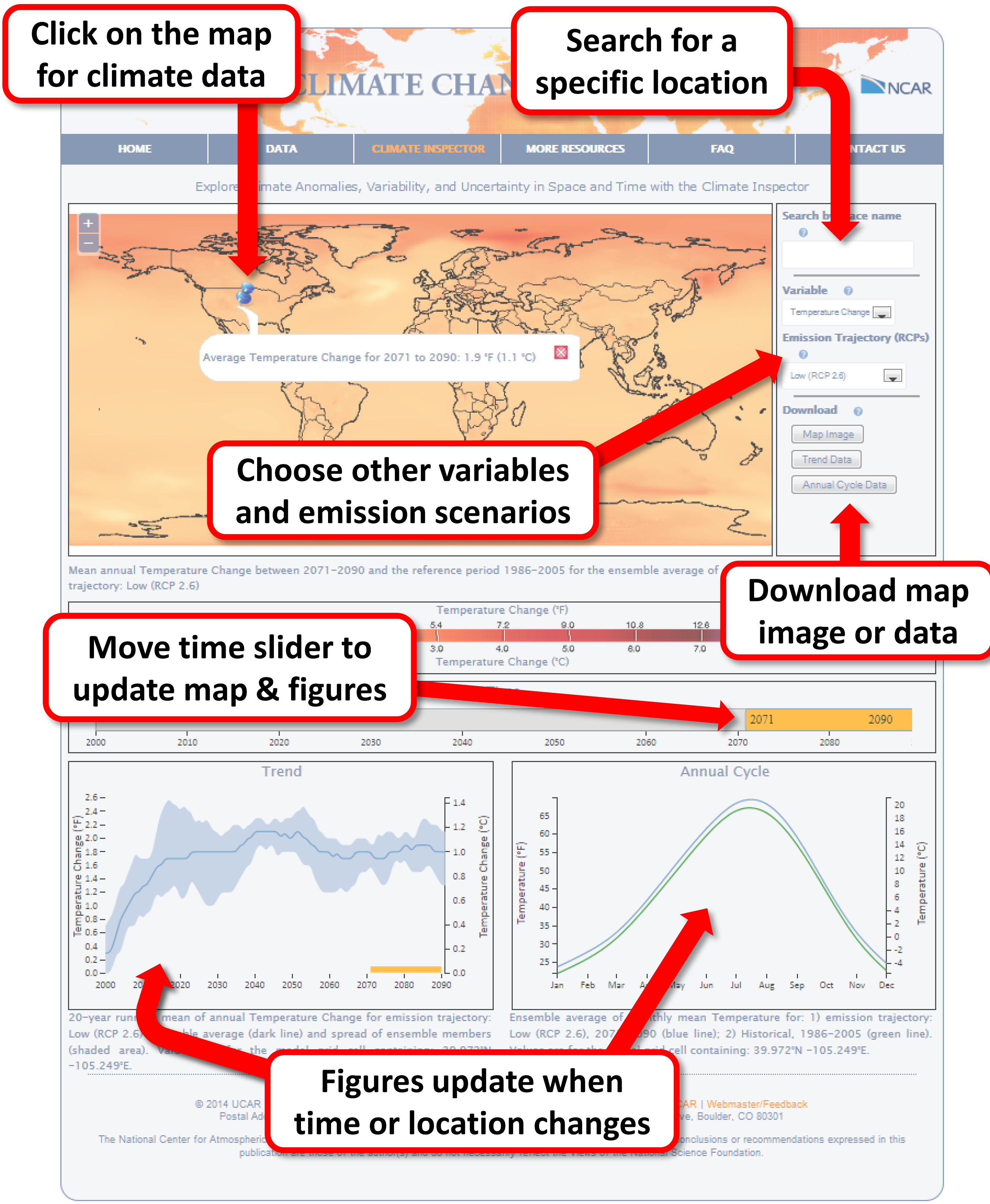
Using the Climate Inspector



About Climate Inspector:

The Climate Inspector is an interactive web application which expands GIS mapping and graphing capabilities to visualize possible temperature and precipitation changes throughout the 21st century. The maps and graphs are generated from a large dataset of climate simulations by the NCAR Community Climate System Model (CCSM4). These simulations were prepared for the 5th Assessment Report of the Intergovernmental Panel on Climate Change. With Climate Inspector you can explore how temperature and precipitation may change based on different emission trajectories (i.e., Representative Concentration Pathways), investigate climate changes around the globe and through time, inspect climate trends, variability and uncertainty, and download maps and data. Here you can download temporal climate data for a single grid cell. If you would like to download data for a globe or a region in a shapefile or textfile format please visit our data page.

If you need extra help, click on the "?" button or contact our team.

Location Search

Use the search box to search for place names. A place name may be the name of a city, county, state, province, or country name. Only cities with a population greater than 500 were included. Search strings should contain only plain ASCII characters and use widely accepted international or English names.

Examples:
Search for "Boulder, Colorado", not for "80301"
Search for "Russian Federation", not for "Russia“

Do not use zip codes or geographic coordinates. Only placenames will be matched. Search results are sorted first by the strength of string matching to the input search string, and then in descending order by population. Search results are limited to the top 20 matches. The search results dialog will give search options as well as additional information, such as the county name, province or state name, and country. Place name data is based on the Geonames geographical database (http://www.geonames.org/)

Variables

Temperature Change
20-year running mean of annual near-surface air temperature departure relative to 1986-2005 mean. Air temperature is the bulk temperature of the air, not the surface (skin) temperature. Calculated using variable 'tas' from CESM atmospheric component model. Units: °F and °C

Precipitation Change *(includes both liquid and solid phases)*
20-year running mean of annual precipitation amount anomaly relative to 1986-2005 mean. Calculated using variable 'pr' from CESM atmospheric component model. Units: inches/year and mm/year

Downloading Data

The download buttons allow data and map images to be downloaded for offline use. The map image will be provided in PNG image format, and download instructions will vary by browser. Both the annual and monthly data files are provided in CSV (comma-separated value) format and can be viewed in an application such as Microsoft Excel.

Representative Concentration Pathways

The climate change scenarios have been redesigned for the Intergovernmental Panel on Climate Change (IPCC) Fifth Assessment Report. Previous SRES Emission Scenarios were designed to represent socio-economic development storylines and estimate associated emissions over the 21st century. The new approach defines Representative Concentration Pathways (RCPs), which provide concentrations of atmospheric greenhouse gas (GHG) and the trajectory that is taken over time to reach those concentrations. These RCPs are named according to the level of radiative forcing (enhanced greenhouse effect or warming) that they produce by the year 2100. The four RCPs that have been produced include one high pathway in which radiative forcing reaches 8.5 Watts per square meter (Wm-2) by 2100, two intermediate 'stabilization pathways' in which radiative forcing is stabilized at 6 Wm-2 and 4.5 Wm-2 after 2100, and one low pathway in which radiative forcing peaks around 3 Wm-2 before 2100 and declines. This low scenario describes GHG emissions that drop below zero around 2070 and continue to decrease (carbon-negative). These RCPs themselves are not linked to any one socio-economic scenario: many difference socio-economic scenarios could give rise to similar changes in atmospheric constituents. Further, RCPs should not be considered as forecasts or absolute bounds. They are representative of plausible alternative scenarios of the future but are not predictions or forecasts. No RCP is intended as a best guess or most likely outcome.

Citations:

Richard Moss, Mustafa Babiker, Sander Brinkman, Eduardo Calvo, Tim Carter, Jae Edmonds, Ismail Elgizouli, Seita Emori, Lin Erda, Kathy Hibbard, Roger Jones, Mikiko Kainuma, Jessica Kelleher, Jean Francois Lamarque, Martin Manning, Ben Matthews, Jerry Meehl, Leo Meyer, John Mitchell, Nebojsa Nakicenovic, Brian O'Neill, Ramon Pichs, Keywan Riahi, Steven Rose, Paul Runci, Ron Stouffer, Detlef van Vuuren, John Weyant, Tom Wilbanks, Jean Pascal van Ypersele, and Monika Zurek (2008). Towards New Scenarios for Analysis of Emissions, Climate Change, Impacts, and Response Strategies. Geneva: Intergovernmental Panel on Climate Change. pp. 132. Inman, Mason (2011), Opening the future, Nature Climate Change 1, 7-9, 29 March 2011, doi:10.1038/nclimate1058

http://sedac.ipcc-data.org/ddc/ar5_scenario_process/index.html