

Investigate

Contemplate

Actuate

Collaborate

Module 2 Study Guide: Knowledge of the Resource Issue

In this module, you will learn/think about the importance of science, history and culture to understanding climate change at your site, in your region, and around the globe. You will begin to identify your site's climate change stories and take the first steps in planning an interpretive product on climate change. Estimated time to complete the basic components for this module is 5-6 hours.

How to Use this Study Guide

This study guide is designed for self-directed, self-paced learning and interaction. You can engage as much or as little as you prefer. The study guide is designed to help you work through a progression of learning in which you 1) *investigate*—study the recommended content, 2) *contemplate*—create your own relevance through intentional reflection, 3) *actuate*—apply the concepts to a personal work strategy and then, importantly, 4) *collaborate*—contribute to a conversation in a community of practice to broaden your understanding and encourage your colleagues. So the more you put into it, the more you will get out of it!

For **non-NPS participants** — we believe that the concepts and best practices described in this curriculum are useful to all interpreters and you are invited to fully participate. In this module, some of the content may be NPS-specific, but you are encouraged to seek out or investigate the applicability of this information to your own work.

Note: links may open slowly from within this document – alternatively, you can right-click copy and then paste the URLs in your browser



Module Objectives

After completing the activities in the Module 2 Study Guide, you will:

- Identify at least two collaborators who can enrich your understanding of climate change impacts or stories at your site.
- Identify three current and reliable references to help you understand local or regional climate change impacts or stories.
- Identify at least one climate change misconception that visitors might bring up at your site, and research what the science actually tells us.
- Develop a starter list of possible ways in which the resources at your site can be linked to climate change (current and future impacts, historical context, management practices, visitor experience, etc.).
- Express increased confidence in your ability to articulate the basics of climate science.

Investigate

Apply a spirit of inquiry and learning to the following assignments:

- Read the [*Module 2 Learning Companion Interpreting Climate Change—Knowledge of the Resource Issue*](#) (14 pages)
- Take the [tutorial Climate Change: Fitting the Pieces Together](#) – (give this link a few seconds to open) — the University Corporation for Atmospheric Research’s (UCAR) MetEd self-study tutorial provides a quick, helpful and foundational overview of climate science. Note that you can work through this tutorial as you have time — you don’t have to do it all in one sitting.
- Watch at least two of the videos in the series [The Science of Climate Change in National Parks](#) – choose one that seems most related to your park and another that is completely different (or watch them all!):
 - Phenology and Citizen Science in Great Smoky Mountains National Park
 - Sea Level Rise in Everglades National Park
 - Species Loss, Precipitation and Fire in Sequoia National Park
 - Glacial Change at Kenai Fjords National Park
 - Ocean Acidification at Point Reyes National Seashore
 - Species Range Shifts at Sequoia-Kings Canyon National Parks
 - Climate Change and Cherry Blossoms in Washington DC
 - Cultural impacts from climate change at Historic Jamestowne

Actuate

Put learning and thinking into action with the following assignments:

Activity 1: [Interview Assignment](#)

Use these interview questions as a basis to start a conversation with others at your site or in your community, in order to broaden your understanding of climate change. Other interpreters have found this interview activity to be very helpful in establishing avenues for communication and collaboration with resource managers, scientists, historians, park managers and others.

Activity 2: [Project Planning Worksheet \(Steps 1-3\)](#)

As you study and collaborate with others to gather knowledge of climate change at your site, you can start to identify possibilities for climate change stories. Use this worksheet as a guide to develop an interpretive product – adding to and adjusting your ideas as you progress through this curriculum. For this Module, complete Steps 1-3 (Step 1—Tangible Resources and Stories, Step 2 — Collaborators and References, and Step 3 — Site Significance).

Activity 3: *In Your Own Words*

Based on what you learned in the climate science tutorial, *Putting the Pieces Together* (see above), write a short definition of climate change, in your own words.

Collaborate

Share one of the following items with your colleagues by creating a post on our “Climate Coffeehouse” [Facebook page](#) (see the [Collaborate tab](#) on the IDP website for additional instructions)

- A useful insight from your interview activity (Activity 1) OR
- Your story ideas from Step 3 of the Project Planning Worksheet (Activity 2) OR
- Your “In Your Own Words” definition of climate change (Activity 3)

Read what your colleagues are saying.

Respond to one other post.

For Further Investigation -- Additional Resources and References

Hungry for more? Check out some of the following additional resources:

- NPS National Climate Change Interpretation and Education Strategy Communication Toolkit – Understanding Your Story and Science: <http://www.nps.gov/subjects/climatechange/toolkit-understandingcc.htm>
- Neil Degrasse Tyson video on why it is important to be scientifically literate (2 min): https://www.youtube.com/watch?v=gFLYe_YAQYQ
- PBS Video, Climate Science: What You Need to Know (6 min): <https://www.youtube.com/watch?v=ffjlyms1BX4>
- *Climate Change – the State of the Science* video launching the IPCC 5th Assessment report (4min): <http://vimeo.com/79771046>
- IPCC survey of scientists – *Quantifying the consensus on anthropogenic global warming in the scientific literature*. <http://iopscience.iop.org/1748-9326/8/2/024024/article>
- For a wide range of articles on Effects in Parks go to: <http://www.nps.gov/subjects/climatechange/effectsinparks.htm>
- CCRP Adaptation Resources page for park by park climate impacts: <https://www.nps.gov/subjects/climatechange/adaptationresources.htm>
- CCRP social media: <http://www.nps.gov/subjects/climatechange/photosmultimedia.htm>
- NPS Cultural Resource Policy Memo: https://www.nps.gov/subjects/climatechange/upload/PM_14-02.pdf
- The George Wright Forum Volume 32 highlighted climate change and cultural resources through five different articles: <http://www.georgewright.org/node/11164>
- Skeptical Science website: <https://www.skepticalscience.com/>
- Real Climate website: <http://www.realclimate.org>
- International Panel on Climate Change: <http://www.ipcc.ch/>
- U.S. Global Change Research Program: <http://www.globalchange.gov/>
- Physics Today article on climate change communication by Somerville & Hassol <http://climatecommunication.org/wp-content/uploads/2011/10/Somerville-Hassol-Physics-Today-2011.pdf>
- National Academy of Sciences handbook *Climate Change: Evidence, Impacts and Choices* <http://nas-sites.org/americasclimatechoices/more-resources-on-climate-change/climate-change-lines-of-evidence-booklet/>
- Public Understanding of, and Attitudes Toward, Scientific Research: what we know and what we need to know (Miller 2004). This article represents two decades of research on science literacy in America.