

# How Important Are Fog and the Cloud Forest as a Water Supply in Eastern Mexico?

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**Table S1.** Height, diameter, climatic requirements (temperature and precipitation ranges), and distribution (altitudinal range) of *Alnus acuminata*, *Cupressus benthamii*, *Crataegus mexicana*, *Pinus ayacahuite*, and *Pinus patula*.

Species	Height (m)	Diameter (cm)	Temperature (°C)	Precipitation (mm)	Distribution (m asl)
<i>A. acuminata</i>	10–30	35–100	5–27	1000–3000	500–2800
<i>C. benthamii</i>	25–30	100	7–27	900–1200	1500–4000
<i>C. mexicana</i>	10–16	75	11–18	1000–1500	1500–3000
<i>P. ayacahuite</i>	35–40	>100	13–17	800–1500	2000–3500
<i>P. patula</i>	30	>100	9–23	750–2000	1800–2700

**Table S2.** Location and details of the individuals used for the rain gauges placement. See location in Figure 1.

No.	Species	Height (m)	Diameter (cm)	Location
1	<i>C. benthamii</i>	9	58	19° 36.252' N—97° 02.433' W
2	<i>P. ayacahuite</i>	6.5	61	19° 36.224' N—97° 02.445' W
3	<i>P. ayacahuite</i>	5	36	19° 36.230' N—97° 02.442' W
4	<i>A. acuminata</i>	5.5	55	19° 36.236' N—97° 02.456' W
5	<i>A. acuminata</i>	6	70	19° 36.240' N—97° 02.470' W
6	<i>P. patula</i>	9	69	19° 36.254' N—97° 02.475' W
7	<i>P. patula</i>	10	65	19° 36.279' N—97° 02.491' W
8	<i>A. acuminata</i>	13.5	117	19° 36.266' N—97° 02.499' W
9	<i>A. acuminata</i>	12	66	19° 36.280' N—97° 02.440' W
10	<i>P. patula</i>	10.5	74	19° 36.270' N—97° 02.528' W
11	<i>P. patula</i>	5	54	19° 36.331' N—97° 02.533' W
12	<i>P. patula</i>	7.5	44	19° 36.338' N—97° 02.580' W
13	<i>C. mexicana</i>	5	132	19° 36.319' N—97° 02.581' W

**Table S3.** Monthly number of total precipitation events (Events) and volume of net precipitation ( $P_N$ ), gross precipitation ( $P_G$ ), and fog (Fog). Data are given in mm (except for events) according to the type of precipitation event ( $T_1$ ,  $T_2$ , and  $T_3$ ; see details in Materials and Methods).

Month	Events			$P_N$			$P_G$			Fog		
	$T_1$	$T_2$	$T_3$	$T_1$	$T_2$	$T_3$	$T_1$	$T_2$	$T_3$	$T_1$	$T_2$	$T_3$
August	4	1	11	8.99	41.65	59.22	20.86	0	0	0	59.61	98.28
September	5	7	23	0.21	508.85	229.56	0.67	32.66	0	0	735.8	309.61
October	5	17	56	0.1	151.97	14.84	0.36	27.15	0	0	233.76	88.35
November	2	12	10	0.07	100.6	8.7	0.42	14.57	0	0	273.55	39.36
December	4	5	26	0	242.88	28.92	0.67	21.05	0	0	341.84	136.78
January	3	9	40	0	90.22	89.7	0.18	2.96	0	0	209.71	187.6
February	3	5	21	0.05	183.82	25.21	0.18	27.21	0	0	414.41	71.47
March	3	1	19	0	0.44	28.97	0.18	0.06	0	0	1.33	51.29
April	9	6	47	0.17	84.89	32.16	2.72	11.67	0	0	152.42	118.42
May	1	3	64	0	12.52	9.31	0.06	0.18	0	0	20.08	71.79
June	1	6	38	0	68.67	192.8	0.06	9.37	0	0	68.53	253.38
July	1	11	31	0	216.82	20.08	0.12	24.07	0	0	309.72	64.04
Total	41	83	386	54	1600	1342	26.48	170.95	0	0	2820.76	1490.37

**Table S4.** Monthly total number of hours of total ( $P$ ), gross ( $P_G$ ), and net ( $P_N$ ) precipitation. Data are given according to the type of precipitation event ( $T_1$ ,  $T_2$ , and  $T_3$ ; see details in Materials and Methods).

Month	$P$			$P_G$			$P_N$		
	$T_1$	$T_2$	$T_3$	$T_1$	$T_2$	$T_3$	$T_1$	$T_2$	$T_3$
August	13	16	41	11	1	0	11	16	41
September	7	219	101	6	39	0	3	216	101
October	6	171	118	5	80	0	3	168	118
November	2	235	34	2	66	0	2	235	34
December	4	147	122	4	58	0	0	147	122
January	3	176	194	3	30	0	0	176	194
February	4	145	81	4	58	0	1	140	81
March	3	3	94	3	1	0	0	3	94
April	9	98	152	9	23	0	3	98	152
May	1	22	128	1	3	0	0	22	128
June	1	51	205	1	13	0	0	51	205
July	1	317	72	1	63	0	0	317	72
Total	54	1600	1342	54	1600	1342	23	1589	1342

**Table S5.** Values of total net ( $P_N$ ), fog ( $P_F$ ), and gross ( $P_G$ ) precipitation and total ( $I_T$ ), fog ( $I_F$ ), and rain ( $I_R$ ) interception. Data are given in mm according to the type of precipitation event ( $T_1$ ,  $T_2$ , and  $T_3$ ; see details in Materials and Methods).

Type	$P_N$	$P_F$	$P_G$	$I_T$	$I_F$	$I_R$
$T_1$	0	9.6	9.6	16.89	0	16.89
$T_2$	1602.6	100.75	1703.3	1285.72	1215.5	70.22
$T_3$	739.46	0	739.46	750.92	750.92	0
Total	2342.05	110.34	2452.39	2053.52	1966.42	87.1

**Table S6.** Monthly values of total ( $I_T$ ), fog ( $I_F$ ), and rain ( $I_R$ ) interception. Data are given in mm according to the type of precipitation event ( $T_1$ ,  $T_2$ , and  $T_3$ ; see details in Materials and Methods).

Month	$I_T$			$I_F$			$I_R$		
	$T_1$	$T_2$	$T_3$	$T_1$	$T_2$	$T_3$	$T_1$	$T_2$	$T_3$
August	11.88	18.14	39.06	0	18.07	39.06	11.88	0.07	0
September	0.45	258.87	79.42	0	245.53	79.42	0.45	13.34	0
October	0.26	108.04	74.15	0	96.89	74.15	0.26	11.15	0
November	0.35	184.22	27.22	0	177.84	27.22	0.35	6.38	0
December	0.67	122.36	75.1	0	114.11	75.1	0.67	8.25	0
January	0.18	122.28	134.1	0	121.06	134.1	0.18	1.22	0
February	0.13	257.8	46.26	0	246.62	46.26	0.13	11.18	0
March	0.18	0.95	22.32	0	0.92	22.32	0.18	0.02	0
April	2.55	79.2	86.26	0	74.4	86.26	2.55	4.79	0
May	0.06	7.74	62.49	0	7.67	62.49	0.06	0.07	0
June	0.06	9.19	60.58	0	5.34	60.58	0.06	3.85	0
July	0.12	116.93	43.96	0	107.04	43.96	0.12	9.89	0
Total	16.89	1285.7	750.92	0	1215.5	750.92	16.89	70.22	0

**Table S7.** Values of average ( $ET_A$ ), total ( $ET$ ), fog ( $ET_F$ ), and rain ( $ET_R$ ) evapotranspiration and total ( $C_T$ ), fog ( $C_F$ ), and rain ( $C_R$ ) condensation. Data are given according to the type of precipitation event ( $T_1$ ,  $T_2$ , and  $T_3$ ; see details in Materials and Methods).

Type	$ET_A$ (mm s <sup>-1</sup> )	$ET$ (mm)	$ET_F$ (mm)	$ET_R$ (mm)	$C_T$ (mm)	$C_F$ (mm)	$C_R$ (mm)
$T_1$	$1.50 \times 10^{-4}$	24.73	0.00	24.73	1.42	0.00	1.42
$T_2$	$1.91 \times 10^{-4}$	1279.67	1196.91	82.76	21.26	18.59	2.67
$T_3$	$1.95 \times 10^{-4}$	709.28	709.28	0.00	41.64	41.64	0.00
Total	$1.90 \times 10^{-4}$	2013.67	1906.18	107.49	64.33	60.24	4.09

**Table S8.** Monthly average ( $ET_A$ ) and volume ( $ET_{vol}$ ) of evapotranspiration. Data are given in mm according to the type of precipitation event ( $T_1$ ,  $T_2$ , and  $T_3$ ; see details in Materials and Methods).

Month	$ET_A$			$ET_{vol}$		
	$T_1$	$T_2$	$T_3$	$T_1$	$T_2$	$T_3$
August	$2 \times 10^{-4}$	$3 \times 10^{-4}$	$3 \times 10^{-4}$	5.75	18.12	38.03
September	$2 \times 10^{-4}$	$3 \times 10^{-4}$	$3 \times 10^{-4}$	3.65	246.73	75.34
October	$3 \times 10^{-4}$	$2 \times 10^{-4}$	$2 \times 10^{-4}$	5.9	106.4	67.92
November	$2 \times 10^{-4}$	$2 \times 10^{-4}$	$2 \times 10^{-4}$	0.81	184.71	26.18
December	$2 \times 10^{-4}$	$2 \times 10^{-4}$	$2 \times 10^{-4}$	1.83	123.44	56.15
January	$1 \times 10^{-4}$	$2 \times 10^{-4}$	$2 \times 10^{-4}$	0.39	119.35	127.82
February	$1 \times 10^{-4}$	$3 \times 10^{-4}$	$2 \times 10^{-4}$	1.16	271.54	45.44
March	$1 \times 10^{-4}$	$9 \times 10^{-5}$	$6 \times 10^{-5}$	1.34	1	21.68
April	$9 \times 10^{-5}$	$2 \times 10^{-4}$	$3 \times 10^{-4}$	3.02	80.26	85.14
May	$4 \times 10^{-5}$	$1 \times 10^{-4}$	$1 \times 10^{-4}$	0.13	7.92	62.45
June	$4 \times 10^{-5}$	$3 \times 10^{-5}$	$1 \times 10^{-4}$	0.13	5.24	59.26
July	$2 \times 10^{-4}$	$9 \times 10^{-5}$	$2 \times 10^{-4}$	0.62	114.95	43.87
Total	$1 \times 10^{-4}$	$2 \times 10^{-4}$	$2 \times 10^{-4}$	24.73	1279.7	709.28

**Table S9.** Monthly values of fog ( $ET_F$ ) and rain ( $ET_R$ ) evapotranspiration, total transpiration (TRP), and water consumption ( $W_C$ ). Data are given in mm according to the type of precipitation event ( $T_1$ ,  $T_2$ , and  $T_3$ ; see details in Materials and Methods).

Month	$ET_F$			$ET_R$			TRP			$W_C$		
	$T_1$	$T_2$	$T_3$	$T_1$	$T_2$	$T_3$	$T_1$	$T_2$	$T_3$	$T_1$	$T_2$	$T_3$
August	0	18.07	38.03	5.75	0.05	0	0.7	0.11	2.93	9.95	41.76	63.18
September	0	241.44	75.34	3.65	5.3	0	0.16	5.67	5.78	-2.82	515.45	240.06
October	0	92.29	67.92	5.9	14.12	0	0.5	4.71	8.06	-4.8	154.53	28.49
November	0	172.79	26.18	0.81	11.92	0	0.08	7.94	1.57	-0.13	109.81	14.75
December	0	114.11	56.15	1.83	9.33	0	0.25	5.56	5.22	-0.65	243.13	85.84
January	0	116.75	127.82	0.39	2.6	0	0.09	4.48	9.8	0.05	97.38	69.58
February	0	246.62	45.44	1.16	24.92	0	0.12	2.66	2.76	-0.93	172.31	28.79
March	0	0.92	21.68	1.34	0.08	0	0.13	0.17	2.54	-1.03	0.56	32.14
April	0	74.4	85.14	3.02	5.86	0	0.47	3.11	9.08	-1.76	84.93	42.36
May	0	7.67	62.45	0.13	0.26	0	0.08	0.8	9.52	0.01	13.11	18.86
June	0	5.02	59.26	0.13	0.22	0	0	1.4	7.48	-0.07	70.43	201.6
July	0	106.83	43.87	0.62	8.12	0	0.11	10.84	3.65	-0.39	226.98	23.83
Total	0	1196.91	709.28	24.73	82.78	0	2.68	47.45	68.38	-2.57	1730.4	849.49