0%	1%	0%	16%	0%	1%	0%	3%	0%	0%	8%	3%	10%	35%	19%
12	15%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	5%	2%	26%	25%	26%
13	3%	0%	0%	1%	7%	14%	0%	0%	0%	0%	0%	4%	8%	17%	27%	18%
14	1%	0%	1%	17%	13%	3%	6%	0%	0%	0%	0%	0%	2%	21%	26%	10%
15	0%	0%	1%	2%	26%	19%	6%	1%	1%	0%	2%	0%	1%	19%	13%	8%
16	11%	0%	6%	5%	34%	3%	1%	1%	0%	0%	1%	1%	3%	13%	8%	15%
17	2%	0%	1%	8%	26%	3%	1%	0%	0%	0%	0%	1%	3%	13%	27%	17%
18	1%	0%	0%	0%	21%	6%	3%	3%	1%	0%	1%	1%	3%	24%	22%	14%
19	4%	0%	2%	6%	22%	1%	0%	0%	0%	0%	1%	0%	1%	15%	26%	22%
20	18%	0%	0%	27%	3%	0%	0%	0%	0%	0%	0%	0%	2%	17%	17%	15%
21	6%	0%	0%	1%	19%	0%	0%	0%	0%	0%	0%	1%	1%	18%	29%	25%
22	4%	1%	2%	1%	11%	6%	3%	1%	0%	0%	0%	0%	6%	14%	19%	31%
23	3%	0%	0%	0%	19%	1%	0%	0%	0%	1%	8%	1%	2%	14%	21%	29%
24	4%	0%	0%	5%	22%	1%	6%	0%	0%	0%	0%	0%	3%	24%	27%	8%
25	5%	1%	1%	3%	14%	0%	0%	0%	0%	0%	0%	4%	3%	18%	28%	24%
26	1%	0%	0%	0%	39%	9%	1%	1%	2%	2%	3%	1%	1%	4%	21%	14%
27	1%	2%	1%	3%	33%	13%	1%	0%	0%	0%	1%	1%	3%	10%	14%	15%
28	3%	0%	0%	0%	18%	0%	0%	0%	0%	1%	0%	1%	3%	27%	23%	23%
29	1%	0%	0%	11%	12%	0%	13%	1%	0%	0%	3%	0%	3%	18%	17%	22%
30	1%	0%	0%	0%	26%	0%	0%	0%	0%	0%	0%	1%	5%	19%	38%	10%
31																
Mensual	4%	0%	1%	4%	17%	4%	2%	0%	1%	0%	1%	1%	3%	16%	23%	22%

DIRECCIÓN DEL VIENTO EN EL MES ORDENADA DE MAYOR A MENOR PREDOMINANCIA																
R. V.	NO	NNO	E	ONO	ENE	ESE	N	O	SE	OSO	SO	NE	S	SSE	SSO	NNE
F. R.	23%	22%	17%	16%	4%	4%	4%	3%	2%	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.



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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%	81%	15%	0%	0%	0%	0%	0%	0%	0%	0%	0%	4%
2	3%	0%	0%	9%	62%	18%	1%	1%	0%	0%	0%	0%	0%	2%	4%	0%
3	1%	0%	0%	8%	65%	19%	2%	1%	0%	0%	0%	0%	0%	0%	0%	4%
4	2%	0%	0%	10%	57%	24%	3%	0%	0%	0%	0%	0%	0%	1%	1%	1%
5	0%	1%	8%	1%	67%	13%	3%	2%	1%	0%	0%	0%	0%	0%	0%	4%
6	0%	0%	0%	1%	68%	26%	4%	0%	0%	0%	0%	0%	0%	0%	0%	0%
7	0%	0%	0%	1%	90%	9%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
8	0%	0%	0%	1%	49%	0%	19%	0%	0%	0%	0%	0%	23%	5%	2%	1%
9	3%	1%	12%	10%	24%	15%	34%	0%	0%	0%	0%	0%	0%	0%	0%	1%
10	0%	0%	0%	4%	75%	20%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%
11	0%	0%	0%	1%	67%	0%	0%	0%	0%	0%	0%	0%	0%	15%	17%	0%
12	17%	0%	0%	16%	29%	3%	0%	0%	0%	0%	2%	0%	0%	1%	31%	1%
13	0%	0%	0%	29%	18%	35%	0%	0%	0%	0%	0%	0%	0%	6%	10%	1%
14	0%	0%	0%	3%	74%	13%	1%	0%	4%	0%	0%	0%	0%	5%	0%	0%
15	4%	0%	6%	13%	69%	4%	1%	0%	0%	0%	0%	0%	0%	0%	3%	0%
16	3%	0%	1%	34%	49%	2%	0%	1%	0%	0%	0%	0%	0%	5%	3%	3%
17	2%	0%	1%	17%	56%	18%	0%	0%	0%	0%	0%	1%	0%	1%	1%	2%
18	1%	0%	0%	0%	88%	6%	1%	0%	1%	0%	0%	0%	0%	0%	0%	3%
19	13%	0%	1%	1%	46%	33%	0%	0%	0%	0%	0%	1%	1%	1%	2%	1%
20	50%	0%	0%	1%	15%	0%	0%	0%	0%	0%	0%	0%	11%	3%	10%	11%
21	0%	0%	0%	14%	58%	3%	0%	1%	1%	0%	1%	0%	0%	4%	17%	2%
22	0%	0%	0%	1%	87%	12%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
23	0%	0%	0%	1%	99%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
24	17%	0%	2%	3%	52%	4%	0%	0%	0%	0%	0%	0%	0%	14%	4%	3%
25	0%	0%	0%	7%	88%	1%	0%	0%	0%	0%	0%	0%	0%	0%	3%	0%
26	0%	0%	0%	1%	95%	4%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
27	0%	0%	8%	3%	85%	3%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
28	1%	1%	3%	8%	53%	19%	3%	0%	0%	1%	4%	0%	0%	1%	1%	5%
29	0%	0%	0%	7%	81%	10%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%
30	3%	0%	1%	6%	72%	3%	0%	0%	0%	0%	1%	0%	0%	0%	1%	14%
31																
Mensual	4%	0%	1%	7%	64%	11%	3%	0%	0%	0%	0%	0%	1%	2%	4%	2%

DIRECCIÓN DEL VIENTO EN EL MES ORDENADA DE MAYOR A MENOR PREDOMINANCIA																
R. V.	E	ESE	ENE	N	NO	SE	ONO	NNO	NE	O	SO	S	SSE	NNE	OSO	SSO
F. R.	64%	11%	7%	4%	4%	3%	2%	2%	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.