2023-2024

NamazuContest 2023-2024

Episode 3 – RDV2

answers to insight@geoazur.unice.fr

Level of difficulty

Namazu arrived in Ecuador for a scientific oceanographic expedition. New puzzles to discover between earthquakes and volcanoes.

Weather and climate

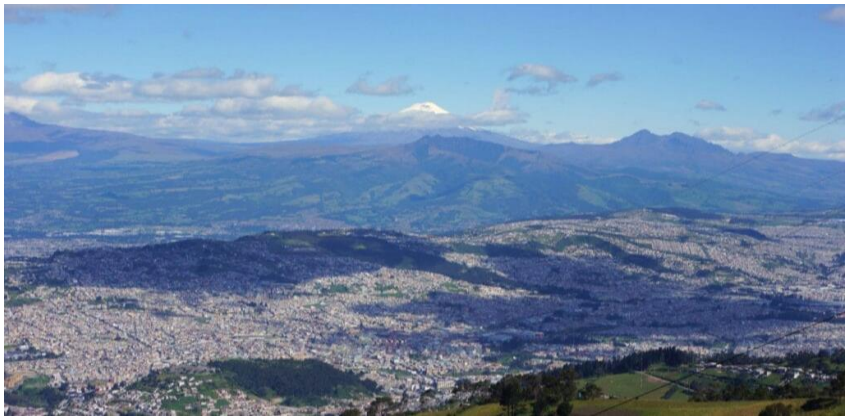
Faustine, SVT teacher who is due to reach Ecuador next Sunday January 28 to board the deep-sea ship *«Pourquoi pas?»* for leg 2 and 3 of the SUPER-MOUV mission, begins to prepare her suitcase and wonders what clothes she will have to bring, knowing that to join Manta by plane from Paris, a stopover in the city of Quito is necessary.

She is therefore interested in the climate and weather in Ecuador.

Map of Ecuador

Photo of the port of Manta sent by François Michaud, head of the SUPER-MOUV mission

Photo of the city of Quito



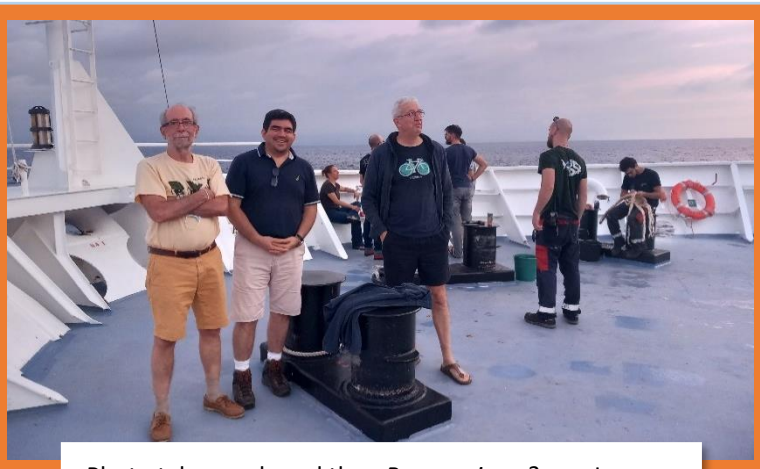
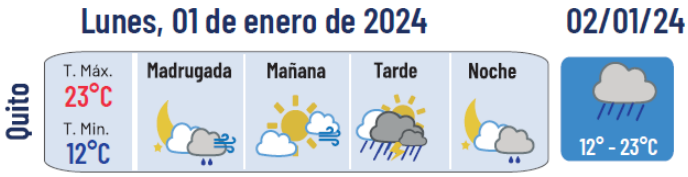


Photo taken on board the *«Pourquoi pas?»* on January 13, showing scientists in summer outfits

Photos taken on board the *«Pourquoi pas?»* show that the temperatures are more than mild for the crew and the scientists, while they are rather cold in Paris currently.

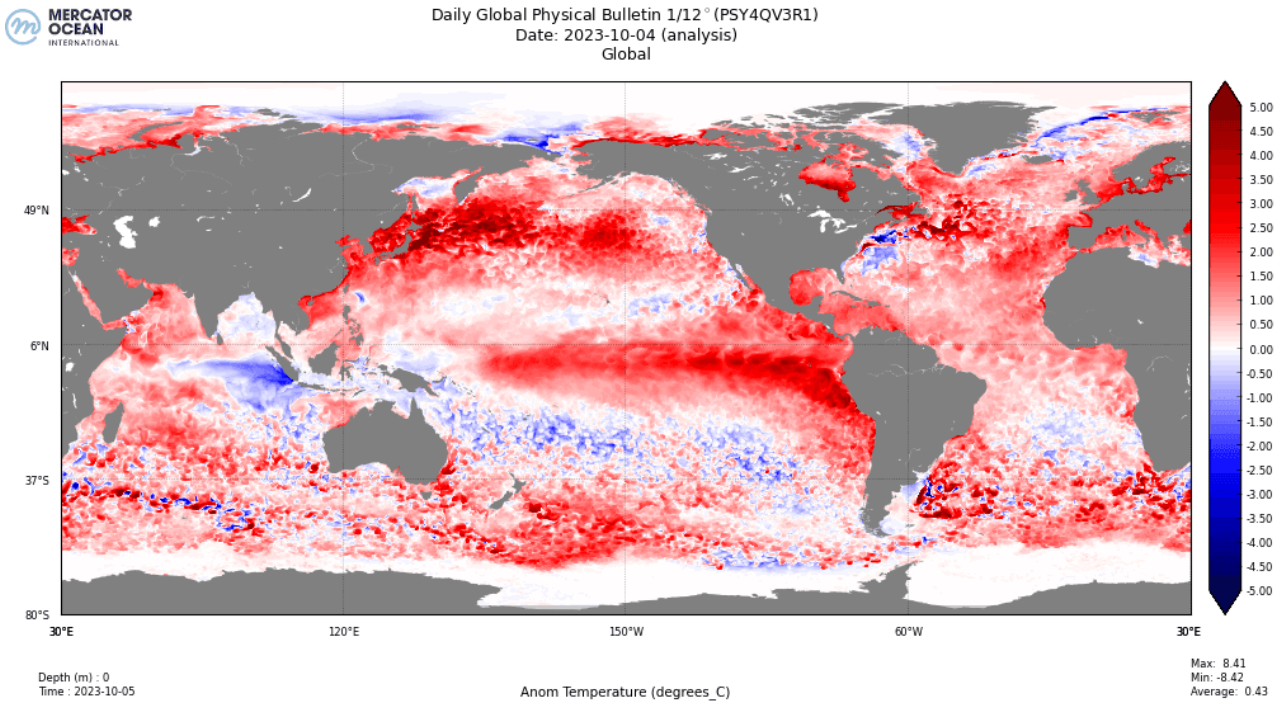
Photo of the House of Education of the Legion of Honor (where Faustine teaches) under the snow, in Saint Denis – Paris, on January 8

Here is the weather report for the city of Manta and the city of Quito for January 1 and 2, 2024:



https://www.inamhi.gob.ec/

Ecuador is also a country affected by the El Niño weather phenomenon, which is present this year in the waters of the Pacific Ocean.



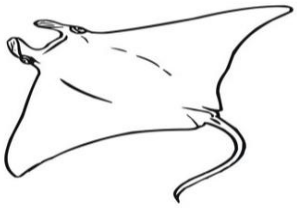
Ocean surface temperature anomalies as of October 4, 2023,
analyzed by Mercator Ocean International.
https://meteofrance.com/actualites-et-dossiers/actualites/el-nino-est-de-retour-quelles-consequences-echelle-mondiale-et-europe

There is currently on board the *«Pourquoi pas?»* an Ecuadorian researcher who works on the El Niño phenomenon and who is present to take measurements of the water temperature off the coast of Ecuador on the ship's route during the SUPER-MOUV mission.

Given the climatic conditions in Ecuador, there are many animal and plant species dependent on the equatorial climate. Moreover, the name of the city from which the *«Pourquoi pas?»* set off for the SUPER-MOUV mission cannot prevent us from thinking of an impressive animal: the Manta ray, also called the “sea devil”!

There are actually two species of Manta rays, one of which is common off the coast of Ecuador. Both species are classified as vulnerable by the IUCN.
https://www.iucn.org/fr/content/un-autre-pas-vers-le-barometre-de-la-vie

This animal has two large “wings” whose wingspan can reach up to 9 m. But what type of animal is it? Could it be a bird that can swim?



Junior level:

Explain the differences in temperatures observed between the Ecuadorian coast where the city of Manta is located, and those observed in the city where your establishment is located (if the temperatures are significantly different) or those observed in Paris for example.
You can use your own data and/or rely on the data available on the meteorological site:
https://meteofrance.com/
or:
https://zoom.earth/

Explain why the temperatures are not the same in Manta and Quito.
You can use Google Earth to validate your assumptions.

Intermediate level:

Explain why temperatures in the Pacific Ocean off the Equator are higher during an El Niño event than in a "normal" year.
You can rely on the meteorological site:
https://meteofrance.com/comprendre-climat/monde/el-nino-et-la-nina

Expert level:

Determine the place of the Manta ray in the classification of Vertebrates.
To do this, you can use the "Phylogene" software and its technical sheet with the "Vertébrés-Lycée" collection.
The ray can be compared to other animals that can be found in the oceanic environment: Coelacanth, Dolphin, Man, Lamprey, Penguin, Sea Lion, Shark, Whale, Sardine and Tuna, using the following attributes: wings, branches, feathers, hair, functional lungs and bone skeleton.

We await for your results and discoveries on:
insight@geoazur.unice.fr

Enjoy the discoveries and until next time for the continuation of the adventure !