

Af

Tropical Rainforest Climate

Location Examples:

- Andagoya, Colombia
- Singapore
- Fort Lauderdale, Florida, USA
- Saint-Laurent-du-Maroni, French Guiana

study
By Juan Gonzalez

Tropical rainforest climates usually range high temperatures of 86 °F with large amounts of precipitation and high humidity. These climates are usually located within about 12° of the equator.

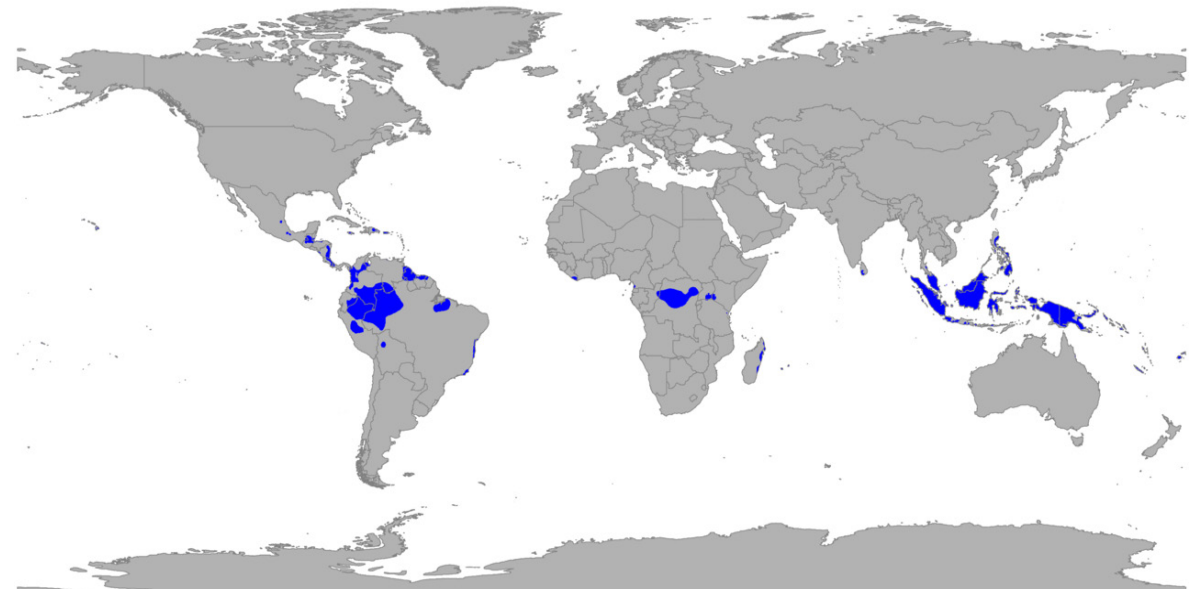
Materials used in this climate may range and include, but not limited to, concrete, glass, wood, and recycled for both interior and exterior use. Furthermore, due to the large amount of rainfall and humidity throughout the year, the materials are used to use passive design techniques.

Sources:

https://en.wikipedia.org/wiki/Tropical_rainforest_climate

<https://www.britannica.com/science/wet-equatorial-climate>

<https://nomadisbeautiful.com/travel-blogs/where-to-stay-in-medellin/>



Medellin, Colombia

Educational Institute La Samaria

case study
By Juan Gonzalez

Location: Pereira, Colombia



Architect: Campuzano Arquitectos

Owner: N/A

Year of completion: 2012

Climate: Wet Equatorial

Material of interest: Wood

Application: Exterior

Properties of material: The project uses bamboo on the facade as a way to control heat and the sun. Bamboo is a renewable natural material and is commonly used regionally for structural purposes.

Sources:

<https://www.archdaily.com/307970/educational-institute-la-samaria-campuzano-arquitectos>

A Simple Factory Building

case study
By Sheng Yan

Location: Singapore



Architect: Erik L'Heureux/Pencil Office

Owner: N/A

Year of completion: 2012

Climate: Tropical Rainforest Climate (Koppen Climate Classification: Af)

Material of interest: Titanium Dioxide-Coated EIFS

Application: Exterior

Properties of material: EIFS panels were prefabricated in different dimensions to create a breathable screen for the building, which shields the equatorial sunlight for the interior. The panels are much more light in weight in comparison to precast concrete. Titanium Dioxide-Coating provides effective anti-weathering properties for the screen against sun and rain, effectively making the building look new after a few seasons.

Sources:

Architect Website: <http://penciloffice.com/>
Web Magazine: <https://www.designboom.com/architecture/pencil-office-a-simple-factory-building/>
<https://www.archdaily.com/431860/a-simple-factory-building-pencil-office>

Photographer:

Pencil Office

Rectorate Office Building

case study
By Yuhui Xiong

Location: Avenue de France, Kourou, French Guiana



Architect: HAUETTE & ASSOCIÉS

Owner: Ministry of National Education

Year of completion: 2007

Climate: Tropical rainforest climate (af)

Material of interest: Metal

Application: Exterior/Interior

Properties of material: . The elevations of the main building are clad with a perforated stainless steel skin that subtly shades the windows

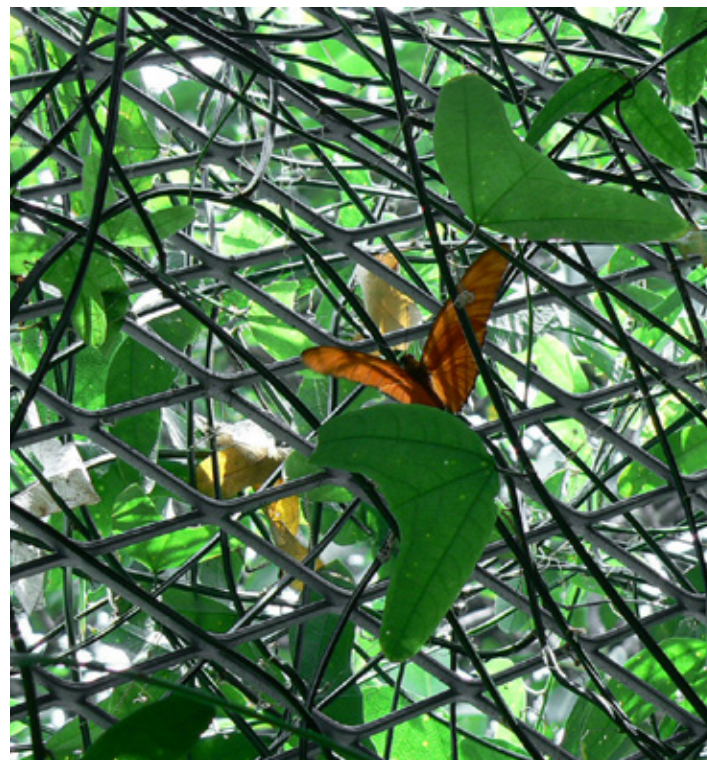
Sources:

<https://www.archdaily.com/21526/rectorate-office-building-hauvette-associes>

Host and Nectar Garden Building

case study
By Tian Lan

Location: Cali, Valle del Cauca, Colombia



Architect: HUSOS

Owner: N/A

Year of completion: 2012

Climate: Tropical Rainforest Climate

Material of interest: Expanded Metal Mesh

Application: Exterior Façade

Properties of material: The expanded metal mesh is a rigid metal that has been processed from a design pattern, by cutting and stretching a sheet in a single process. In this project, the expanded metal mesh facade system allows for natural ventilation as well as plants attached to the surface. In this way, the green façade provides a comfortable microclimate within the building, reduces energy consumption and can be used as a prototype for a welcoming domestic garden for all the insects and birds in the area

Sources:

<https://www.archdaily.com/772039/bioclimatic-prototype-of-a-host-and-nectar-garden-building-husos>

Location: Guapi, Colombia



Architect: Oscar Andres Mendez

Owner: N/A

Year of completion: 2015

Climate: Wet Equatorial

Material of interest: Recycled Plastic Brick

Application: Structure

Properties of material: The bricks are made from plastic that has been thrown away by recyclers and factories. The plastic is melted and emptied into a final mold that creates a three-kilo brick. They have been designed to be put together similar to Lego pieces.

Sources:

<https://www.archdaily.com/869926/this-house-was-built-in-5-days-using-recycled-plastic-bricks>

Foundation website: <http://conceptosplasticos.com/>