Climate change involves world wide challenges for nearly all aspects of life, including health, economy and science. The University of Rouen Normandy has been awarded the "Sustainable Development and Social Responsibility" label for its commitment to the ecological transition. In this context, the students of the Master’s Degree in Bioinformatics have questioned the environmental impact of their field of study. Actually, the impact of bioinformatic computations on global warming has generally been underestimated despite the current climate crisis. Here we present the Bioinformatics Master students’ carbon consumption during their apprenticeship. Consumption data encompasses the activities led by their bioinformatics domains (e.g., "omics", structural biology) and their range of analysis (e.g. genome assembly, quality control).

To address our question, we gathered all the jobs carried out by the students for a month and determined their environmental impact using the Green Algorithm (a), as described in the top right poster frame. This is a reliable proxy, as it takes into account the main computational parameters: RAM, nodes, type of computing machine - and provides the estimated carbon footprint (CF) for each computational task. We studied how these results break down through the bioinformatics domains under scrutiny.

1. Data retrieval : our protocol

2. Description of our dataset

3. Results : technical resources and carbon footprint

4. Daily life comparisons

5. Towards a more sustainable environment [6]

References

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