



# 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

JULIO 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 <sup>2</sup> )		ET. (mm)
	Máxima	Media	Mínima	Máxima	Media	Media	Máxima	Media	Mínima	Suma	Máxima	Media	Suma
1	23.8	16.0	11.8	2.2	0.2	793.9	96.0	84.3	58.0	6.9	1159.0	400.1	2.5
2	20.7	15.2	12.0	3.1	0.4	794.0	96.0	85.3	64.0	4.3	812.0	200.1	1.5
3	23.7	17.0	11.3	3.6	0.6	793.7	96.0	79.2	55.0	0.3	1200.0	423.2	3.3
4	22.8	16.3	12.3	2.7	0.2	794.2	95.0	83.3	61.0	0.5	1180.0	281.6	2.0
5	23.7	16.8	11.4	2.7	0.7	794.2	95.0	80.5	56.0	0.3	1118.0	342.6	2.5
6	21.7	15.3	11.9	2.7	0.6	794.5	95.0	87.6	66.0	11.2	789.0	213.8	1.5
7	27.8	16.9	11.2	4.0	1.1	794.1	95.0	75.3	44.0	0.0	1183.0	391.5	3.3
8	24.6	17.5	12.3	3.6	1.2	794.1	96.0	76.1	48.0	0.0	1271.0	482.1	3.8
9	24.4	17.1	11.3	3.6	1.1	794.4	94.0	77.8	55.0	0.0	748.0	254.0	2.3
10	23.4	17.1	13.0	3.6	0.9	794.4	95.0	80.4	57.0	0.3	1017.0	291.8	2.5
11	26.2	17.5	12.7	4.5	0.9	794.8	94.0	78.3	47.0	0.0	1254.0	334.3	2.5
12	21.6	16.1	12.7	4.5	0.5	795.3	95.0	84.3	59.0	1.5	704.0	233.0	1.8
13	17.2	14.0	12.8	2.7	0.2	794.8	97.0	92.8	82.0	12.7	465.0	165.0	1.0
14	22.9	14.7	12.2	3.1	0.4	794.7	97.0	87.2	53.0	16.5	674.0	211.0	1.3
15	22.3	14.8	11.6	2.2	0.2	794.8	97.0	86.8	59.0	28.2	1200.0	268.2	2.0
16	23.4	16.2	12.0	3.6	0.9	794.3	97.0	84.4	60.0	2.3	1259.0	460.7	3.3
17	22.9	16.3	12.4	3.1	0.5	794.4	96.0	84.4	59.0	1.0	1194.0	307.6	2.3
18	23.7	16.7	13.0	4.0	0.8	794.5	94.0	81.5	51.0	2.5	1306.0	341.0	2.8
19	24.9	17.2	11.8	3.6	0.9	794.8	96.0	79.2	52.0	0.5	1149.0	422.4	3.3
20	25.2	17.3	12.9	3.6	1.1	794.8	94.0	76.6	44.0	0.3	1213.0	334.1	2.8
21	25.2	17.6	11.8	4.5	1.3	794.6	94.0	73.3	41.0	0.0	1014.0	436.0	3.6
22	25.6	17.4	12.6	4.0	1.1	794.8	94.0	77.4	48.0	0.0	1168.0	345.9	2.8
23	26.2	17.9	13.6	3.6	0.8	795.0	91.0	74.8	46.0	0.5	1215.0	309.3	2.8
24	25.1	17.2	12.8	3.6	1.4	794.8	92.0	71.8	46.0	0.0	1212.0	369.7	3.0
25	27.3	17.8	12.4	4.5	1.1	794.2	92.0	71.5	40.0	0.0	1164.0	345.3	2.8
26	24.7	17.2	13.1	3.6	0.9	794.2	93.0	78.9	51.0	0.0	1099.0	276.8	2.3
27	24.0	16.6	12.7	3.1	0.9	794.1	94.0	80.9	55.0	0.0	1057.0	266.7	2.0
28	24.8	15.6	13.2	4.5	0.4	793.9	96.0	87.0	49.0	17.8	716.0	209.9	1.5
29	19.6	13.7	12.2	3.6	0.4	793.8	97.0	92.2	70.0	21.8	1119.0	222.7	1.3
30	22.7	15.0	11.7	3.1	0.5	793.5	97.0	86.6	53.0	10.7	632.0	287.3	2.0
31	22.4	15.5	11.5	3.6	0.5	793.4	95.0	83.6	61.0	0.8	1321.0	333.3	2.5
<b>Mensual</b>	<b>27.8</b>	<b>16.4</b>	<b>11.2</b>	<b>4.5</b>	<b>0.7</b>	<b>794.4</b>	<b>97.0</b>	<b>81.4</b>	<b>40.0</b>	<b>140.7</b>	<b>1321.0</b>	<b>314.9</b>	<b>75.2</b>

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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**ESTACIÓN METEOROLÓGICA YARUMOS**

CÓDIGO: EMM-05

**JULIO 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%	1%	0%	6%	2%	20%	0%	0%	0%	0%	0%	1%	3%	8%	31%	27%
2	8%	1%	0%	6%	10%	2%	17%	0%	0%	0%	6%	6%	10%	8%	17%	8%
3	1%	0%	0%	1%	16%	1%	0%	0%	0%	0%	0%	1%	4%	25%	33%	18%
4	1%	1%	1%	12%	26%	1%	0%	0%	0%	0%	0%	0%	1%	10%	33%	15%
5	1%	1%	0%	2%	22%	3%	1%	0%	1%	0%	0%	3%	4%	19%	30%	14%
6	0%	7%	5%	13%	8%	8%	5%	0%	0%	1%	0%	1%	3%	12%	21%	17%
7	1%	0%	1%	6%	17%	1%	0%	3%	9%	1%	1%	1%	6%	25%	24%	6%
8	6%	0%	4%	8%	1%	0%	0%	0%	0%	0%	1%	6%	10%	33%	19%	13%
9	6%	1%	0%	8%	6%	0%	0%	0%	0%	0%	2%	0%	3%	17%	29%	28%
10	3%	2%	1%	8%	11%	0%	0%	0%	0%	0%	0%	1%	3%	18%	31%	22%
11	1%	0%	1%	1%	13%	1%	0%	0%	0%	0%	0%	3%	1%	24%	30%	25%
12	0%	0%	1%	3%	33%	1%	0%	0%	0%	1%	1%	1%	3%	15%	26%	17%
13	0%	0%	1%	22%	0%	0%	0%	1%	0%	0%	0%	3%	4%	10%	28%	30%
14	1%	0%	0%	1%	22%	1%	1%	1%	5%	1%	3%	3%	3%	23%	15%	19%
15	3%	1%	8%	4%	0%	1%	0%	0%	3%	6%	0%	0%	1%	9%	48%	18%
16	3%	0%	17%	8%	0%	0%	0%	0%	0%	0%	0%	0%	3%	15%	39%	16%
17	5%	0%	0%	3%	15%	0%	0%	0%	0%	0%	0%	1%	8%	8%	39%	21%
18	3%	1%	2%	1%	8%	0%	0%	0%	0%	0%	1%	3%	6%	23%	35%	17%
19	0%	1%	0%	2%	21%	0%	0%	0%	0%	0%	1%	2%	12%	17%	31%	14%
20	1%	0%	1%	1%	20%	0%	0%	0%	13%	1%	1%	1%	3%	13%	31%	15%
21	6%	0%	0%	1%	17%	0%	0%	0%	0%	0%	0%	12%	8%	29%	21%	6%
22	2%	0%	1%	1%	22%	0%	0%	0%	0%	0%	1%	1%	7%	15%	37%	13%
23	1%	0%	8%	1%	3%	0%	1%	2%	5%	0%	2%	6%	3%	13%	19%	35%
24	1%	0%	0%	3%	28%	1%	1%	0%	0%	0%	1%	1%	2%	15%	30%	18%
25	4%	0%	0%	3%	12%	3%	6%	1%	1%	1%	1%	2%	6%	17%	24%	19%
26	0%	0%	0%	6%	14%	0%	0%	0%	0%	0%	0%	2%	5%	10%	42%	22%
27	1%	1%	1%	13%	19%	13%	0%	0%	0%	0%	1%	3%	1%	15%	12%	18%
28	5%	1%	0%	1%	17%	3%	8%	2%	0%	2%	0%	1%	3%	13%	21%	24%
29	1%	0%	3%	0%	0%	28%	0%	10%	0%	0%	4%	7%	5%	19%	14%	8%
30	0%	0%	0%	2%	9%	20%	0%	0%	3%	3%	0%	3%	3%	15%	30%	12%
31	3%	0%	0%	0%	19%	4%	8%	1%	0%	0%	8%	3%	3%	18%	24%	9%
Mensual	2%	1%	2%	5%	13%	4%	2%	1%	1%	1%	1%	3%	4%	16%	28%	17%

DIRECCIÓN DEL VIENTO EN EL MES ORDENADA DE MAYOR A MENOR PREDOMINANCIA																
R. V.	NO	NNO	ONO	E	ENE	O	ESE	OSO	N	NE	SE	S	SO	SSE	SSO	NNE
F. R.	28%	17%	16%	13%	5%	4%	4%	3%	2%	2%	2%	1%	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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**JULIO 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	1%	0%	1%	17%	53%	10%	0%	15%	0%	0%	0%	0%	0%	1%	3%	1%
2	0%	0%	0%	21%	73%	6%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
3	6%	0%	0%	42%	39%	1%	0%	0%	0%	0%	0%	0%	1%	2%	1%	8%
4	1%	0%	11%	10%	66%	5%	1%	0%	0%	0%	0%	0%	0%	0%	1%	5%
5	0%	0%	0%	11%	84%	5%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
6	33%	0%	0%	15%	33%	6%	0%	0%	0%	0%	0%	0%	0%	0%	0%	13%
7	0%	1%	1%	19%	73%	3%	2%	1%	0%	0%	0%	0%	0%	0%	0%	0%
8	0%	0%	0%	38%	62%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
9	8%	0%	0%	23%	55%	9%	0%	0%	0%	0%	0%	0%	0%	0%	0%	6%
10	1%	0%	1%	38%	49%	2%	1%	0%	0%	0%	0%	0%	0%	1%	7%	0%
11	8%	1%	3%	42%	35%	1%	0%	0%	0%	0%	0%	0%	4%	0%	1%	6%
12	5%	0%	1%	5%	21%	25%	0%	0%	0%	0%	0%	0%	21%	11%	2%	9%
13	1%	0%	0%	42%	15%	0%	0%	0%	0%	0%	0%	0%	0%	15%	6%	22%
14	1%	0%	8%	8%	58%	0%	0%	0%	0%	0%	4%	1%	0%	19%	3%	0%
15	0%	8%	1%	26%	0%	0%	0%	0%	0%	0%	8%	0%	3%	8%	33%	13%
16	0%	0%	24%	55%	22%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
17	2%	13%	1%	32%	34%	3%	1%	0%	0%	0%	0%	0%	0%	2%	12%	0%
18	0%	0%	17%	31%	45%	3%	1%	0%	0%	0%	0%	0%	0%	3%	0%	0%
19	5%	0%	6%	33%	46%	3%	0%	0%	0%	0%	0%	0%	1%	6%	1%	0%
20	1%	0%	1%	31%	63%	2%	1%	0%	2%	0%	0%	0%	0%	0%	0%	0%
21	0%	3%	0%	26%	61%	6%	1%	1%	0%	0%	0%	0%	0%	0%	1%	0%
22	3%	0%	2%	34%	56%	4%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%
23	1%	5%	8%	31%	49%	6%	1%	0%	0%	0%	0%	0%	0%	0%	0%	0%
24	0%	0%	0%	20%	66%	14%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
25	6%	0%	0%	19%	66%	10%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
26	0%	0%	0%	13%	70%	4%	0%	0%	0%	0%	0%	0%	0%	6%	6%	1%
27	0%	0%	0%	11%	73%	16%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
28	1%	0%	1%	11%	14%	24%	0%	0%	0%	4%	6%	0%	2%	15%	10%	12%
29	4%	1%	0%	10%	35%	1%	11%	0%	0%	3%	1%	0%	1%	24%	7%	3%
30	10%	0%	14%	17%	36%	2%	0%	1%	0%	0%	0%	0%	0%	0%	18%	3%
31	1%	0%	0%	36%	44%	0%	0%	0%	0%	0%	1%	0%	0%	1%	13%	5%
Mensual	3%	1%	3%	25%	48%	6%	1%	1%	0%	0%	1%	0%	1%	4%	4%	3%

DIRECCIÓN DEL VIENTO EN EL MES ORDENADA DE MAYOR A MENOR PREDOMINANCIA																
R. V.	E	ENE	ESE	NO	ONO	NNO	NE	N	O	NNE	SO	SE	SSE	SSO	S	OSO
F. R.	48%	25%	6%	4%	4%	3%	3%	3%	1%	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.