

<b>FORMAT</b>		
1. Name of resource	<b>NOAA Teaching Climate (Climate Literacy: the Essential Principles of Climate Science)</b>	
2. Location	<a href="https://cpo.noaa.gov/divisions-programs/communication-education-and-engagement/education/">https://cpo.noaa.gov/divisions-programs/communication-education-and-engagement/education/</a>	
3. Alternative location		
4. Author[s]	National Oceanographic and Atmospheric Administration (NOAA)	
5. Publisher/producer/host	National Oceanographic and Atmospheric Administration (NOAA)	
6. Year	2009	
7. Suggested citation	National Oceanographic and Atmospheric Administration (NOAA) (2009), Teaching Climate (Climate Literacy: the Essential Principles of Climate Science), <a href="https://cpo.noaa.gov/divisions-programs/communication-education-and-engagement/education/">https://cpo.noaa.gov/divisions-programs/communication-education-and-engagement/education/</a>	
8. Languages in which available	English, Spanish [PDF] (web pages translate automatically)	
9. Geographic area resource relates to	US with wider relevance	
10. Does the resource relate to a specific time frame?		
11. Type	Report	
	Toolkit/Framework/Roadmap	Yes
	Sign-post to other resource (database)	Yes
	Case studies	Yes
	Other	Links to educational resources
12. Part of an initiative?		
<b>COLLECTIONS AND COLLECTIONS-BASED INSTITUTIONS</b>		
13. Explicit links to collections	No	
14. Explicit links to museums/libraries/archives	Yes	
15. Types of institutions relevant to	Museums	X
	Archives	X
	Libraries	X
	Other	X
	Arts, humanities and social sciences: philosophy, psychology,	X

16. Does the resource relate to specific disciplines?	religion, social sciences, law, politics, language, arts and recreation, architecture, literature, history, geography and ethnology, anthropology, archaeology	
	Science, natural history, technology, medicine, engineering, manufacturing	X
17. If no explicit links to collections, justification for inclusion	The principles can be applied to collections-based institutions, in terms of how they develop their education and participation programmes, and their climate actions more broadly.	
<b>HOW IT CONTRIBUTES TO SUSTAINABLE DEVELOPMENT</b>		
<b>18. Collections-related activities the resource relates to (mark all that apply)</b>		
<b>Develop collections to protect and safeguard wider cultural and natural heritage more effectively</b> , for example by targeting collecting to threatened forms of heritage in strategic ways		
<b>Use collections to promote learning and educational opportunities that contribute to sustainable development more effectively</b> , for example education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship and appreciation of cultural diversity and of culture's contribution to sustainable development and/or skills development relating to collections	X	
<b>Use collections to promote cultural participation/social inclusion more effectively</b> , for example by reducing barriers to participation, to ensure no-one is 'left behind'		
<b>Use collections to promote sustainable tourism more effectively</b> , for example by developing new products based on local cultural heritage, and/or considering the rights of stakeholder groups in relation to collections		
<b>Use collections to support research that contributes to sustainable development</b> (including all forms of personal and self-directed research at all levels that make use of stored collections) more effectively, for example by providing effective facilities, collections and information to meet researchers' needs		
<b>Make decisions around collections that contribute to sustainable development more effectively</b>		
i. employment (recruiting, staff training, staff safety)	X	
ii. energy consumption, greenhouse gas emissions, reduction, monitoring and reporting	X	
iii. waste management and reduction of waste	X	
iv. transport (forms of transport, energy use)		

v. commercial activities including copyright and IP	
vi. governance and management	
vii. security, disaster preparedness and risk reduction	
<b>Direct external leadership, partnerships and collaborations towards sustainable development more effectively</b> , for example by developing impactful partnerships	X
<b>19. Does the resource relate clearly to any international conventions (mark all that apply)?</b>	
Culture conventions:	
1952, 71 Protection of Copyright and Neighbouring Rights	
1954 Protection of Cultural Property in the Event of Armed Conflict	
1970 Fighting Against the Illicit Trafficking of Cultural Property	
1972 Protection of the World Cultural and Natural Heritage	
2001 Protection of the Underwater Cultural Heritage	
2003 Safeguarding of the Intangible Cultural Heritage	
2005 Protection and Promotion of the Diversity of Cultural Expressions	
Rio Conventions:	
Convention on Biological Diversity (CBD), Convention to Combat Desertification (UNCCD), Framework Convention on Climate Change (UNFCCC)	X
<b>AIMS AND CONTENT</b>	
<b>20. What issues does the resource aim to address?</b>	<p><b>“Climate Literacy: The Essential Principles of Climate Science (2009) presents information that is deemed important for individuals and communities to know and understand about Earths climate, impacts of climate change, and approaches to adaptation or mitigation. Principles in the guide can serve as discussion starters or launching points for scientific inquiry. The guide aims to promote greater climate science literacy by providing this educational framework of principles and concepts.</b></p> <p><b>Climate Literacy: The Essential Principles of Climate Sciences guide is now available in both English and Spanish.”</b></p>
21. Intended audience of resource	[Climate educators and communities, aimed at learners of all ages]
22. Process of development	“In 2006, NOAA, in partnership with the AAAS Project 2061, funded a workshop to discuss the need for a common set of curriculum guidelines specifically for climate education to be used at the local, state, and national levels. This workshop resulted in a broader interagency effort through the US. Global Change Research Program to coordinate and produce Climate Literacy: The Essential Principles of Climate Sciences guide.

	<p>Development of the guide began at a workshop sponsored by the National Oceanic and Atmospheric Administration (NOAA) and the American Association for the Advancement of Science (AAAS). Multiple science agencies, non-governmental organizations, and numerous individuals also contributed through extensive review and comment periods. Discussion at the National Science Foundation- and NOAA-sponsored Atmospheric Sciences and Climate Literacy workshop contributed substantially to the refinement of the document.”</p>
23. Organisation/structure /contents	<p>Climate Literacy is set out under seven principles, as a framework, see below under frameworks.</p> <p>‘Teaching Climate’ is accompanied by a ‘Toolbox for Teaching Climate and Energy’ and links to a collection of educational resources (from the CLEAN Network).</p>
<b>FRAMEWORKS</b>	
24. Framework structure	<p>Climate Literacy is set out as a framework (see the resource for further information):</p> <ul style="list-style-type: none"> <li>• The Guiding Principle for Informed Climate Decisions</li> <li>• Essential Principle 1: The Sun is the Primary Source of Energy for Earth's Climate System</li> <li>• Essential Principle 2: Climate is regulated by complex interactions among components of the Earth system.</li> <li>• Essential Principle 3: Life on Earth depends on, is shaped by, and affects climate.</li> <li>• Essential Principle 4: Climate varies over space and time through both natural and man-made processes.</li> <li>• Essential Principle 5: Our understanding of the climate system is improved through observations, theoretical studies, and modeling.</li> <li>• Essential Principle 6: Human activities are impacting the climate system.</li> <li>• Essential Principle 7: Climate change will have consequences for the Earth system and human lives.</li> </ul>
25. Relevant policy considerations	Yes
26. Resources for implementation identified	Yes
27. Specific assessment points/indicators/miles	Yes

tones/action plan for monitoring	
<b>28. ASPECTS OF SUSTAINABILITY COVERED BY RESOURCE (mark all that apply)</b>	
People (social sustainability)	X
Planet (environmental sustainability)	X
Prosperity (economic sustainability)	X
Peace	
Partnerships	
<b>29. CROSS-CUTTING CONSIDERATIONS COVERED BY RESOURCE (mark all that apply)</b>	
Gender perspectives	
North and South perspectives	
<b>HOW THE RESOURCE CONTRIBUTES TO AGENDA 2030 AND THE SDGs</b>	
<b>HOW AGENDA 2030 AND THE SDGs FEATURE IN THE RESOURCE</b>	
30. SDGs and Agenda 2030 specifically mentioned?	No
31. SDGs specifically mentioned?	No
32. SDG targets specifically mentioned?	No
33. SDG indicators specifically mentioned?	No
<b>SDGs AND SDG TARGETS AND LINKAGES</b>	
34. Comments on SDG linkages	Working to support the Principles contributes to a wide range of SDG targets, including: 4.4 (skills for work), 4.7 (Education for Sustainable Development), 12.8 (education for sustainable lifestyles), 13.1 (climate adaptation), 13.3 (climate education and institutional capacity) and 13.B (climate action for Global South countries).
<b>35. SDGs and SDG targets the resource helps advance</b>	
<b>SDG 4. Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all</b> 4.4 By 2030, substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship	Number of young people and adults in skills-development activities and programmes drawing on collections, for employment, decent jobs and entrepreneurship  Increase in number of young people and adults in such programmes  Number and proportion of staff who have received training in the last year, to better support their contribution to the SDGs.

	Programs and processes in place to ensure the availability of a skilled workforce.
<p><b>SDG 4. Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all</b></p> <p>4.7 By 2030, ensure that all learners acquire the knowledge and skills needed to promote sustainable development, including, among others, through education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship and appreciation of cultural diversity and of culture's contribution to sustainable development</p>	<p>Numbers of people in each type of programme drawing on collections from different demographic groups.</p> <p>Increases in numbers of people in each type of programme from different demographic groups.</p> <p>Proportion of people involved in such programmes in relation to overall audience size.</p> <p>Evidence that learners have acquired knowledge and skills to promote sustainable development.</p>
<p><b>SDG 12 Ensure sustainable consumption and production patterns</b></p> <p>12.8 By 2030, ensure that people everywhere have the relevant information and awareness for sustainable development and lifestyles in harmony with nature</p>	<p><b><i>12.8.1 Extent to which (i) global citizenship education and (ii) education for sustainable development (including climate change education) are mainstreamed in (a) national education policies; (b) curricula; (c) teacher education; and (d) student assessment</i></b></p> <p>Extent to which global citizenship education and education for sustainable development (including climate change education) are mainstreamed in formal, informal and non-formal education programmes and activities drawing on and related to collections.</p>
<p><b>SDG 13. Take urgent action to combat climate change and its impacts</b></p> <p>13.1 Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries</p>	<p>Plans in place for near and longer term to withstand and actively adapt to climate-related hazards and natural disasters.</p>
<p><b>SDG 13. Take urgent action to combat climate change and its impacts</b></p> <p>13.3 Improve education, awareness-raising and human and institutional capacity on</p>	<p>Plans in place to enhance positive contributions to addressing climate change through use of collections.</p> <p>Plans in place to ensure collections, collections institutions and broader society can adapt effectively to climate change.</p>

climate change mitigation, adaptation, impact reduction and early warning		<p>Plans in place for effective education and awareness raising on climate change mitigation, adaptation, impact reduction and early warning.</p> <p>Plans in place to reduce negative contributions of collections-related functions, e.g. measuring greenhouse emissions with plans and targets in place to reduce them.</p>			
<p><b>SDG 13. Take urgent action to combat climate change and its impacts</b></p> <p>13.B Promote mechanisms for raising capacity for effective climate change-related planning and management in least developed countries and small island developing States, including focusing on women, youth and local and marginalized communities.</p>		<p>Number of initiatives (educational, awareness-raising, research, and/or partnerships) drawing on collections and collections-based institutions that build capacity for climate change planning and management in least developed countries and small island developing States.</p> <p>Number of targeted initiatives drawing on collections and collections-based institutions aimed at building capacity for women, youth and local and marginalized communities in least developed countries and small island developing States.</p>			
1	2	3	4	5	6
7	8	9	10	11	12
13	14	15	16	17	