

Climate Literacy: The Essential Principles of Climate Science

EP 1: The sun is the primary source of energy for Earth's climate system	EP 2: Climate is regulated by complex interactions among components of the Earth system	EP3: Life on Earth Depends on, is shaped by, and affects climate	EP4: Climate varies over space and time through both natural and man-made processes.	EP 5: Our understanding of the climate system is improved through observations, theoretical studies and modeling	EP 6: Human activities are impacting the climate system	EP 7: Climate change will have consequences for the Earth system and human lives	Guiding Principle for informed climate decision: Humans can take actions to reduce climate change and its impacts
EP 1 A Sunlight warms the planet	EP 2 A Interactions of Sun and Earth systems	EP 3A Organisms adapt, migrate or perish	EP 4A Climate is long term	EP 5A Earth's climate system is subject to physical laws of the universe	EP 6A Humans likely caused global temperature increases	EP 7A Thermal expansion & melting ice causing sea level rise	GP A Climate science can inform policy and decision making
EP 1B Earth energy balance	EP 2B Hydrosphere, energy and climate	EP 3B Heat-trapping gases warm Earth's surface supporting liquid water	EP 4B Climate is not the same as weather	EP 5B Observations are key to understanding climate	EP 6B Increased GHG concentrations is long term and will impact future climate	EP 7B Changing climate alters the water cycle and freshwater availability	GP B Reducing climate change impacts requires multi-disciplinary understanding
EP 1C Reasons for the seasons	EP 2C Greenhouse gases trap outgoing IR heat	EP 3C Changes in climate affect ecosystems and species	EP 4C Climate change is a change in average climate conditions	EP 5C Observations, experiments, and theory refine computer models	EP 6C Human activities have altered global climate patterns	EP 7C Extreme Weather events are projected to increase	GP C Climate change affects global/national security
EP 1D Orbital Cycles	EP 2D Biogeochemical/ Carbon cycles	EP 3D Past 10,000 years have been unusual	EP 4D Changes in climate is normal but varies over time/space	EP 5D Our understanding of climate and weather differ	EP 6D Changes in physical and biological systems linked to human caused climate change	EP 7D Ocean becoming more acidic impacting marine species	GP D Humans may be able to mitigate climate change
EP 1E Solar Variability	EP 2E Particulates' impact climate	EP 3E Life can influence global climate	EP 4E Observations show temperatures have increased over past 50 yrs.	EP 5E Climate change projections help with potential decisions and actions	EP 6E Negative impacts are likely to outweigh positive impacts	EP 7E Ecosystems are disturbed by climate change	GP E Strategies needed to reduce greenhouse gases
	EP 2F Feedback systems		EP 4F Evidence that humans have a role in climate change			EP 7F Human health will be affected by climate change	GP F Strategies need to adaptation to climate change
			EP 4G Natural removal of carbon dioxide from the atmosphere is slow				GP G Actions taken at all levels of society can mitigate climate change and increase preparedness
EP 1 Uncategorized	EP 2 Uncategorized	EP 3 Uncategorized	EP 4 Uncategorized	EP 5 Uncategorized	EP 6 Uncategorized	EP 7 Uncategorized	GP Uncategorized