



Climate and Hydrology Projections Training & Archive Material

A consortium of partners including the U.S Army Corps of Engineers the Lawrence Livermore National Laboratory (LLNL), the Bureau of Reclamation, the U.S. Geological Survey, Climate Central, Scripps Oceanographic Institute, the National Science Foundation/National Center for Atmospheric Research, and Santa Clara University have produced and archived global climate model outputs temporally and spatially downscaled by several different methods as well as a smaller range of hydrologic outputs from models forced by those projected climatologies. The outputs are available from the publically accessible website, [Downscaled CMIP3 and CMIP5 Climate and Hydrology Projections](#), hosted by LLNL. The archive also has other documents describing the outputs and the archive and methods change history.

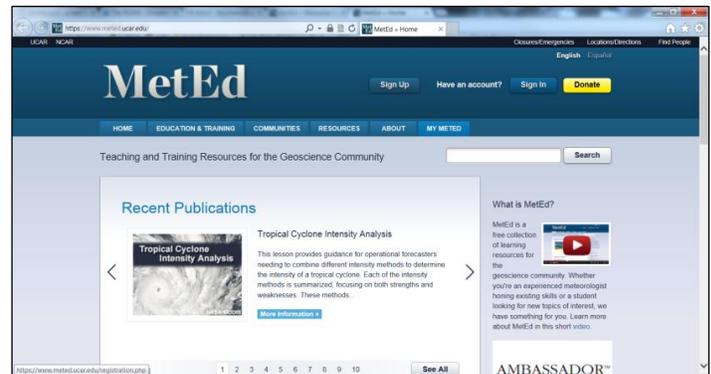
In addition to the archive, the agencies have developed [two training videos](#): *An Introduction to the Climate and Hydrology Projections Website and Training* and *A Tour of Climate and Hydrology Projections Archive Site* as well as an online course, [Preparing Hydro-climate Inputs for Climate Change in Water Resources Planning](#). These resources help users select and retrieve the climate and hydrology projection outputs for studies and additional research.

This guide provides users with instructions for accessing training material and navigating the archive.

Signing Up for a MetEd Account

STEP 1: To sign up for a MetEd account, navigate to the MetEd home page <https://www.meted.ucar.edu>

STEP 2: If the user has already signed up for a MetEd account, proceed to the next section: *Accessing MetEd Training Material*. If the user has not signed up for a MetEd account, click on the **Sign Up** button and enter all (*) required fields. For *Primary Affiliation*, select **DOD (U.S. Department of Defense)** from the dropdown menu. Making this selection causes the *Sub-Affiliation* field to be populated. Select **Army Corps of Engineers** from the *Sub-Affiliation* drop-down menu.



STEP 3: After filling out all (*) required fields, click the **submit** button.

STEP 4: Upon clicking the **submit** button, the page will refresh.



Accessing MetEd Training Material

STEP 1: Once a user has (a) Signed up for MetEd account, or (b) Signed into their existing account, click on the **EDUCATION & TRAINING** tab to access training material.

STEP 2: Clicking on the *EDUCATION & TRAINING* tab will take users to the *All Topic Areas* page. From here, select **Climate** from the *Topics* drop-down menu.

STEP 3: After selecting *Climate* from the *Topics* drop-down menu, scroll down to find one of the following lesson/resources:

- a.) **An Introduction to the Downscaled Climate and Hydrology Projections Website** or
- b.) **Preparing Hydro-climate Inputs for Climate Change in Water Resource Planning**

Click on the hyperlinked title.

STEP 4a: If the user chose to click on the hyperlink for *An Introduction to the Downscaled Climate and Hydrology Projections Website*, the user is taken to a *Description* page which provides detail about the lesson/resource. Click the button **VISIT THIS RESOURCE**.



STEP 4b: If the user chose to click on the hyperlink for *Preparing Hydro-climate Inputs for Climate Change in Water Resource Planning*, the user is taken to a *Description* page which provides detail about the lesson/resource. Click the button **BEGIN LESSON**.



STEP 5a: After clicking the button *VISIT THIS RESOURCE* on the MetEd page, the user will be taken to YouTube where they can click on the following hyperlinks to watch training videos: **An Introduction to the Climate and Hydrology Projections Website and Training** and **A Tour of Climate and Hydrology Projections Archive Site**.

Accessing the Archive Website

Follow the steps below to access the archive website *Downscaled CMIP3 and CMIP5 Climate and Hydrology Projections*. Further instructions regarding navigation within the website can be found under the sub sections: *Accessing Tutorials*, *Retrieving Customized Dataset*, and *Retrieving Projection-Specific Full Coverage Dataset*.

STEP 1: To access the *Downscaled CMIP3 and CMIP5 Climate and Hydrology Projections* website, navigate to the URL: <http://gdo-dcp.ucllnl.org/>

Instructions on accessing the tutorials and retrieving the customized and projection-specific full coverage datasets are below.

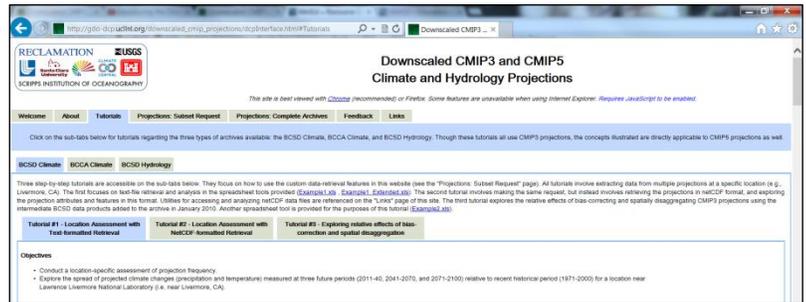


Accessing Tutorials

Follow the steps below to access instructions on how to use custom data-retrieval features.

STEP 1: The *Downscaled CMIP3 and CMIP5 Climate and Hydrology Projections* website is organized into tabs. To access the site's tutorials, click the third tab from the left titled **Tutorials**.

The *Tutorials* tab is divided into three sub-tabs, one for each type of archive data: *BCSD Climate*, *BCCA Climate*, and *BCSD Hydrology*. The table to the right lists the tutorials included under each archive type sub-tab.



Archive Type Sub-Tab	Tutorial Title
<i>BCSD Climate</i>	Tutorial #1 - Location Assessment with Text-formatted Retrieval
<i>BCSD Climate</i>	Tutorial #2 - Location Assessment with NetCDF-formatted Retrieval
<i>BCSD Climate</i>	Tutorial #3 - Exploring relative effects of bias-correction and spatial disaggregation
<i>BCCA Climate</i>	Tutorial #1 - Location Assessment with Text-formatted Retrieval
<i>BCSD Hydrology</i>	Tutorial #1 - Runoff Change for a stream location

STEP 2: To select a tutorial, click the archive sub-tab: *BCSD Climate*, *BCCA Climate* or *BCSD Hydrology*. Click on the sub-tab corresponding to the tutorial being searched for.

Retrieving Customized Dataset

Follow the steps below to retrieve subsets of data spanning multiple projections, coverage specifications, variables and/or statistical summaries.

*Please note it is recommended that users review the tutorials first in order to properly understand how to use the custom data-retrieval features.

STEP 1: Click the fourth tab from the left titled **Projections: Subset Request**.

STEP 2: The *Projections: Subset Request* tab is a fillable form organized into three sub-tabs: *Page 1: Temporal & Spatial Extent*; *Page 2: Products, Variables, Projections*; and *Page 3: Analysis, Format, & Notification*. Select options on each of the three tabs in order to retrieve archive data and click **Submit Request**. The table to the right lists which steps are displayed on each of the three pages.

Page	Step
<i>Page 1: Temporal & Spatial Extent</i>	Step 1.1: Time Step and Period
<i>Page 1: Temporal & Spatial Extent</i>	Step 1.2: Domain
<i>Page 1: Temporal & Spatial Extent</i>	Step 1.3: Spatial extent selection method
<i>Page 2: Products, Variables, Projections</i>	Step 2.4: Select Projection Sets
<i>Page 2: Products, Variables, Projections</i>	Step 2.5: Products & Variables (projections may be daily or monthly)
<i>Page 2: Products, Variables, Projections</i>	Step 2.6: Emissions Scenarios, Climate Models and Runs
<i>Page 3: Analysis, Format, & Notification</i>	Step 3.7: Analysis
<i>Page 3: Analysis, Format, & Notification</i>	Step 3.8: Output Format
<i>Page 3: Analysis, Format, & Notification</i>	Step 3.9: Notification when Processing is Complete
<i>Page 3: Analysis, Format, & Notification</i>	Step 3.10: Usage Information

STEP 3: To retrieve data, fill out each step of the form and click the **Submit Request** button. A system message will display asking what the internet browser should do with the retrieved file. To keep the file, ensure that the radio button next to **Save File** is selected, and then click the **OK** button. Save the file in an appropriate folder.



Retrieving Projection-Specific Full Coverage Dataset

Follow the steps below to access the ftp directories containing projection-specific full coverage dataset.

STEP 1: Click the fifth tab from the left titled **Projections: Complete Archives**. The table to the right lists the types of data available to the user on this tab.

STEP 2: Click on the blue **Archive** hyperlink to open a new tab or window containing the archive directory. Click through the hyperlinked folders to reach a specific data file, and then click on the file hyperlink. To keep the file, ensure that the **Save File** is selected, and then click the **OK** button.

Data Type	Variable, Space, Time
<i>BCSD-CMIP3 Climate monthly Projections</i>	CONUS 1/8 degree BCSD single year files
<i>BCSD-CMIP3 Climate monthly Projections</i>	CONUS 1/8 degree BCSD 150-year files
<i>BCSD-CMIP3 Climate monthly Projections</i>	CONUS 2 degree BCSD yearly files
<i>BCSD-CMIP3 Climate monthly Projections</i>	CONUS 2 degree BCSD 150-year files
<i>BCSD-CMIP5 Climate monthly Projections</i>	CONUS 1/8 & 1 degree BCSD files
<i>BCSD-CMIP5 Climate monthly Projections</i>	GLOBAL 1/2 & 1 degree BCSD file (only available for direct download)
<i>BCCAv2-CMIP3 Climate daily Projections</i>	CONUS 1/8 & 2 degree BCCAv2 yearly files
<i>BCCAv2-CMIP5 Climate daily Projections</i>	CONUS 1/8 & 1 degree BCCAv2 files
<i>BCSD-CMIP3 Hydrology Projections</i>	Northwest and Columbia (monthly and daily sets available)
<i>BCSD-CMIP3 Hydrology Projections</i>	California (monthly and daily sets available)
<i>BCSD-CMIP3 Hydrology Projections</i>	Great Basin (monthly and daily sets available)
<i>BCSD-CMIP3 Hydrology Projections</i>	Colorado River (monthly and daily sets available)
<i>BCSD-CMIP3 Hydrology Projections</i>	Rio Grande (monthly and daily sets available)
<i>BCSD-CMIP3 Hydrology Projections</i>	Missouri River (monthly and daily sets available)
<i>BCSD-CMIP3 Hydrology Projections</i>	Arkansas-Red (monthly and daily sets available)
<i>BCSD-CMIP3 Hydrology Projections</i>	West Gulf (monthly and daily sets available)