Bird Migration and Climate Change

Grade Level: High School

Performance Expectations: Students' ability to complete the following performance expectation(s) will be supported by participation in this activity.

HS-LS2-2: Use mathematical representations to support and revise explanations based on evidence about factors affecting biodiversity and populations in ecosystems of different scales.

HS-LS2-6: Evaluate claims, evidence, and reasoning that the complex interactions in ecosystems maintain relaer

		Students are introduced to the tools and technology that scientists are using to better understand bird migration patterns.

Practice	**Developing and Using Models**
	    Develop, revise, and/or use a model based on evidence to illustrate and/or predict the relationships between systems or between components of a system.
	    Develop and/or use a model (including mathematical and computational) to generate data to support explanations, predict phenomena, analyze systems, and/or solve problems.
		Students interpret graphs and figures to explore relationships between phenology and timing of bird migration.
		
		Students use data from graphs and figures to construct explanations about changes in timing of bird migration.

	Analyzing and Interpreting Data Analyze data using tools, technologies, and/or models (e.g. computational, mathematical) in order to make valid and reliable scientific claims or determine an optimal design solution.	Students interpret remotely-sensed data to evaluate changes in phenology.
	Using Mathematics and Computational Thinking Use mathematical representations of phenomena or to describe and/or support claims and/or explanations.	Students use measures of central tendency and trend lines in graphs to determine if birds migration patterns are changing.
	Construction Explanations and Designing Solutions Construct and revise an explanation based on valid and reliable evidence obtained from sources (including the students' own experiments, models, theories, simulations, peer review) and the assumption that theories and laws that describe the natural world operate today as they did in the past and will continue to do so in the future.	Students construct an explanation, using data and evidence from the lesson, to answer the driving question "Are bird migration patterns changing?" They are then presented with data to evaluate their expectation and are asked to revise accordingly.

Obtaining, Evaluating, and Communicating Information
Compare, integrate, and evaluate sour