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Phytoplankton biomass carbon (0-200 m) across a Loop Current Ring - PhytoPBE

This dataset contains hydrographic and biological data collected during the cruise PhytBloomEddy conducted in the northern region of the Gulf of Mexico onboard Pelican R/V (LUMCON) across an anticyclonic Loop Current Eddy named Yazoo and surrounding waters, between November 9 and 16, 2022, as part of the project “Florecimientos de fitoplancton en un remolino de la Corriente de Lazo” (FORDECYT-PRONACES-CONAHCYT-1327709).

The data comprises hydrographic, biogeochemical, and bio-optical information, in particular the conservative temperature (CT, °C), potential density anomaly (σ_θ , kg m⁻³), and total chlorophyll-a concentrations (TChla, $\mu\text{g L}^{-1}$) data from near-surface down to 190m-depth for all stations across the sampling transect, as well as the depths (m) of the 0.1, 1, and 10 isolumens, expressed as a percentage of surface PAR light (%E0), and of the 0.5 ($\mu\text{mol kg}^{-1}$) Nitrate+Nitrite (NN) concentration representing to the nitracline (ZN). The hydrographic data were processed and binned at 1m vertical resolution by E. Pallàs-Sanz.

Also includes the carbon biomass ($\mu\text{g C L}^{-1}$) by optical depth in the upper 150 m of the water column of total autotrophs (T-AC), total heterotrophs (T-HC), Prochlorococcus (PRO), Synechococcus (SYN), heterotrophic bacteria (HB), haptophytes (HAPTO), green algae (GREEN), pelagophytes (PELAG), auto/mixotrophic dinoflagellates (A/M-DINO), diatoms (DIATO), minority groups including cryptophytes, phytoflagellates, and silicoflagellates (OTHER A-EUK), and heterotrophic eukaryotes (H-EUKs), which include, heterotrophic dinoflagellates (HDINO, mostly order Noctilucales), heterotrophic nanoflagellates (HNANO), and ciliates (CIL). Sheet four contains data on pigment content per cell (fg cell⁻¹) by optical depth in the upper 150 m of the water column for the divinyl chlorophyll-a (DVChla) pigment found only in Prochlorococcus cells and the monovinyl chlorophyll-a (MVChla) pigment found in the remaining autotrophs, including Synechococcus cells. The biological information was processed by L. Linacre.

Hereafter, this dataset is referred to as PhytoPBE. See Linacre, L., E. Pallàs-Sanz, J.A. Velásquez-Aristizábal, C. Sánchez-Robles, U. Mirabal-Gómez, V. Camacho-Ibar, J.R. Lara-Lara, C. Bazán-Guzman and J. Sheinbaum (2025). *Carbon Biomass Assessments for Microbial Plankton Groups across a Young Anticyclonic Loop Current Eddy and Surrounding Waters in the Gulf of Mexico*. Submitted to Journal of Geophysical Research.

Description

The PhytoPBE database can be licensed for non-commercial use, and it is prohibited to share it with third parties, as well as to profit or sell products derived from it. Under these criteria, the only additional condition is that the product resulting from the use of this data includes the acknowledgments: “The acquisition of the hydrographical, biogeochemical, and bio-optical data has been financed by the project FORDECYT-PRONACES-1327709. We recognize CONAHCYT for promoting the Fund to understand the phytoplankton blooms inside eddies” and citation either of the manuscript “Linacre, L., E. Pallàs-Sanz, J.A. Velásquez-Aristizábal, C. Sánchez-Robles, U. Mirabal-Gómez, V. Camacho-Ibar, J.R. Lara-Lara, C. Bazán-Guzman and J. Sheinbaum (2025). *Carbon Biomass Assessments for Microbial Plankton Groups across a Young Anticyclonic Loop Current Eddy and Surrounding Waters in the Gulf of Mexico*. Submitted to Journal of Geophysical Research.”.

End User Academic License Terms And Conditions

1. SCOPE. The present Terms and Conditions (“T&C”) govern the relationship between “CICESE” and the “Applicant” regarding the “Use Application”, authorization and, when applicable, the academic license of the “Database”.

2. DEFINITIONS. The following concepts when used in the “T&C”, written in uppercase regardless of their conjugation or singular or plural use will have the following meaning:

2.1. “CICESE”: Centro de Investigación Científica y Educación Superior de Ensenada, Baja California, a decentralized agency, with legal personality, its own assets, and technically, operationally and administrative independent in terms of decision making, created by decree of the Federal Executive, published in the Official Federal Diary on September 18th, 1973, restructured by Presidential decrees published in the Official Federal Diary on August 29th, 2000 and October 13th, 2006; and the Public Investigation Center regarding the Mexican Science and Technology Law article 47 acknowledged by agreement between the Secretary Of Public Education and the National Science and Technology Council of the Federation on September 11th, 2000;



2.2. “CICESE Address”: Legal address of “CICESE” located at Carretera Ensenada Tijuana, number 3918, Zona Playitas, Postal Code 22860, P.O. Box 360, in the city of Ensenada and municipality of the same name corresponding to Baja California, Mexico and with phone number 01 (646) 175-05-00;

2.3. “Applicant address”: Legal address of the “Applicant”, mentioned in the “Use Application”;

2.4. “CICESE e-mail address”: “CICESE’S” e-mail address appointed to receive notifications as described in the “T&C”;

2.5. “Applicant’s e-mail address”: “Applicant’s” e-mail address appointed to receive notifications as described in the “T&C”;

2.6. “End User”: It refers to the “Applicant” authorized by “CICESE’s” to use the “Database” as described in the “T&C”.

2.7. “Person”: It refers to any individual or legal entity.

2.8. “Database”: It refers to the glider dataset PhytoPBE used in the manuscript entitled: “Linacre, L., E. Pallàs-Sanz, J.A. Velásquez-Aristizábal, C. Sánchez-Robles, U. Mirabal-Gómez, V. Camacho-Ibar, J.R. Lara-Lara, C. Bazán-Guzman and J. Sheinbaum (2025). *Carbon Biomass Assessments for Microbial Plankton Groups across a Young Anticyclonic Loop Current Eddy and Surrounding Waters in the Gulf of Mexico*. Submitted to Journal of Geophysical Research.

2.9. “Parties”: “CICESE” and “End User”;

2.10. “Mexico”: The Mexican United States;

2.11. “Website”: [<https://gliders.cicese.mx/databases/PhytoPBE>] website where the “End User” may access the “Database”;

2.12. “Use Application”: It refers to the petition a person submits to “CICESE” to request permission to use the “Database”.

2.13. “Access Link”: Refers to the external hyperlink to be sent by “CICESE” to the “End User” to “Applicant’s Email Address” to identify and authenticate the access and download of the “Database”; 2.14. “Privacy Notice”: Notice of how “CICESE” shall treat the “Applicant’s” personal data in accordance with the Mexican General Law of Personal Data Protection in Possession of Legally Bound Subjects;

2.15. “Eligible person”: Any individual, Mexican or foreign, with the following qualities: (i) Bachelor, specialty, master, PhD (ii) teacher, (iii) researcher (iv) academic institutions;

2.16. “Eligible Activity”: Any of the following activities: (i) scientific research in all stages, (ii) education, (iii) scientific publishing, all the above must be non-profit.

2.17. “Intellectual Property”: Shall have a definition as ample as necessary and to all the extent the Mexican Laws and International Treaties grant; it shall include any right, title, or interest created by the mind, embodied in any media, regardless of their form, shape or expression whether it is conventional or digital, including but not limiting to copyrights, trademarks, patents, industrial designs, industrial models, industrial secrets and vegetable varieties;

2.18. “Applicant”: Any “Person” who requests a “Use Application”.

3. ELIGIBILITY. To obtain authorization to use the “Database”, the “Applicant” is required to be an “Eligible Person” and have an “Eligible Activity”. Any “Applicant” who isn’t an “Eligible Person” must send a written request to “CICESE” to obtain a different license; the same thing shall apply for non - “Eligible Activities”. Any communication regarding the above can be sent to “CICESE e-mail address”.

4. ACCESS REQUEST: To receive authorization to use the “Database”, the “Person” must send a request on the “Website”, where they will be required to disclose (i) name, (ii) last name, (iii) e-mail address, (iv) name of the institution, and (v) specify how the “Database” will be used. “CICESE” reserves the right to request further information to verify “Applicant’s” identity and eligibility. “CICESE” also reserves the right to grant the “License”





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CONAHCYT
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CIENCIAS Y TECNOLOGÍAS



and has no obligation to justify its resolution. There is not a specific period of time to receive authorization. All information submitted by the “Applicant” will be treated as described in the “Privacy Notice”.

5. **AUTHORIZATION.** The “Use Application” does not guarantee an authorization, if “CICESE” does not send a written consent to the “Applicant”, it will be understood as not authorized. Once “CICESE” has authorized the “Applicant”, an e-mail will be sent to the “Applicant e-mail address” with a simplified version of the terms of use and “Applicant’s” “Access Link” to access the “Database”. The “Access Link” is non-transferable and revocable. It is the “End User’s” responsibility and obligation to keep the “Access Link” secret. Any activity generated with the “End User’s” “Access Link” shall be understood as carried out by him/her, and he/she shall be responsible of any legal effects. The “Access Link” used by any third party not authorized by “CICESE” is considered a breach of the “T&C”, and “CICESE” shall have the power to revoke the authorization. “CICESE’s” authorization to the “Applicant” is unique and exclusive to the “Person” whose data was provided in the “Use Application”. Any “Person” whose data was not provided requires an authorization by “CICESE”. The “Use Applications” submitted by legal entities must be submitted by their legal representative or the individual with legal capacity, it is required to send the information of all the individuals who will have access to the “Database”.

6. **TERMS OF USE.** The approval of the “Use Application” by “CICESE” grants the “Applicant” an authorization as “End User” and grants them a free license, worldwide, perpetual, revocable, non-transferable, non-sublicensable and limited to access and use the “Database” for the sole purpose of research, education and scientific publications, all of the above on a non-profit basis (hereinafter the “License”). Any other right not contained in these “T&C” is prohibited and requires “CICESE” written consent.

7. **INTELLECTUAL PROPERTY.** The “License” granted by “CICESE” to the “End User” does not transfer any property rights or others than those expressly indicated and “CICESE” shall remain as the universal owner of all the “Intellectual Property” related to the “Database”.

8. **CICESE TRANSFERS.** The “End User” cannot transfer the “License” rights. “CICESE” is the only one legitimized to transfer, disclose, publish, exchange, provide, grant, sell, convey, and/or exploit the rights, properties, and interests of the “Database” in a partial or total way.

9. **DERIVATE WORKS.** The “End User” has the right to make derivate works of the “Database”. “End User” shall be the owner of the new “Intellectual Property”, and “CICESE” shall have the right to receive a license on the same terms that were granted to the “End User”.

10. **AKNOWLEDGEMENT AND CREDIT.** The “End User” accepts that according to the law every author of the “Database” and the derivate work shall receive attribution of their “moral right”, “droit moral”, “artist rights” or (Collectively called “Moral Rights”) and each participant shall have its “Moral Right” at the fullest extent as established in the law. The “Parties” agree that the authors to be recognized their “Moral Right” are the ones described on the definitions of the “Database”. The “End User” agrees that any publication, publicity, execution or results of the “Database” must refer and acknowledge the authors, it must also include the following statement: “The acquisition of the hydrographical, biogeochemical, and bio-optical data has been financed by the project FORDECYT-PRONACES-1327709. We recognize CONAHCYT for promoting the Fund to understand the phytoplankton blooms inside eddies.”

11. **SPECIAL PROVISION OF COMPULSARY LICENSING.** In case the Mexican Federal Government has any justified interest in the “Database” or in the derivative works of the “End User”, in accordance with the laws and the International Treaties signed by “Mexico”, the “End User” agrees to assist “CICESE” on any necessary requirements during the process to fulfill the requirements by the Mexican Government, the “Database” and the derivative works executed, if applicable, with it, as to obtain the registries to defend and maintain the licensed rights.

12. **REPRESENTATION IN CONNECTION WITH THE “DATABASES”.** “CICESE” is not responsible for any accuracy or quality of the data contained in the “Database”, and the “End User” recognizes the inherent risk of error in the acquisition and processing of the geological and geophysical data. Therefore, the “End User” accepts the “Database” “As Is” and shall not make claims related to it. “CICESE” DOES NOT OFFERS REPRESENTATION OR GUARANTEES NEITHER EXPRESSED OR IMPLIED, OF NO INFRACTIONS, MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, QUALITY, JOB ADMINISTRATION OR COMPILATION NOR OTHER GUARANTEE EXPRESSED OR IMPLIED IN THE EXERCISE OR USE OF COMMERCE. “CICESE” UNDER NO CIRCUMSTANCES WILL BE RESPONSIBLE OF THE “END USER” OR PERSON THAT CLAIMS THROUGH THE “END USER” A TORT OR ANY OTHER SPECIAL REASON, PUNITIVE OR INDIRECT AS A RESULT OF THE AUTHORIZATION AS ANY INCIDENTAL DAMAGES IN CONSEQUENCE OF IT OR USE OF THE “END USER” OF THE DATA, INCLUDING BUT NOT LIMITING



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CIENCIAS Y TECNOLOGÍAS



LOSS OF PROFITS, LOSS OF INCOME, OR ANY OTHER ECONOMIC OR FINANCIAL LOSS, OR BUSINESS INTERRUPTION, WHICH MAY BE CAUSED. The “End User” has the obligation to defend, keep in peace and indemnify “CICESE” for any claim that may be arise between the “End User” or a third party related to the “Database” use, whether its nature is judicial or extrajudicial, being a breach, error, omission, damages, losses or even an allegation of a crime committed on national territory or international.

13. **WAIVER.** “CICESE” lack of action with the “End User” breach does not mean a waiver of its rights, except when it is expressed in writing and is signed by the legal representative of “CICESE”.

14. **BREACH.** If the “End User” infringes these “T&C”, and/or the “License”, “CICESE” will notify the non-complying party of the identified failure, also, will grant a maximum peremptory period of 10 (ten) business days to repair the failure, with the understanding that, on the contrary “CICESE” will revoke its “License” and demand the penalties, all of the foregoing without a judicial statement. “CICESE” will have the right to claim damages if the “End User” comes to a breach.

15. **UNFORESEEN CIRCUMSTANCES.** The “Parties” will not be held responsible for any civil damages caused as consequence of any unforeseen circumstances.

16. **TERMINATION.** The “License” and “T&C” may be terminated: (1) By any of the “Parties” unilaterally, (2) Unilaterally, when the “End User” decides to cancel the “License” on the “Website”; (3) Unilaterally, “CICESE” can terminate any time or because of a breach, notifying the “End User” 5 (five) business days before the termination of the “License”.

17. **NOTICES.** All related notices to the “T&C” and “License” must be in writing to the corresponding “Party” address, or by e-mail or, to any further addresses the “Parties” may add. If the notifications are not made by certified mail they will be considered delivered once the receiving “Party” confirms an acknowledgement of receipt. Notifications made by e-mail or facsimile will be considered delivered on the date of the digital receipt provided with a certification.

18. **TOTALITY.** The “T&C” constitute the sole agreement between the “Parties”.

19. **ANNULMENT TERMS.** If any obligation, condition, or term established in the “T&C” is found void or unenforceable at a jurisdiction, it will only be void and unenforceable to said jurisdiction and the remaining obligations will maintain its validity, as in any other jurisdiction that is not void or unenforceable. In the event any clause of this “T&C” is found to be invalid or unenforceable, the rest of the obligations, will be considered validly agreed.

20. **HEADERS.** All headings of the “T&C” are incorporated for an easier understanding, but in no way shall they be considered as part of or affect the obligations of the conditions established in the “T&C”.

21. **VARIOUS BUSINESSES.** “Parties” agree these “T&C” do not grant rights or faculties over the other businesses that the parties respectively have, but only those rights and faculties granted are the established in the “T&C”. Under any circumstance the “End User” or “Person” may claim, or demand rights not contemplated in the binding documents.

22. **MODIFICATIONS.** The “T&C” and/or “License” cannot be modified if the “Parties” do not sign a covenant.

23. **JURISDICTION.** Questions related to the “T&C” and “License” or its validity, interpretation, enforcement or breach will be decided according to the Federal Laws of “Mexico” and the State of Baja California, “Parties” agree to take into consideration all International Treaties of Intellectual Property applicable to copyright, commercial secrets and patents, including the Berne Convention for the Protection of Literary and Artistic Works and the Paris Convention for the Protection of Industrial Property. In the event of a dispute during the “License” related to its requirements or interpretation, “Parties” agree to reunite and negotiate in good faith to try to resolve the controversy by 1 (one) mediation. Any emerging claims or conflicts of the “License” or related to it that cannot be resolved by an agreement including its form, validity, binding effect, interpretation, breach, termination, or contractual claims will be held by arbitration according to the Arbitration Rules of the World Intellectual Property Organization. The arbitral tribunal will be formed by a single arbitrary. The place of the arbitration will be Ensenada, Baja California, Mexico. The arbitration will be in Spanish. The controversy or claim will be decided in accordance with the Laws of “Mexico” and all International Treaties signed by “Mexico”. “Parties” agree that all expenses related to the arbitration will be covered 50% (fifty per cent) by each party and whoever wins will have the right to be reimbursed of all the expenses related to the arbitration



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including the attorney's fees. If a "Party" opposes to contribute in the arbitration expenses, the other "Party" may file a civil claim to obtain a judicial order to compel the counter "Party", such procedure can be presented in the local courts where the affected "Party" is domiciled; or in the local courts where the "Party" that refused to contribute has its domicile.

24. ACCEPTANCE. The "T&C" and "License" are accepted by the "Applicant" upon submission of a "Use Application" and are binding for the "Parties, the consent is granted and shall have the same effects as consent given in conventional means.

PRIVACY NOTICE

The Centro de Investigación Científica y Educación Superior de Ensenada, Baja California, (CICESE), a decentralized agency, with legal personality, its own assets, and technically, operationally and administrative Independence in terms of decision making, created by decree of the Federal Executive, published in the Official Federal Diary on September 18th, 1973, restructured by Presidential decrees published in the Official Federal Diary on August 29th, 2000 and October 13th, 2006; and the Public Investigation Center regarding the Mexican Science and Technology Law article 47 acknowledged by agreement between the Secretary Of Public Education and the National Science and Technology Council of the Federation on September 11th, 2000, in accordance with articles 26 and 27 of the General Law of Protection of Personal Data in Possession of Obligated Subjects, informs the "Applicant" (s) the existence and main characteristics of the treatment of their personal data, so that they can make informed decisions about it.

The definitions described in the "T&C" apply to this privacy notice.

SIMPLIFIED NOTICE

1. The treatment of the personal data purposes is only and exclusively to identify and, authorize the natural person who voluntarily submits a "Use Application" for the "Databases". The personal data is required to formalize the legal connection described in the "T&C". In case of non-compliance of the "T&C", "CICESE" may use your personal data to procure the corresponding rights.
2. "CICESE" does not transfer your personal data.
3. The mechanisms and means available so the owner can express their refusal to process their personal data is by e-mail to innovacion@cicese.mx in the understanding that, "CICESE" may keep them for the duration of the "License" described in the "T&C" only for the purposes established in this notice.

INTEGRAL DISCLAIMER

1. The address of the responsible of data treatment is in Carretera Ensenada Tijuana, number 3918, Zona Playitas, Postal Code 22860, P.O. Box 360, in the city of Ensenada and municipality of the same name corresponding to Baja California, Mexico and with phone number 01 (646) 175-05-00.
2. The personal data subject to treatment are: disclose (i) name, (ii) last name, (iii) e-mail address, (iv) name of the institution, and (v) specify how the "Database" will be used. None of the data to be processed is sensitive personal data.
3. "CICESE" processes personal data in order to formalize a legal relationship as described in the "T&C".
4. The "Applicant" who wishes to exercise their rights of access, rectification, cancellation or opposition, may send an e-mail to innovacion@cicese.mx who will respond to the request, "CICESE" may keep your information during the validity of the "License" in accordance with the "T&C".
5. The address of the "CICESE" Transparency Unit is the one described in number 1.
6. Any change in this privacy notice will be notified through the e-mail address designated for this purpose.

