

Hyperlinks within the *Climate Change Effects on Forests and Grasslands: What You Need to Know* Education Module

Slide Number	Slide Title	Hyperlink Description	Hyperlink
2	Introduction - 1	This hyperlink leads to the NASA Scientific Visualization Studio where the video with the global temperature anomalies was retrieved.	http://svs.gsfc.nasa.gov/index.html
3	Introduction	This hyperlink leads to the Climate Wizard website, where the data for the change in annual temperature map was downloaded.	http://www.climatewizard.org/
6	Water Precipitation	This hyperlink leads to the U.S. Global Change Research Program National Climate Assessment 2014 website where the annual total precipitation change map was retrieved.	http://nca2014.globalchange.gov/
		This hyperlink leads to a landing page for a General Technical Report published by the USDA Forest Service where the simulated mean differences in precipitation graph was retrieved.	http://www.treesearch.fs.fed.us/pubs/42610
		This hyperlink leads a landing page for a technical report published by NOAA where the simulated mean differences in precipitation graph was retrieved.	http://www.nesdis.noaa.gov/technical_reports/14_2_Climate_Scenarios.html
		This hyperlink leads to the U.S. Global Change Research Program National Climate Assessment 2014 website where the observed percent change in very heavy precipitation bar graph was retrieved.	http://nca2014.globalchange.gov/
		This hyperlink leads to the Mountain Rainier National Park homepage. This link is located in Mount Rainier National Park tab of the climate change and erosion pop-up box.	http://www.nps.gov/mora/index.htm
		This hyperlink leads to the Green Mountain National Forest homepage. This link is located in Green Mountain National Forest tab of the climate change and erosion pop-up box.	http://www.fs.usda.gov/main/greenmountain/home
		This hyperlink leads to a journal article where some information in this section was retrieved. This link is located in Green Mountain National Forest tab of the climate change and erosion pop-up box.	http://www.tandfonline.com/doi/abs/10.1080/03632415.2013.874527#.U8VKybG9a_0

7	Water Snow Cover	This hyperlink leads to a USGS website on repeat photography of U.S. glaciers. The link is accessed with the climate and glaciers pop-in box.	http://nrmsc.usgs.gov/repeatphoto/overview.htm
9	Water Sea-level Rise	This hyperlink leads to a webpage on the Earth's heat balance from the Intergovernmental Panel on Climate Change where the information for the global heat absorbed by the climate system circle graph was retrieved.	http://www.ipcc.ch/publications_and_data/ar4/wg1/en/ch5s5-2-2-3.html
		This hyperlink leads to the Skeptical Science webpage where the global heat absorbed by the climate system circle graph was modified from originally.	http://www.skepticalscience.com/
		This hyperlink leads to the U.S. Global Change Research Program National Climate Assessment 2014 website where the past and projected changes in global sea level graph was retrieved.	http://nca2014.globalchange.gov/
		This hyperlink leads to the NASA Jet Propulsion website where the past and projected changes in global sea level graph was retrieved.	http://www.jpl.nasa.gov/
		This hyperlink leads to a NOAA website with a sea level rise and coastal flooding map viewer. This link is accessed with the sea-level rise pop-in box.	http://coast.noaa.gov/digitalcoast/tools/slr/
10	Vegetation Growing Season	This hyperlink leads to the U.S. Global Change Research Program National Climate Assessment 2014 website where the observed increase in frost-free season length bar graph was retrieved.	http://nca2014.globalchange.gov/
		This hyperlink leads to the citizen science website, Project Budburst. This hyperlink is accessed with the earlier emergence of leaves or flowers pop-in box.	http://budburst.org/home
		This hyperlink leads to a publication on climate change and forest disturbances. This is a citation for a fact listed in the negative aspects pop-up box.	http://www.bioone.org/doi/pdf/10.1641/0006-3568%282001%29051%5B0723%3ACCAFD%5D2.0.CO%3B2
		This hyperlink leads to a publication on wildfire activity and growing season length. This is a citation for a fact listed in the negative aspects pop-up box.	http://www.sciencemag.org/content/313/5789/940.full
		This hyperlink leads to a publication on insect outbreaks. This is a citation for a fact listed in the negative aspects pop-up box.	http://www.usu.edu/beetle/documents2/2009Benz%28ed%29%20Bark%20Beetle%20Outbreaks%20in%20NA.pdf
		This hyperlink leads to a publication on snowfall. This is a citation for a fact listed in the negative aspects pop-up box.	http://journals.ametsoc.org/doi/pdf/10.1175/1525

		7541%282004%29005%3C0064%3ACCOTHC%3E2.0.CO%3B2
	This hyperlink leads to a publication on phenology. This is a citation for a fact listed in the negative aspects pop-up box.	http://www.annualreviews.org/doi/pdf/10.1146/annurev.ecolsys.37.091305.110100
	These hyperlink lead to a publication on hydrology. This is a citation for a fact listed in the negative aspects pop-up box.	http://onlinelibrary.wiley.com/doi/10.1055/s-2004-830353/pdf
11	Vegetation Carbon Dioxide Fertilization	
	This hyperlink leads to Oak Ridge National Laboratory webpage with information on FACE projects. This link can be accessed with the respond to fertilization pop-in box.	http://facedata.ornl.gov/ornl/
	This hyperlink leads to a publication on the on FACE projects. This link can be accessed with the respond to fertilization pop-in box.	http://onlinelibrary.wiley.com/doi/10.1111/j.1469-8137.2004.01224.x/full
12	Vegetation Water Use	
	This hyperlink leads to the NOAA National Climatic Data Center website where the average annual drought conditions graph data was retrieved.	http://www.ncdc.noaa.gov/monitoring-references/maps/us-climate-divisions.php
	This hyperlink leads to the Coconino National Forest homepage. This link is located in Coconino Mountain National Forest tab of the drought-induced tree mortality pop-up box.	www.fs.usda.gov/main/coconino/home
	This hyperlink leads to the Lincoln National Forest homepage. This link is located in Lincoln Mountain National Forest tab of the drought-induced tree mortality pop-up box.	http://www.fs.usda.gov/main/lincoln/home
14	Wildlife Habitat Range Shifts	
	This hyperlink leads to a conservation science website examples of wildlife corridors. This link can be accessed with corridors in action pop-in box.	http://www.conservationcorridor.org/corridors-in-conservation/
	This hyperlink leads to a NPS website on the Pikas in Peril project. This link is located in the box accessed with the climate change and wildlife connectivity pop-in.	http://science.nature.nps.gov/im/units/ucbn/monitor/pikas_in_peril.cfm
15	Wildlife Phenology	
	This hyperlink leads to a publication on phenology and bees in the Northeast. This link can be accessed with the Northeast regional box.	http://www.pnas.org/content/108/51/20645.full#sec-4
	This hyperlink leads to a publication on phenology and amphibians in the Southeast. This link can be accessed with the Southeast regional box.	http://rspb.royalsocietypublishing.org/content/early/2010/12/09/rspb.2010.1768.full
	This hyperlink leads to a publication on phenology and Walleye in the Midwest. This link can be accessed with the Midwest regional box.	http://www.tandfonline.com/doi/abs/10.1577/T09-129.1#.VKxHm3tGy3F

		This hyperlink leads to a publication on phenology and bird migration in the Great Plains. This link can be accessed with the Great Plains regional box.	http://www.jstor.org/stable/40983713
		This hyperlink leads to a publication on phenology and marmots in the Southwest. This link can be accessed with the Southwest regional box.	www.nature.com/nature/journal/v466/n7305/full/nature09210.html
		This hyperlink leads to a publication on phenology and bird migration in the Northwest. This link can be accessed with the Northwest regional box.	http://onlinelibrary.wiley.com/doi/10.1111/j.1600-048X.2012.05595.x/abstract
		This hyperlink leads to a publication on phenology and salmon in Alaska. This link can be accessed with the Alaska regional box.	http://onlinelibrary.wiley.com/doi/10.1111/j.1365-2486.2007.01494.x/abstract
16	Disturbances Insects	This hyperlinks leads to a publication on insect-caused tree mortality where the data for the animated GIF was retrieved.	http://www.esajournals.org/doi/pdf/10.1890/11-1785.1
		This hyperlinks leads to the USDA Forest Service Health Protection division website where the footprint area with tree mortality map was retrieved.	http://www.fs.fed.us/foresthealth/
17	Disturbances Invasives	This hyperlink leads to the USDA Forest Service Invasive Species Program report. This link can be accessed with the invasives and management practices pop-in.	http://www.fs.fed.us/invasivespecies/framework.shtml
		This hyperlink leads to a publication on the costs of invasive species. This is a citation for a fact listed in the invasives and ecological stability pop-up box.	http://www.rexano.org/Federal_Canada/PimentelEtal00CostExotics.pdf
		This hyperlink leads to a publication on invasives and wildfire. This is a citation for a fact listed in the invasives and ecological stability pop-up box.	http://www.bioone.org/doi/abs/10.1641/0006-3568%282004%29054%5B0677%3AEIOIAP0%5D2.0.CO%3B2
		This hyperlink leads to a publication on invasives and ecological processes. This is a citation for a fact listed in the invasives and ecological stability pop-up box.	http://web.ics.purdue.edu/~jsdukes/Dukes&Mooney2004.pdf
		This hyperlink leads to the USDA Forest Service Invasive Species Program website. This link can be accessed in the invasives and ecological stability pop-up box.	http://www.fs.fed.us/invasivespecies/index.shtml
18	Disturbances Wildfire	This hyperlink leads to the Kaibab National Forest homepage. This link is located in Kaibab Mountain National Forest tab of the climate change and wildfire examples pop-up box.	http://www.fs.usda.gov/kaibab
		This hyperlink leads to a publication where some of the	http://www.treesearch.fs.fed.us/pubs/32916

	<p>information in this section was retrieved. This link is located in Tahoe Mountain National Forest tab of the climate change and wildfire examples pop-up box.</p> <p>This hyperlink leads to a publication where some of the information in this section was retrieved. This link is located in Tahoe Mountain National Forest tab of the climate change and wildfire examples pop-up box.</p> <p>This hyperlink leads to the Tahoe National Forest homepage. This link is located in Tahoe Mountain National Forest tab of the climate change and wildfire examples pop-up box.</p>	<p>http://www.fs.fed.us/psw/publications/documents/psw_gtr237/</p> <p>http://www.fs.usda.gov/main/tahoe/home</p>
<p>19</p> <p>Conclusion</p>	<p>These hyperlinks lead to reports on adaptation in forest and grassland ecosystems. These links can be accessed through call-outs on the map.</p>	<p>http://forestadaptation.org/node/77</p> <p>www.nrs.fs.fed.us/pubs/45688</p> <p>www.treesearch.fs.fed.us/pubs/45939</p> <p>https://accap.uaf.edu/?q=project/tongass-national-forest-climate-change-vulnerability-assessment</p> <p>http://www.northcascadia.org/</p> <p>http://www.treesearch.fs.fed.us/pubs/38702</p> <p>www.treesearch.fs.fed.us/pubs/41171</p> <p>http://ecoadapt.org/programs/adaptation-consultations/calcc</p> <p>http://www.treesearch.fs.fed.us/pubs/44184</p> <p>http://www.treesearch.fs.fed.us/pubs/39736</p> <p>http://www.treesearch.fs.fed.us/pubs/45430</p> <p>http://forestadaptation.org/central-appalachians/vulnerability-assessment</p> <p>http://www.nrs.fs.fed.us/pubs/41165</p>

		<p>This hyperlink leads to the Climate Change Resource Center topic page on vulnerability assessments. The link can be accessed with the pop-in box at the bottom of the screen.</p> <p>www.fs.usda.gov/ccrc/topics/assessments</p>
		<p>This hyperlink leads to a publication on completing vulnerability assessments. This link can be accessed with the pop-in box at the bottom of the screen.</p> <p>http://www.nwf.org/What-We-Do/Energy-and-Climate/Climate-Smart-Conservation/Adaptation-Reports.aspx</p>
Activity	East	<p>This hyperlink leads to the Climate Change Resource Center topic pages on landscape analysis. This link is accessed with the bar on species distribution models on the bottom of screen on the first activity page.</p> <p>http://www.fs.usda.gov/ccrc/topics/landscape-analysis</p>
		<p>This hyperlink leads to the sugar maple page of the Forest Service Silvics of North America manual. The link is located underneath the sugar maple photo and information box after the first question in the activity.</p> <p>http://www.na.fs.fed.us/spfo/pubs/silvics_manual/volume_2/acer/saccharum.htm</p>
		<p>This hyperlink leads to the shortleaf pine page of the Forest Service Silvics of North America manual. The link is located underneath the shortleaf pine photo and information box after the first question in the activity.</p> <p>www.na.fs.fed.us/spfo/pubs/silvics_manual/Volume_1/pinus/echinata.htm</p>
		<p>This hyperlink leads to the Tree Atlas tool webpage. This link is available throughout the East section of the activity, in information boxes about the modeling used for the activity and information boxes about the activity map legends.</p> <p>http://www.fs.fed.us/nrs/atlas/</p>
		<p>This hyperlink leads to an Intergovernmental Panel on Climate Change webpage on emissions scenarios. This link is accessed through a call-out on the emissions scenario choice page.</p> <p>http://www.ipcc.ch/ipccreports/sres/emission/index.php?idp=91</p>
		<p>This hyperlink leads to the Geophysical Fluid Dynamics Laboratory homepage, because the GFDL climate model was used for the maps in the activity. This link is located in the box with information about modeling used in this activity on the emissions scenario choice page.</p> <p>http://www.gfdl.noaa.gov/</p>
	West	<p>This hyperlink leads to the Douglas-fir page of the Forest Service Silvics of North America manual. The link is located underneath the Douglas-fir photo and information box after the first question in the activity.</p> <p>www.na.fs.fed.us/spfo/pubs/silvics_manual/Volume_1/pseudotsuga/menziesii.htm</p>
		<p>This hyperlink leads to the ponderosa pine page of the Forest Service Silvics of North America manual. The link is located underneath the ponderosa pine photo and information box after the first question in the activity.</p> <p>http://www.na.fs.fed.us/spfo/pubs/silvics_manual/Volume_1/pinus/ponderosa.htm</p>

	<p>This hyperlink leads to the Plant Species and Climate Profile Predictions mapping webpage. This link is available throughout the West section of the activity, in information boxes about the modeling used for the activity and information boxes about the activity map legends.</p>	<p>http://forest.moscowfs1.wsu.edu/climate/species/index.php</p>
	<p>This hyperlink leads to a publication on the methods for the creating the maps in the West section (available on the Plant Species and Climate Profile Predictions webpage). This link is located in the mapping information box on the page after the first question in the activity.</p>	<p>http://www.treesearch.fs.fed.us/pubs/25706</p>
	<p>This hyperlink leads to an Intergovernmental Panel on Climate Change webpage on emissions scenarios. This link is accessed through a call-out on the emissions scenario choice page.</p>	<p>http://www.ipcc.ch/ipccreports/sres/emission/index.php?idp=91</p>
	<p>This hyperlink leads to the Geophysical Fluid Dynamics Laboratory homepage, because the GFDL climate model was used for the maps in the activity. This link is located in the box with information about modeling used in this activity on the emissions scenario choice page.</p>	<p>http://www.gfdl.noaa.gov/</p>