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### Methane Discharge at High Northern Latitudes: Past and Present

Marta E. Torres

*Oregon State University*

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**MONTCLAIR STATE**  
UNIVERSITY

The Doctoral Program in Environmental Science & Management  
and MSU Sustainability Seminar Series Present:

# Methane Discharge at High Northern Latitudes: Past and Present

WHEN: May 17, 3:45 pm WHERE: Online via Zoom

**Marta E. Torres**  
**CEOAS Oregon State University**



Marta Torres earned a B.S. in Chemistry from the University of Costa Rica in 1976 and a PhD in Oceanography from Oregon State University in 1988. She worked as research scientist in Geomar, Germany before returning to Oregon State as a faculty member in 1993. Her research interests include cold seepage at continental margins; gas hydrate dynamics; geochemical tracers for fluid flow, transport mechanisms and fluid provenance in continental margins; and the role of microbial communities in early diagenetic processes.

Climate is intimately tied to Earth's hydro- and cryo-spheres. To understand the consequences that predicted global warming can have on biogeochemical cycling and mass inventories in the Arctic Ocean, I will present results on two study sites: the Svalbard margin and the Chuchki sea, that provide information on present-day methane discharge and evidence for the likelihood that groundwater flow during the Early Holocene Thermal Maximum (EHTM). I will review how data collected in the water column and shallow sediment can be used to constrain sources, transport, transformation and timing of methane fluxes, including the potential role of gas hydrate dissociation. Specifically I will discuss the concentration and isotopic composition of various dissolved species and modeling approaches that are valuable to interpret these data in the context of geophysical surveys.

For more information contact Sandra Passchier at [passchiers@montclair.edu](mailto:passchiers@montclair.edu)