CHESAPEAKE BIOLOGICAL LABORATORY | SOLOMONS, MD

ISSUE 61

Lab Lines

SEPTEMBER 2021

IN THIS ISSUE:

DIRECTOR'S VIEW

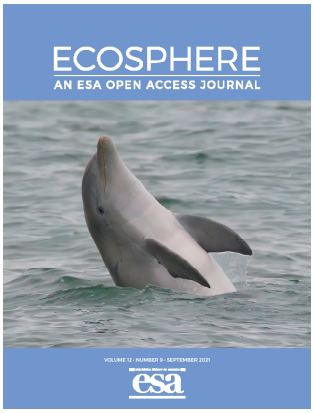
With the semester now underway, my mind is shifting toward our upcoming Science for the Community series. This has been part of our outreach program for more than a decade. These started out as an efficient way to train docents, but we recognized quickly that these lectures could have broader appeal. And so Science for the Community was born. Today, there are 60 recordings of past lectures available online (https://www.umces.edu/cbl/science-citizens-videos) on topics ranging from diversifying the geosciences, to how environmental science informs policy, and to the distributions of dolphins in the Bay. Many faculty have presented their research in these lectures, making their science accessible and I want to thank all for their time and effort. Many students have supported these lectures by presenting posters of their work and engaging people who attended on Tuesday evenings. This engagement led directly to financial support of many of our students from people in the community that has meant students have been able to conduct their research and attend meetings. These lectures would not have enjoyed this success without the hard work behind the scenes of Sarah Brzezinski and Jeane Wharton (while she was at CBL). Both deserve considerable credit for building this program into a premier outreach and development effort.

On Tuesday 28th, we start our Autumn 2021 series that will focus specifically on climate change. Hali Kilbourne will start the series with a Climate 101. You can register to attend the free zoom conference at https://www.usmf.org/s4c/ . I hope to "see" you there.

IN CASE YOU MISSED IT

Jackie Grebmeier, Lee Cooper, Emma Green, and Christina Goethel were on a research cruise aboard the M/V Discovery in the Bering and Chukchi seas.

Johan Schijf and Hali Kilbourne spent a few days in August working in the Florida Keys with Captain Bill Ferrell of the Keys Marine Laboratory. They pulled up their monitoring stations where they have been monitoring ocean temperature, collecting seawater samples and growing corals since 2016. This project aims to better understand how environmental signals are recorded by corals in their skeletal chemistry. The research has been funded by the National Science Foundation, the Avanti Foundation, and the American Philosophical Society. Pictured is Johan Schijf swimming toward the two milk crates tied down to rebar stakes on Tennessee Reef. Hali Kilbourne took the picture.



Congratulations to our DolphinWatcher, Melissa McCeney, for having her photo of a Chesapeake Bay dolphin selected for the cover of the journal "Ecosphere" in association with the publication of the Bailey group's paper on bottlenose dolphin signature whistles in the Chesapeake Bay and the Maryland offshore wind lease area. Available at: https://esajournals.onlinelibrary.wiley.com/doi/10.1002/ecs2.3752

Welcome to CBL

Welcome, Mike Peters! Mike recently joined the Business Office as our Coordinator of Sponsored Programs focusing primarily on post-award management. Mike worked at CBL previously as an hourly in the Business Office during semester breaks while he attended Frostburg State University. Previous to joining CBL Mike worked for a mortgage firm and is a licensed broker. When not at CBL, Mike enjoys golfing, outdoor sports & adventures and is a die-hard Ravens fan. Please welcome Mike to the CBL team!

Outreach

Outreach Planning

Thank you to the 17 faculty members and the 11 FRA/GRAs who submitted responses to the Outreach Survey!

Faculty members who have not yet completed the CBL Outreach survey are encouraged to do so at: https://forms.gle/yAdcaq9Gi2JmAQkG8

FRAs/GRAs who have not yet completed the CBL Outreach survey are encouraged to do so at: https://forms.gle/tBpV7C7fPe2XcUu49

Visitor Center

Out of an abundance of caution relating to the COVID-19 coronavirus, the Chesapeake Biological Laboratory Visitor Center will remain closed through the 2021 calendar year.

Social Media

Follow CBL on Facebook and Twitter!

Please contact Outreach Coordinator Sarah Brzezinski at brzezins@umces.edu if you have information, like upcoming public presentations or news, that you would like to have shared with CBL's social media audiences.

Science for Communities

Though our doors must remain closed to the public during the COVID-19 pandemic, CBL's Science for Communities webinar series invites you to learn about innovative research that continues to be pioneered at our lab from the comfort of your own home.

The Fall 2021 Science for Communities series will focus on "Climate Change and Its Impacts." A FREE webinar will be presented via Zoom every Tuesday from 7:00pm – 8:00pm on the following dates. Following each presentation, there will be a moderated question and answer session.

REGISTRATION IS REQUIRED: https://www.usmf.org/s4c/

Climate Change 101

Tuesday, September 28, 2021

Presented by Dr. Hali Kilbourne

You've heard the term climate change, but have you ever wondered how our climate is actually changing? How do we know humans are causing it? And, so what? Earth's climate has always changed. If it is a serious problem, what do we do now? Dr. Kilbourne will start with the basics and lay out the facts to help you better understand this growing issue.

Future Wildland Fire: Land Management and Climate Change

Tuesday, October 5, 2021

Presented by Dr. Mark Cochrane, UMCES - AL

Every year we seem to hear of more and more catastrophic wildfires burning here and abroad. The trend is real but the predicament that we face with future wildland fires is the result of both earlier land management actions and the growing influence of climate change. To adapt to changing conditions and mitigate the threats posed by future wildfires, a paradigm shift is needed in how societies view and manage wildfire.

Climate Impacts on Golden Tilefish: Past and Present

Tuesday, October 12, 2021

Presented by Dr. Genny Nesslage

Golden tilefish is a large, bottom-dwelling marine fish that is particularly susceptible to climate change because it can tolerate only a very narrow range of temperatures. In 1882, millions of golden tilefish died in a sudden mortality event caused by an unusually strong influx of arctic water into the Mid-Atlantic. Since then, scientists have been fascinated with the relationship between ocean conditions and tilefish dynamics. In this seminar, Dr. Genny Nesslage will describe past and present research on the linkage between climate and trends in the golden tilefish fishery.

Climate Warming and the Changing Pacific Arctic Marine Ecosystem

Tuesday, October 19, 2021

Presented by Dr. Jackie Grebmeier

The Bering and Chukchi Seas are undergoing dramatic sea ice reduction and warming conditions that are shifting the composition of bottom-dwelling prey for marine mammals, seabirds and commercial fish in the region. Field studies by CBL scientists are tracking ecosystem status and trends within the international Distributed Biological Observatory (DBO) network. In this webinar, internationally recognized Arctic expert Dr. Jackie Grebmeier will share highlights of scientific findings from the rapidly changing Arctic.

The Intergovernmental Panel on Climate Change: Ins, Outs, Demands & Frustrations of Serving as Lead Author of Working Group II

Tuesday, October 26, 2021

Presented by Dr. Libby Jewett, NOAA

As part of a multi-year global climate change assessment process, Working Group II of the Intergovernmental Panel on Climate Change (IPCC) seeks to assess the vulnerability of socio-economic and natural systems to climate change, negative and positive impacts of climate change, and options for adapting to it.... But why should we believe what these scientists tell us? As lead author of Working Group II, Dr. Libby Jewett can shed light on the integrity and hard work, as well as the challenges, that are key to developing this high-profile report. In this seminar, Jewett will discuss the rigorous process and extensive scientific review through which Working Group II's report must pass prior to its expected release in 2022.

Risk Assessment in the Face of Climate Change

Tuesday, November 2, 2021

Presented by Dr. Slava Lyubchich

Traditionally, long-term observations have been a key component in assessing the risks of weather-induced losses. However, most recent climate trends require the inclusion of future climate projections into the methods and models used to assess the risks. In this seminar, Dr. Slava Lyubchich will discuss how this step has important implications for building codes, pricing agricultural and home insurance.

Publications

Koch, C.W., Cooper, L.W., Woodland, R.J., Grebmeier, J.M., Frey, K.E., Stimmelmayr, R., et al. (2021) Female Pacific walruses (Odobenus rosmarus divergens) show greater partitioning of sea ice organic carbon than males: Evidence from ice algae trophic markers. PLoS ONE 16(8): e0255686. https://doi.org/10.1371/journal.pone.0255686 [UMCES Cont. No. 6051]

Li, M.F., Glibert, P.M., Lyubchich. V. (2021) Machine learning classification algorithms for predicting Karenia brevis blooms on the West Florida shelf. Journal of Marine Science and Engineering 9: 999. https://doi.org/10.3390/jmse9090999 [UMCES Cont. No. 6038]

Read, D.J., Carrol, A., Wainger, L.A. (2021) Exploring private land conservation non-adopters' attendance at outreach events in the Chesapeake Bay watershed, USA. PeerJ 9:e11959 http://doi.org/10.7717/peerj.11959 [UMCES Cont. No. 6052]

Takeshita R., Bursian S.J., Colegrove K.M., Collier T.K., Deak K., Dean K.M., De Guise S., DiPinto L.M., Elferink C.J., Esbaugh A.J., Griffitt R.J., Grosell M., Harr K.E., Incardona J.P., Kwok R.K., Lipton J., Mitchelmore C.L., Morris J.M., Peters E.S., Roberts A.P., Rowles T.K., Rusiecki J.A., Schwacke L.H., Smith C.R., Wetzel D.L., Ziccardi M.H., and Hall A.J. (2021) A review of the toxicology of oil in vertebrates: What we have learned following the Deepwater Horizon oil spill. Journal of Toxicology and Environmental Health, Part, B. In Press. [UMCES Cont. No. 6045]

MEDICAL EMERGENCIES

Know where eyewash stations, emergency showers, and first aid kits are located for your work area. Emergency procedures may include:

- Flushing eyes with water for 15 minutes in case of chemical contact.
- Washing skin with soap and water, and removing contaminated clothing;
- Moving to fresh air if a person has been inhaling hazardous dust, fumes, or vapors
- Getting emergency medical assistance if a person has swallowed a hazardous chemical. There are no general first aid measures for swallowing – vomiting may cause more harm, diluting with water may increase the risk. Call 911 or the Poison Hotline (1-800-222-1222) and have the appropriate SDS available.
- Take the SDS of the chemical that caused the injury to the Emergency Room if possible.

Chemicals on Skin or Clothing

- Flush with water for no less than 15 minutes (except for Hydrofluoric Acid, Flammable solids or >10% phenol). For larger contamination, the safety shower should be used. Do not waste time because of modesty. Remove all contaminated clothing or jewelry.
- Solvents such as paints, varnishes, lacquers, adhesives, glues, and degreasing/cleaning agents, and in the production of dyes, polymers, plastics, textiles, printing inks, agricultural products, and pharmaceuticals are capable of dissolving or dispersing one or more other substances dissolved in them. Do not use solvents to wash skin. Solvents remove the natural protective oils from the skin and can cause irritation, inflammation and the absorption of toxics into your body.
- For flammable solids on skin, first brush off as much as possible, then flush with water for at least 15 minutes. Read the SDS and make sure the flammable solid is not reactive with water before you rinse.
- For hydrofluoric acid rinse with water for at least 15 minutes.
- For phenol concentrations >10%, flush with water for 15 minutes or until the affected area turns from white to pink.
- In all cases of severe contamination seek medical attention.

Inhalation

- Close containers, move to fresh air.
- If symptoms such as headaches, nose or throat irritation, dizziness, or drowsiness persist, seek medical attention. Explain what chemicals you were using and if possible take the appropriate SDS with you.
- Fires

Ingestion

- Call 911 or the Poison Control Center (1-800-222-1222).
- Do not induce vomiting unless directed to do so by a health care provider.

Injection

- Wash area with soap and water and seek medical attention, if necessary.

Excerpted from Hazard Communication Right to Know OSHA 29 CFR 1910.1200 COMAR 09.12.33 This document is available on the p drive in Safety>Plans and Policies.