Salinity impacts early development and global DNA methylation in the urchin Lytechinus variegatus.

BACKGROUND
One of the many impacts global climate change has caused and will continue to cause is an increase in the frequency and severity of storms. These storms bring heavy rain that can drastically change the salinity of coastal waters very quickly. The goal of this study is to examine how these changes in ocean salinity impact the model organism Lytechinus variegatus at the adult level and during early development. Understanding how climate change affects coastal species enables us to better predict and address the climate crisis.

METHODS: Adults
1. Placed urchins in different salinities (30, 35, 40 ppt)
2. Every hour, conducted “righting trials”
3. Recorded righting times
4. Collected tube feet for DNA methylation analysis

METHODS: Early Development
1. Spawned urchins and fertilized eggs
2. Raised larvae in different salinities (25, 30, 35 ppt)
3. Estimated survivorship during early development
4. Measured larval body size
5. Introduced 2-day-old larvae to a wide range of salinities for ~ 4hrs
6. Estimated survivorship

RESULTS

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