

Séminaire de Letizia Tedesco au LOCEAN

Nom : Séminaire de Letizia Tedesco au LOCEAN

Titre : Sea-ice algal phenology in a warmer Arctic

Laboratoire :

Nom du conférencier :

Son affiliation :

Date et heure : 20-05-2019 14h00

Lieu : Jussieu - LATMOS - 4e étage - Tour 45-46

Résumé :

The Arctic sea-ice decline is among the most emblematic manifestations of climate change and is occurring before we understand its ecological consequences. We investigated future changes in algal productivity combining a biogeochemical model for sympagic algae with sea-ice drivers from an ensemble of 18 CMIP5 climate models. Model projections indicate quasi-linear physical changes along latitudes but markedly nonlinear response of sympagic algae, with distinct latitudinal patterns. While snow cover thinning explains the advancement of algal blooms below 66°N, narrowing of the biological time windows yields small changes in the 66°N to 74°N band, and shifting of the ice seasons toward more favorable photoperiods drives the increase in algal production above 74°N. These diverse latitudinal responses indicate that the impact of declining sea ice on Arctic sympagic production is both large and complex, with consequent trophic and phenological cascades expected in the rest of the food web.

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