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CO_2 BEHAVIOUR IN THE COLOMBIAN PACIFIC OCEAN BETWEEN THE YEARS 2000 AND 2011

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The CO_2 flux between the atmosphere and the Colombian Pacific Ocean was estimated using satellite-derived data (Sea Surface Temperature, Wind Speed) between 2000 and 2011 and validated with *in situ* data available in the Carbon Dioxide Information and Analysis Center. Thus, it was identified that the Colombian Pacific has a tendency to capture CO_2. The flux average for the period of time studied ranged between -20 and -25 *m*mol/m²/day, with the exception of the months of June of the years 2009 and 2010. The validation of the data was done taking as reference, the month of Nov' 2010, showing a better performance for the Nov' data (R2=0.58, RMSE=37%). Thus, the trend of estimating CO^2 flux from satellite data showed a tendency to underestimate the flux data (BIAS=-14%). Finally, the statistical analysis indicated that although the validation of the satellite flux data vs. the *in situ* showed a good behaviour as a preliminary tool for the estimation of the fluxes, it is concluded that it is necessary to have larger amounts of data *in situ*, this with the purpose of adjusting and improving the estimation model.

Biography

Juan Guillermo Popayan-Hernandez, Environmental Engineer (2010) and Master's in Environmental Engineering with an emphasis in research (2015) graduated from the Universidad Nacional de Colombia and is currently a Doctoral student in Environmental Sciences at the Universidad del Valle. He has focused on investigating the impacts of CO2 on marine ecosystems in the maritime area of Colombia, specifically the relationships between social communities and abiotic factors.

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