

# Climate Literacy: The Essential Principles of Climate Science

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