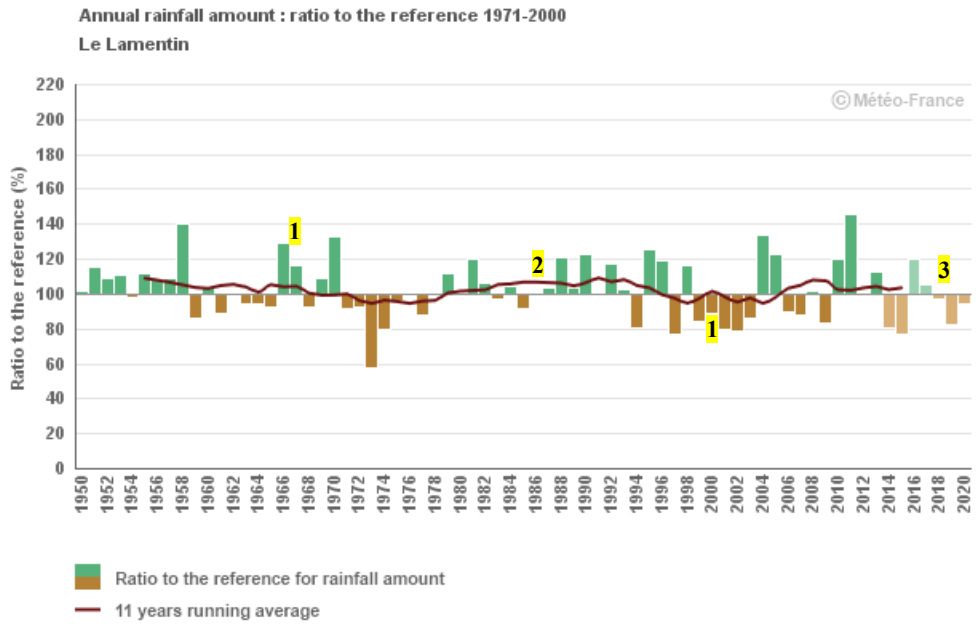
Evolution of annual/seasonal precipitation
Past climate – French West Indies

1. Graph reading aid



3 time series are represented on the graph :

Series 1 'brown and green histogram' :
Ratio between the observed annual/seasonal rainfall amount *(homogenized series, see §3. Data and methods)* and the reference value (1971-2000 average of the observed annual/seasonal rainfall amount).
Values below and above the average over the 1971-2000 period are represented in brown and green, respectively.

Series 2 'purple curve' :
11-year running mean of the parameter represented by the histogram. The running mean being centered on the considered year by construction, there is no value for the first 5 years of the time series, nor for the last 5 years.

Series 3 ''lighter' brown and green histogram' :
Ratio between the observed annual/seasonal rainfall amount *(non-homogenized series, see § 3. Data and methods)* and the reference value (1971-2000 average).

2. Definitions

Weather seasons :

- Dry season : February to April
- May - June : transition season into the wet season
- Wet season : July to November
- December - January : transition season into the dry season

Ratio between the annual/seasonal rainfall amount and its reference value (1971-2000 average) :

- Annual/seasonal rainfall amount (RRs) : daily precipitation accumulated over the year/season
- Daily precipitation : amount of water collected between D-day at 8 am local time and D+1 day at 8 am local time
- Reference over the 1971-2000 period (Ref RRs) : average of the 30 RRs values

= ratio between the annual/seasonal amount (RRs) and the reference (Ref RRs)

3. Data and methods

Homogenized series :
Observed time series cannot be used directly to analyze climate change. Indeed, they are affected by changes in measurement conditions over time, such as displacements of the measuring station, or changes in sensors. These changes cause shifts, which can be of the same order of magnitude as the climate signal. Homogenization is a statistical treatment that consists in detecting and correcting shifts in observed time series in order to produce reference series adapted to quantify climate change.
Homogenized series are produced for a particular period, e.g. 1950-2013. On the graph, they are extended until a more recent date with raw data, represented with a lighter colour.
In the French West Indies (Guadeloupe and Martinique), there are 38 homogenized series of monthly precipitation. 6 homogenized series have been selected, according to criteria of quality and representativeness.