



# 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

OCTUBRE 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	18.9	14.8	11.9	3.1	0.8	793.9	95.0	90.7	74.0	23.6	721.0	164.3	1.0
2	22.7	15.6	11.7	4.9	0.8	793.6	96.0	85.9	59.0	3.8	1395.0	374.4	2.3
3	22.9	15.8	12.6	4.9	0.7	794.2	96.0	86.0	59.0	3.6	1175.0	302.3	2.3
4	18.3	14.3	11.7	3.6	0.6	794.8	96.0	90.9	71.0	9.2	384.0	189.5	1.3
5	24.2	16.4	12.0	3.6	0.9	794.2	95.0	81.0	51.0	0.0	1204.0	388.8	2.5
6	23.6	16.5	12.4	4.0	0.8	794.1	96.0	82.0	54.0	22.4	1293.0	467.1	3.3
7	24.2	17.0	12.2	4.0	1.0	794.3	96.0	83.5	54.0	0.8	1226.0	384.8	3.1
8	19.8	15.1	12.7	3.1	0.6	794.4	97.0	90.2	72.0	9.4	579.0	203.7	1.3
9	22.3	15.3	12.8	3.1	0.5	794.0	95.0	87.6	61.0	2.8	890.0	229.8	1.5
10	20.4	15.3	12.4	3.1	0.4	794.3	97.0	88.1	64.0	20.3	1068.0	235.0	1.5
11	21.7	15.3	12.3	4.0	0.4	794.2	97.0	89.2	64.0	9.2	1055.0	284.8	1.5
12	20.7	14.6	12.0	5.8	0.7	794.7	97.0	90.0	66.0	29.2	805.0	293.0	1.8
13	23.1	16.3	11.6	8.0	1.1	794.4	96.0	79.4	50.0	1.5	1303.0	601.7	4.3
14	22.9	14.4	11.3	6.3	1.1	794.5	96.0	87.1	59.0	37.3	1178.0	315.2	2.0
15	20.7	14.7	11.4	4.9	0.7	794.2	97.0	86.0	66.0	37.1	770.0	284.3	2.0
16	19.6	14.0	11.0	4.0	0.8	794.1	97.0	89.8	67.0	45.2	1141.0	253.2	1.5
17	18.1	13.3	11.8	3.6	0.4	794.0	97.0	93.0	74.0	40.1	764.0	205.0	1.3
18	17.3	13.2	10.6	4.0	0.5	794.1	97.0	91.6	74.0	17.0	572.0	259.8	1.5
19	22.9	14.4	9.4	5.4	1.4	794.3	92.0	71.3	31.0	1.0	1230.0	480.8	3.6
20	20.5	14.5	10.2	3.6	1.0	794.5	88.0	67.7	41.0	0.0	1247.0	317.3	2.5
21	22.3	14.5	10.9	5.4	1.3	794.2	93.0	77.2	41.0	1.8	1293.0	505.4	3.6
22	23.7	15.2	11.2	4.9	0.9	793.5	93.0	74.3	47.0	0.0	1213.0	385.7	3.0
23	24.7	15.8	10.2	3.6	0.9	793.9	96.0	77.0	48.0	5.3	1144.0	357.7	2.8
24	22.7	16.3	12.8	4.9	0.6	794.4	96.0	81.0	49.0	0.5	1284.0	462.0	3.1
25	23.9	16.2	12.1	4.0	0.4	794.2	95.0	81.7	51.0	7.4	1407.0	426.7	3.1
26	22.5	16.2	13.2	3.1	0.6	793.6	97.0	83.9	56.0	1.3	1087.0	337.6	2.5
27	24.4	16.6	11.4	4.0	1.1	793.3	95.0	81.8	52.0	1.0	1183.0	470.1	3.3
28	18.6	15.0	13.4	2.7	0.2	793.7	96.0	90.2	71.0	15.5	479.0	179.0	1.0
29	18.0	14.1	12.9	2.2	0.3	793.5	97.0	93.0	80.0	15.8	690.0	152.9	1.0
30	16.1	13.4	10.9	2.2	0.2	793.3	97.0	93.9	83.0	27.9	337.0	128.3	0.8
31	21.7	14.4	10.1	4.5	1.4	792.9	96.0	83.4	61.0	0.3	1221.0	511.9	3.6
<b>Mensual</b>	<b>24.7</b>	<b>15.1</b>	<b>9.4</b>	<b>8.0</b>	<b>0.7</b>	<b>794.0</b>	<b>97.0</b>	<b>84.8</b>	<b>31.0</b>	<b>390.1</b>	<b>1407.0</b>	<b>327.5</b>	<b>69.9</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

**OCTUBRE 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	7%	0%	3%	7%	10%	18%	2%	0%	1%	2%	1%	1%	6%	19%	9%	15%
2	3%	4%	0%	0%	24%	0%	0%	0%	0%	1%	0%	0%	3%	19%	22%	24%
3	2%	0%	0%	0%	18%	0%	0%	0%	0%	0%	0%	3%	6%	23%	28%	20%
4	8%	0%	0%	17%	0%	0%	8%	1%	0%	0%	0%	0%	0%	19%	28%	20%
5	8%	1%	0%	1%	4%	17%	1%	0%	0%	1%	1%	2%	3%	13%	19%	30%
6	1%	1%	1%	5%	12%	2%	3%	3%	3%	1%	0%	1%	1%	12%	25%	31%
7	6%	0%	0%	1%	6%	15%	0%	0%	1%	0%	1%	2%	6%	13%	22%	28%
8	8%	1%	3%	8%	8%	5%	1%	0%	0%	0%	1%	1%	1%	25%	26%	13%
9	1%	0%	9%	12%	28%	3%	1%	1%	4%	1%	2%	3%	3%	3%	10%	17%
10	1%	0%	23%	6%	14%	2%	1%	3%	0%	4%	1%	0%	1%	15%	14%	16%
11	9%	1%	0%	12%	7%	1%	3%	2%	0%	0%	3%	10%	1%	4%	20%	28%
12	3%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	1%	24%	22%	50%
13	2%	1%	3%	0%	5%	11%	6%	7%	0%	0%	0%	0%	3%	14%	22%	26%
14	7%	0%	1%	2%	10%	3%	3%	3%	4%	5%	1%	1%	4%	10%	15%	32%
15	4%	0%	5%	3%	15%	0%	0%	0%	0%	0%	0%	0%	1%	10%	42%	21%
16	3%	19%	0%	0%	3%	22%	0%	0%	0%	0%	0%	0%	4%	13%	22%	13%
17	6%	1%	0%	7%	11%	0%	0%	0%	0%	0%	0%	0%	1%	17%	13%	44%
18	3%	1%	0%	5%	0%	1%	0%	0%	0%	2%	0%	5%	9%	23%	23%	28%
19	0%	0%	0%	0%	13%	18%	0%	0%	0%	0%	1%	2%	3%	13%	28%	23%
20	1%	0%	0%	0%	11%	22%	0%	0%	0%	0%	0%	1%	6%	32%	17%	11%
21	1%	0%	0%	1%	28%	4%	0%	0%	0%	0%	0%	2%	4%	21%	27%	10%
22	3%	0%	0%	1%	18%	6%	1%	1%	2%	4%	4%	4%	1%	14%	25%	15%
23	6%	0%	1%	12%	6%	3%	6%	0%	3%	4%	1%	2%	5%	12%	20%	19%
24	5%	0%	1%	1%	15%	0%	0%	0%	0%	0%	1%	1%	8%	21%	24%	24%
25	6%	1%	0%	19%	3%	0%	0%	0%	0%	1%	1%	2%	8%	28%	21%	10%
26	1%	0%	5%	0%	1%	15%	11%	1%	0%	0%	3%	0%	1%	16%	24%	22%
27	1%	0%	0%	7%	8%	8%	1%	0%	2%	0%	1%	1%	3%	10%	38%	19%
28	1%	0%	0%	1%	19%	1%	3%	0%	7%	6%	3%	1%	21%	11%	22%	4%
29	0%	0%	0%	11%	8%	2%	3%	0%	0%	0%	0%	0%	1%	15%	49%	10%
30	8%	1%	1%	0%	8%	10%	1%	1%	1%	4%	0%	0%	1%	6%	21%	37%
31	1%	1%	1%	1%	13%	8%	1%	1%	1%	3%	1%	1%	3%	19%	27%	17%
Mensual	4%	1%	2%	4%	11%	6%	2%	1%	1%	1%	1%	1%	4%	16%	23%	22%

DIRECCIÓN DEL VIENTO EN EL MES ORDENADA DE MAYOR A MENOR PREDOMINANCIA																
R. V.	NO	NNO	ONO	E	ESE	ENE	O	N	SE	NE	OSO	SSO	NNE	S	SO	SSE
F. R.	23%	22%	16%	11%	6%	4%	4%	4%	2%	2%	1%	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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**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%	4%	58%	38%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
2	1%	0%	1%	8%	43%	6%	0%	0%	0%	0%	0%	0%	0%	25%	0%	16%
3	0%	0%	0%	36%	52%	7%	0%	0%	0%	0%	1%	0%	0%	1%	1%	0%
4	0%	0%	0%	8%	38%	1%	0%	0%	0%	0%	0%	0%	0%	50%	3%	0%
5	0%	0%	0%	0%	65%	35%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
6	0%	0%	2%	9%	46%	7%	4%	4%	10%	5%	0%	0%	1%	6%	2%	4%
7	13%	0%	1%	6%	50%	10%	3%	0%	0%	0%	1%	0%	0%	0%	9%	6%
8	1%	0%	1%	1%	19%	38%	3%	1%	3%	3%	5%	1%	0%	6%	3%	17%
9	19%	0%	0%	9%	46%	22%	3%	0%	0%	0%	0%	0%	0%	0%	1%	0%
10	10%	0%	6%	27%	40%	15%	1%	1%	0%	0%	0%	0%	0%	0%	0%	1%
11	0%	0%	0%	3%	47%	32%	0%	0%	0%	12%	0%	0%	0%	1%	3%	3%
12	2%	0%	0%	1%	47%	13%	9%	1%	0%	0%	4%	3%	0%	13%	2%	6%
13	1%	1%	22%	8%	35%	12%	2%	3%	0%	0%	0%	0%	0%	6%	4%	4%
14	9%	0%	16%	6%	35%	25%	3%	0%	2%	1%	0%	0%	0%	0%	0%	3%
15	0%	2%	3%	7%	51%	2%	5%	1%	0%	0%	0%	3%	0%	2%	13%	11%
16	4%	0%	1%	1%	35%	8%	1%	0%	0%	0%	0%	0%	1%	10%	4%	34%
17	8%	9%	10%	46%	12%	2%	0%	0%	0%	0%	0%	0%	0%	1%	10%	2%
18	21%	0%	1%	28%	11%	7%	4%	1%	1%	0%	0%	6%	2%	10%	6%	3%
19	0%	0%	0%	3%	78%	13%	6%	1%	0%	0%	0%	0%	0%	0%	0%	0%
20	0%	0%	2%	19%	57%	8%	0%	0%	0%	0%	0%	0%	0%	3%	10%	0%
21	0%	0%	0%	2%	92%	6%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
22	0%	0%	0%	7%	72%	17%	1%	1%	2%	0%	0%	0%	0%	0%	0%	0%
23	0%	0%	0%	6%	88%	6%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
24	19%	5%	1%	12%	44%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	19%
25	21%	1%	9%	2%	16%	19%	0%	0%	0%	0%	0%	0%	0%	0%	4%	28%
26	2%	1%	47%	0%	38%	13%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
27	0%	0%	0%	1%	94%	6%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
28	3%	0%	0%	1%	42%	33%	0%	0%	0%	0%	0%	0%	18%	0%	2%	1%
29	2%	0%	0%	11%	48%	1%	3%	0%	0%	0%	0%	0%	0%	0%	35%	0%
30	17%	0%	0%	22%	56%	0%	1%	0%	0%	0%	0%	0%	0%	0%	0%	4%
31	0%	0%	0%	0%	57%	43%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Mensual	5%	1%	4%	9%	49%	14%	2%	0%	1%	1%	0%	0%	1%	4%	4%	5%

DIRECCIÓN DEL VIENTO EN EL MES ORDENADA DE MAYOR A MENOR PREDOMINANCIA																
R. V.	E	ESE	ENE	NNO	N	ONO	NE	NO	SE	O	SSO	NNE	S	SSE	OSO	SO
F. R.	49%	14%	9%	5%	5%	4%	4%	4%	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.