ABSTRACT Warming seas are producing noticeable changes in ecological communities. In this talk, I give examples of such changes, starting from barnacle abundance and distribution on UK rocky shores and ending with fish and plankton communities across the globe. Expected shifts in distributions can be derived from physical changes in temperature using the “velocity of climate change”. Simple methods based on the temperature preferences of individual species show the magnitude of response to changes in temperature, and offer easily applied metrics for tracking current trends in biodiversity.

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