



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

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	25.7	16.8	10.4	3.1	1.2	795.1	94.0	73.9	41.0	0.0	1140.0	483.4	3.6
2	23.8	16.3	12.4	4.0	0.9	795.0	92.0	78.9	56.0	1.5	1050.0	356.1	2.5
3	22.7	15.5	10.6	4.9	1.0	794.2	95.0	80.5	54.0	1.0	950.0	235.4	1.8
4	17.1	13.6	11.8	2.2	0.7	794.1	97.0	91.5	77.0	30.2	350.0	137.1	0.8
5	20.5	14.2	11.0	2.7	1.0	793.8	97.0	88.2	62.0	10.2	1028.0	207.0	1.3
6	21.9	14.6	10.7	3.1	1.1	793.4	96.0	85.5	61.0	0.3	900.0	220.9	1.5
7	21.3	14.7	10.4	4.5	1.0	793.3	95.0	84.8	61.0	0.8	832.0	200.5	1.3
8	22.7	15.0	12.2	4.0	0.7	793.2	96.0	86.3	58.0	0.3	1036.0	240.5	1.5
9	20.2	15.3	11.9	2.7	0.6	793.3	96.0	86.0	65.0	0.0	866.0	200.9	1.3
10	22.4	15.8	12.0	4.0	0.8	793.7	97.0	84.7	60.0	0.0	1095.0	233.2	1.5
11	26.4	17.0	11.4	4.0	1.4	793.8	96.0	77.1	47.0	0.3	1116.0	415.6	2.8
12	27.2	17.5	12.5	4.5	0.9	794.1	96.0	78.9	46.0	0.0	882.0	288.3	2.3
13	25.1	16.1	13.1	4.0	0.9	794.4	94.0	84.9	54.0	0.5	788.0	200.1	1.3
14	26.8	16.8	11.8	4.0	1.0	794.3	95.0	79.9	42.0	1.8	1011.0	280.2	2.0
15	22.7	16.5	12.1	3.1	1.1	794.1	95.0	80.2	53.0	0.0	1077.0	239.9	1.8
16	24.7	16.2	12.2	4.0	1.0	794.2	95.0	82.3	51.0	2.5	948.0	313.5	2.0
17	25.3	16.9	11.8	5.4	1.1	794.0	97.0	79.3	47.0	0.5	1046.0	433.4	3.0
18	21.8	16.4	12.2	4.0	0.9	794.4	95.0	85.0	63.0	3.8	1064.0	234.9	1.5
19	23.7	16.6	11.4	4.5	1.0	794.4	96.0	81.0	55.0	0.0	916.0	342.3	2.5
20	25.1	17.1	11.8	4.0	0.9	794.3	93.0	77.1	46.0	0.0	1021.0	376.7	2.8
21	24.8	16.6	10.9	4.9	0.9	794.1	93.0	76.0	48.0	0.0	854.0	365.6	2.5
22	26.1	16.7	9.8	5.8	1.3	794.1	93.0	71.1	40.0	0.0	987.0	462.6	3.6
23	24.6	16.5	10.8	4.9	1.4	793.8	94.0	70.5	37.0	0.0	1018.0	385.9	3.1
24	26.1	16.4	10.2	7.1	1.5	793.6	94.0	70.1	37.0	0.0	853.0	404.6	3.0
25	22.6	16.0	10.2	4.0	1.4	793.2	91.0	73.7	52.0	0.0	960.0	313.9	2.3
26	23.2	14.8	11.7	4.9	1.2	793.2	94.0	82.1	55.0	2.3	976.0	211.1	1.5
27	27.2	15.6	11.2	2.7	0.8	793.0	94.0	80.3	41.0	0.0	945.0	313.8	2.3
28	24.9	16.7	11.2	2.2	0.6	793.3	94.0	75.9	44.0	0.0	1030.0	458.0	3.6
29	23.2	15.9	11.7	2.7	0.5	793.8	93.0	79.6	52.0	0.0	1100.0	279.5	2.0
30	23.2	15.6	10.2	2.2	0.5	793.5	94.0	79.1	56.0	0.0	761.0	227.4	1.5
31	22.7	16.0	11.1	2.2	0.5	793.3	95.0	80.3	59.0	0.0	850.0	229.9	1.8
Mensual	27.2	16.0	9.8	7.1	1.0	793.9	97.0	80.2	37.0	55.9	1140.0	299.7	66.3

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

DIRECCIÓN DEL VIENTO EN EL MES ORDENADA DE MAYOR A MENOR PREDOMINANCIA																
R. V.	NO	ONO	E	NNO	O	N	ESE	ENE	OSO	SE	SSO	SO	S	NE	SSE	NNE
F. R.	21%	17%	16%	14%	8%	7%	5%	4%	3%	1%	1%	1%	1%	1%	0%	0%

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



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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%	12%	81%	3%	0%	1%	1%	0%	0%	0%	1%	1%	1%	0%
2	0%	0%	7%	15%	76%	2%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%
3	3%	0%	0%	8%	66%	12%	0%	0%	0%	0%	0%	0%	0%	6%	4%	1%
4	9%	1%	1%	9%	40%	17%	1%	1%	0%	0%	0%	0%	0%	15%	0%	6%
5	0%	0%	8%	15%	71%	7%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
6	0%	0%	0%	10%	88%	3%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
7	0%	0%	2%	18%	64%	13%	1%	0%	0%	0%	0%	0%	0%	0%	2%	0%
8	0%	0%	1%	19%	78%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
9	0%	0%	3%	17%	69%	0%	0%	0%	0%	1%	0%	0%	2%	5%	3%	0%
10	0%	0%	0%	9%	81%	4%	3%	1%	0%	0%	3%	0%	0%	0%	0%	0%
11	0%	0%	0%	1%	79%	16%	0%	1%	0%	0%	0%	2%	1%	0%	1%	0%
12	20%	0%	1%	2%	58%	2%	0%	3%	0%	0%	0%	0%	0%	13%	0%	1%
13	0%	0%	0%	6%	55%	39%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%
14	4%	0%	0%	6%	81%	9%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
15	0%	0%	1%	16%	70%	7%	1%	0%	0%	0%	0%	0%	0%	5%	0%	0%
16	0%	0%	1%	11%	74%	12%	1%	1%	0%	0%	0%	0%	0%	0%	0%	0%
17	3%	0%	1%	4%	82%	10%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
18	19%	3%	1%	13%	57%	7%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
19	15%	1%	0%	4%	69%	5%	0%	0%	0%	0%	0%	1%	0%	0%	5%	1%
20	15%	4%	17%	6%	48%	0%	0%	0%	0%	0%	0%	4%	1%	1%	1%	5%
21	0%	0%	3%	8%	81%	1%	0%	0%	0%	0%	0%	0%	1%	1%	2%	3%
22	1%	0%	1%	8%	78%	8%	0%	0%	0%	0%	0%	0%	0%	0%	0%	3%
23	0%	0%	0%	3%	80%	13%	0%	0%	1%	0%	1%	0%	0%	3%	0%	0%
24	5%	0%	0%	2%	83%	10%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
25	0%	1%	0%	4%	83%	9%	1%	0%	0%	0%	0%	0%	0%	0%	2%	1%
26	1%	0%	0%	9%	75%	14%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%
27	1%	1%	6%	21%	64%	5%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%
28	3%	1%	1%	22%	54%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
29	12%	0%	17%	10%	47%	3%	0%	0%	0%	0%	0%	0%	0%	3%	1%	6%
30	2%	2%	0%	6%	87%	3%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
31	3%	6%	2%	5%	74%	8%	1%	0%	0%	0%	0%	0%	0%	0%	0%	1%
Mensual	4%	1%	2%	10%	71%	8%	0%	0%	0%	0%	0%	0%	0%	2%	1%	1%

DIRECCIÓN DEL VIENTO EN EL MES ORDENADA DE MAYOR A MENOR PREDOMINANCIA																
R. V.	E	ENE	ESE	N	NE	ONO	NNE	NNO	NO	SE	OSO	SSE	O	SO	S	SSO
F. R.	71%	10%	8%	4%	2%	2%	1%	1%	1%	0%	0%	0%	0%	0%	0%	0%

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