

# Rainfall and Temperature

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## Background

Cloudbridge is on the Pacific side of the Talamanca mountain range. The climate of the Pacific is marked by the presence of a "dry" season that lasts for four months (and more in some zones). At Cloudbridge, there is no pure dry season -- it rains, at least for an hour or two, almost every day. The reason lies in the height of the Talamanca mountains. Further north, the warm moist air driven westward by the trade winds loses its moisture as it crosses the cordilleras and the resulting dry air gusts down the Pacific slopes drying out everything in its path. With such low moisture content, few clouds form to block the sunshine and the prevailing winds keep Pacific breezes from bringing moisture onshore, thus further promoting the dryness.

The southern half of the Pacific slope is not normally as strongly influenced by these effects because the lofty Talamanca range blocks the drying winds to some degree. This allows moist air to be brought in from the Pacific Ocean. Air is forced up the mountain-side, and as it cools it forms mist, clouds or rain, even in the dry season. The cloud forest is caused by air passing over hilly terrain and condensing its moisture on the leaves of plants and trees.

At Cloudbridge, rain falls almost every day, usually starting in the early afternoon. This is common in the tropics. The sun warms the ground during the day. By afternoon the moist, unstable air is being forced to rise giving rise initially to clouds and then to heavy rain that arrives rapidly.

As the trade wind belt moves northward in response to global climatic conditions (principally, the angle of the sun and area of greatest surface heating), Costa Rica enters its rainy season as moist air flows in from both oceans and convection currents cause showers to occur. Occasionally one experiences unusually heavy rain lasting two days or more when air from the Pacific, being drawn in continuously towards a hurricane-related extreme low pressure center out in the Caribbean, is backed up against the Pacific-facing slopes of the cordilleras and drops its moisture. Roads get washed away and the Chirripo River turns brown with mud.

The rainy period is interrupted by "veranillos," or little summers. The veranillos last for one to two weeks, almost always in July, when precipitation decreases considerably in all the Pacific Zone. When one occurs early (end of June), its known popularly as "Veranillo de San Juan." If it occurs in July or the beginning of August, sometimes with alternating dry and rainy days, people refer to it as the canicula.



The following charts represent 3 years of daily tracking rainfall and temperatures at The Casa.

**Cloudbridge rainfall estimates (2003-06 data)**

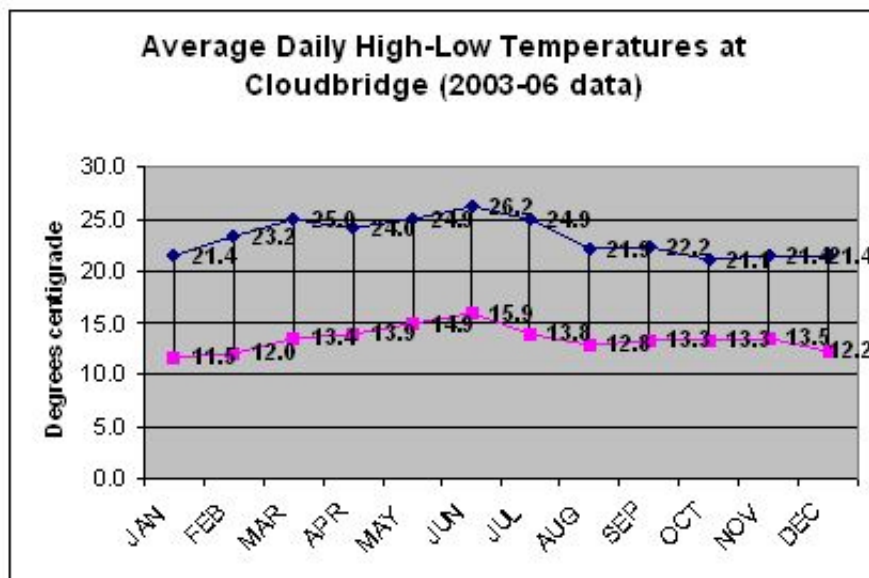
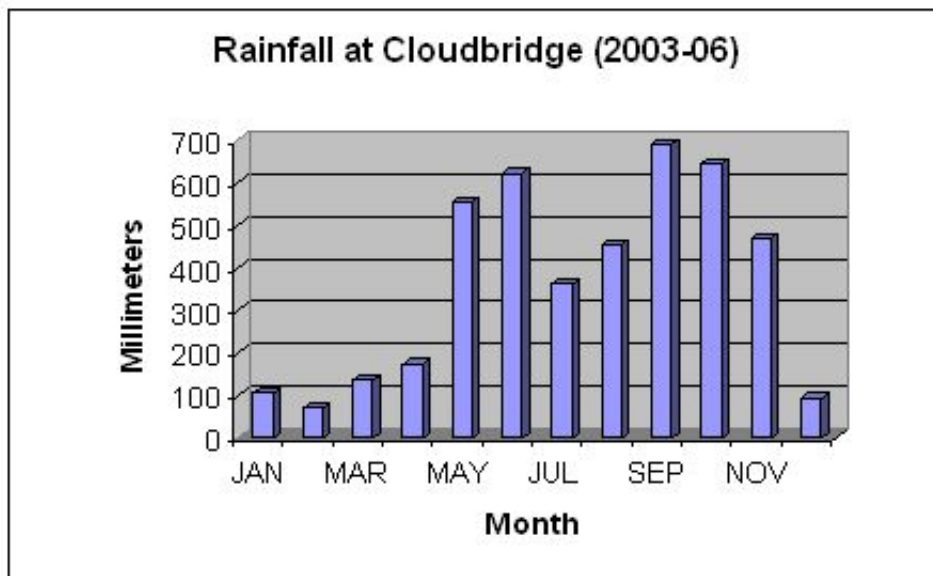
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Total
inches	4.1	2.7	5.3	6.8	21.8	24.5	14.2	17.9	17.2	25.4	18.4	3.6	172.1
cm	104	70	136	172	554	623	362	454	690	645	469	93	4370

**San Isidro 22.6 km by road from Cloudbridge (for comparison)**

inches	1.5	1	1.6	5.4	11.5	13	13.2	15.7	16.3	19	14	4	117.1
mm	38	25	41	137	292	330	335	399	414	483	356	102	2972

**Cloudbridge temperatures (daily averages)**

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Annual
High C	21.4	23.2	25	24	24.9	26.2	24.9	21.9	22.2	21.1	21.4	21.4	23.1
Low C	11.5	12	13.4	13.9	14.9	15.9	13.8	12.8	13.3	13.3	13.5	12.2	13.4



Data employed to calculate these averages and estimates are available upon request.