

## **The effects of increased water temperature on the metabolic rate of the common sea star (*Asterias sp.*)**

Global ocean temperatures are rising, which is affecting intertidal species such as echinoderms, including sea stars. Sea stars are ectothermic organisms thus are at a greater risk of rising temperatures. To test the effects of temperature on the sea stars of *Asterias sp.* subjects were held tanks set to one of three temperatures, 15 C, 18 C, or 22 C. Once a week metabolic readings were taken and recorded using the BioPac system. When artificial warming was initially induced, *Asterias sp.* did not show any signs of change in metabolic readings, but when artificial warming was sustained for an extended period metabolic readings displayed changes in value. Overall, the data suggests a decline in metabolic usage when exposed to increased temperature treatments for an extended time. But the decrease in metabolic rate may be a result of increased sea star wasting disease (SSWD) symptoms, which occurred at the end of this study.

Advisor: Sarah O'Malley