MEECS to Michigan K-12 Science Stanards November 2015

Climate Science (grades 7-9)

	1. What is Climate?	2. Earth's Energy Balance	3. The Greenhouse Effect	4. The Carbon Cycle: Sources and Sinks	5. Climate Forcing and Uncertainty	6. Evidence of Change	7. Climate Models Making Global Predictions
Middle School							
MS-ESS3-3. Apply scientific principles to design a method for monitoring and minimizing a human impact on the environment.		X					X
MS-ESS2-5. Collect data to provide evidence for how the motions and complex interactions of air masses results in changes in weather conditions.	X						
MS-ESS2-6. Develop and use a model to describe how unequal heating and rotation of the Earth cause patterns of atmospheric and oceanic circulation that determine regional climates.		X					
MS-ESS3-4. Construct an argument supported by evidence for how increases in human population and per-capita consumption of natural resources impact Earth's systems.		X	X	X	X		
MS-ESS3-2. Analyze and interpret data on natural hazards to forecast future catastrophic events and inform the development of such technologies to mitigate their effects.	X	X					
MS-ESS3-5. Ask questions to clarify evidence of the factors that have caused the rise in global temperatures over the past century.		X	X		X	X	

High School							
HS-ESS2-2. Analyze geoscience data to make the claim that one change to Earth's surface can create feedback that cause changes to other Earth's Systems.	X		X				
HS-ESS3-5. Analyze geoscience data that results from global climate models to make an evidence-based forecast of the current rate of global or regional climate change and associated future impacts to Earth systems.	X		X		X		X
HS-ESS2-4. Use a model to describe how variations in the flow of energy into and out of Earth's systems result in changes in climate.	X						X
HS-ESS3-6. Use a computational representation to illustrate the relationships among Earth systems and how those relationships are being modified due to human activity.	X		X	X			X
HS-LS4-6. Create or revise a simulation to test a solution to mitigate adverse impacts of human activity on biodiversity.		X					
HS-ESS2-6. Develop a quantitative model to describe the cycling of carbon among the hydrosphere, atmosphere, geosphere, and biosphere.			X				
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HS-LS2-7. Design, evaluate, and refine a solution for reducing the impacts of human activities on the environment and biodiversity.		X	X	X	X		X
HS-ESS3-4. Evaluate or refine a technological solution that reduces impacts of human activities on natural systems.		X	X	X	X		X
4-ESS3-1. Obtain and combine information to describe that energy and fuels are derived from natural resources and their uses affect the environment.							X