Instructions for iframing the High Resolution Drought Monitoring Tool Map and Time Series Webpages

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Last Update: 05-10-2017
Previous Revisions: 04-01-2014, 07-24-2013

Who is this document for?

The drought monitoring tools from the NC SCO were designed with various levels of customization in mind, from simply selecting options when visiting the page all the way to iframing the website. If the highest level of customization you're interested in is a page with your options bookmarked, this document is not for you. Rather, you should visit the main website http://climate.ncsu.edu/drought/map and create a bookmark there. If you want to include this tool within your own website, read on; readers are expected to have experience with PHP and HTML.

Map Tool

See it in action at: http://climate.ncsu.edu/drought/map

Iframable* webpage: http://climate.ncsu.edu/products/hirdtt/spi_framed.php

*Note: do NOT directly link to the iframed website! It has been designed to be within an iframe, and consequently has little to no information about how to use the tool. It is assumed that users who iframe this page will have some documentation or verbiage on their own website referring to how to use the tool; otherwise, please only use or link to the main website at http://climate.ncsu.edu/drought/map.

To have your own "personalized" drought map tool there are a few steps to follow:

1. Create a script (php or html) with an iframe and point to the following in the iframe's source:
http://climate.ncsu.edu/products/hirdtt/spi_framed.php

2. Step 1 is technically all you need to have the map tool work on your own website, **but** there are two links on the website that are required for the page to work perfectly. The first is the "Bookmarkable link" link at the bottom of the page. To have this link reflect your host site, (and not http://climate.ncsu.edu/drought/map), you need to pass the host website address as the URL parameter "url_start" to the iframe source URL. As an example, the drought index mapping tool on the NC SCO's website can be found at http://climate.ncsu.edu/drought/map, so our basic iframe looks like:

```
<iframe frameborder="0" scrolling="no"
src="http://climate.ncsu.edu/products/hirdtt/spi_framed.php?url_start=climate.ncsu.edu/drought/map"
></iframe>
```

If you omit this URL parameter, users who click "bookmarkable link" will be directed to the http://climate.ncsu.edu/drought/map website with their options selected.

The second URL parameter is for users who also iframe the time series tool (more about this later). If you aren't iframing this page as well, skip ahead. Users can click on the map to place a marker; a popup should appear with details about the location clicked, the value of the given map at that location, and a link to view a time series at that location. If you iframe the time series page, you want this URL to take users to the URL of *your* page, instead of http://climate.ncsu.edu/drought/map/timeseries. To do this, you must pass in the URL parameter "ts_url_start," with the value of the URL of *your* time series page, to the iframe source URL. For example, on the NC SCO's website, the gridded drought index time series page is at http://climate.ncsu.edu/drought/map/timeseries. Adding on to our iframe above, we now have:

```
<iframe
src="http://climate.ncsu.edu/products/hirdtt/spi_framed.php?url_start=climate.ncsu.edu/drought/map&ts
_url_start=climate.ncsu.edu/drought/map/timeseries" frameborder="0" scrolling="no"></iframe>
```

If you complete steps 1 and 2, you should have working map tool on your website! Step 3 will go over the tailoring needed to get the bookmarkable link to work properly. Part 2 of this document will go into detail on how to iframe the time series tool.

3. To tailor the site to meet your needs as well as let users select options and bookmark the webpage with those options selected (so they don't have to select them every time they come to the page), there are a few more parameters you'll want to pass to the iframe. You'll need to grab these parameters from the host website's url using PHP's $_GET['url_param']. Below you'll find the PHP code used on the website http://climate.ncsu.edu/drought/map to capture the URL inputs and pass these to the iframe:

```php
// Map tool script source (the iframed page)
$src_url = "http://climate.ncsu.edu/products/hirdtt/spi_framed.php";

// Initialize the url parameter string
$url_params = "";

// SPI duration parameter. Default is 3, all possible values are: 1, 2, 3, 4, 5, 6, 7, 8, 9, 12, 15,
// 18, 24, or 36.
if($_GET['dur'])
    $url_params .= "&dur=" . $_GET['dur'];

// To zoom into a specific location, pass in "zoom_type" AND "center_pt" OR "state."
// zoom_type possible values:
//      "state" (must also pass in a value for state (example: "zoomtype=state&state=NC")
//      "full" (for CONUS; no need to pass in center_pt or state),
//      or "current" (user-selected; must also pass in a value for "center_pt")
// If no zoom options are passed in, the page defaults to CONUS view.
if($_GET['zoom_type'])
    $url_params .= "&zoom_type=" . $_GET['zoom_type'];

// Center point of the map; format is lat,lon in degrees (include "-" in front of longitude)
if($_GET['center_pt'])
    $url_params .= "&center_pt=" . $_GET['center_pt'];

// If user wants to zoom in on a specific state, just pass the 2-letter state abbreviation
```

```php
if($_GET['state'])
    $url_params .="&state=" .$_GET['state'];


// The two lines below are used to default to NC; to have the page default to your state, simply
// substitute your state's 2-letter abbreviation for NC below:
if(!$_GET['center_pt'] && !$_GET['state']){
    $url_params.="&zoom_type=state&state=NC";
    if(!$_GET['county_lines'])
        $url_params .= "&county_lines=on";
}


// Zoom range is ~4 to 9. Not needed if user has selected zoom_type = state or full.
if($_GET['zoom'])
    $url_params .= "&zoom=" . $_GET['zoom'];



// Below are overlays:
// State lines
if($_GET['state_lines'])
    $url_params .= "&state_lines=" . $_GET['state_lines'];


// County Lines
if($_GET['county_lines'])
    $url_params .= "&county_lines=" . $_GET['county_lines'];


// Climate Division Lines
if($_GET['clim_div'])
    $url_params .= "&clim_div=" . $_GET['clim_div'];


// HUC-6 Lines
if($_GET['huc_six'])
    $url_params .= "&huc_six=" . $_GET['huc_six'];


// Cities and Towns (points)
if($_GET['cities'])
    $url_params .= "&cities=" . $_GET['cities'];


// Below toggles between each main map layer. Current map layers are:
// SPI ("spi"), Percent of Normal Precipitation ("pctnml"), Accumulated AHPS Precipitation
// ("mpeprcp"), SPI Blend ("spiblend"), SPEI** ("spei"), or Keetch-Byram Drought Index ("kbdi"). Default
is SPI.
// Select layer
if($_GET['layer'])
    $url_params .= "&layer=" . $_GET['layer'];
```

** SPEI should still be considered an experimental product as it undergoes evaluations.

```php
// End date is in the format yyyy-mm-dd OR "yesterday" or "today." Maps are created early afternoon
daily and the page defaults to the most recent date that maps have been calculated for.
if($_GET['end_date'])
    $url_params .= "&end_date=" . $_GET['end_date'];
```

```php
// As mentioned earlier, the url of the host webpage should be included
$bkmk_url_starter = explode("?",$_SERVER['HTTP_HOST'].rtrim($_SERVER['REQUEST_URI'], "/"));
$bkmk_url = $bkmk_url_starter[0];
$url_params .="&url_start=".$bkmk_url;

 // If you're also iframing the time series webpage, add url string for time series webpage
$ts_bkmk_url_starter = explode("?",$_SERVER['HTTP_HOST']."/drought/map/timeseries?");
$ts_bkmk_url = $ts_bkmk_url_starter[0];
$url_params .="&ts_url_start=".$ts_bkmk_url;

// Finally, trim off the ending "&" and append a "?" to the start of the url parameter string
// add this all to the source url string
if($url_params!="")
    $src_url .= "?" . ltrim($url_params,"&");


<!-- Your iframe should look like this (within HTML portion of code): -->
<iframe name="climper" src="<?php echo $src_url; ?>" frameborder="0" scrolling="no"></iframe>
```

As an example, suppose you want the page to always be centered on Texas, display a 4-month SPI for the most recent date using NWS MPE data, and overlay both state and county lines. The website you'll be iframing the drought index Map Tool from is called "www.mywebpage.php" and the website you'll be iframing the drought index Time Series tool from is called "www.mytimeseries.php".

Using the $_GET[] PHP commands above, you would either:

Have the following URL for your host webpage:
www.mywebpage.php?dur=4&state=TX&state_lines=on&county_lines=on&layer=spi

and use $_GET(['url_param'] to capture the input URL variables

OR

leave your host webpage's url as www.mywebpage.php and use
```
if($_GET['url_param'])
        use url param
else
        use param value that gives default page
```

Your iframe should look like:

```
<iframe
src="http://climate.ncsu.edu/spi/spi_framed.php?dur=3&state=TX&state_lines=on&county_lines=on&
layer=spi&url_start=www.www.mypwebpage.com&ts_url_start=www.mytimeseries.com" frameborder="0"
scrolling="no"></iframe>
```

Notice how no "edate" parameter was entered; leaving this off will always default to the most recent map.

If you are only iframing the map webpage, congratulations, you're done! If you're also iframing the timeseries webpage, continue reading.

Drought Mapping Time Series Webpage

See it in action at: http://climate.ncsu.edu/drought/map/timeseries

Iframable* webpage: http://climate.ncsu.edu/products/hirdtt/ts_framed.php

*Note: do NOT directly link to the iframed website! It has been designed to be within an iframe, and consequently has little to no information about how to use the tool. It is assumed that users who iframe this page will have some documentation or verbage on their own website referring to how to use the tool; otherwise, please only use or link to the main website at http://climate.ncsu.edu/drought/map/timeseries.

Iframing the time series webpage follows much the same logic as described above for the map webpage.

1. You'll need to create a script (php or html) with an iframe and point this to the following source: http://climate.ncsu.edu/products/hirdtt/ts_framed.php

2. The webpage can run without user inputs, but to have the "Bookmarkable link" link at the bottom of the page reflect your host site (and not the NC SCO's) you'll need to pass *your* time series website address as the URL parameter "url_start" to the iframe source URL. If you don't pass anything, users who click this link will be directed to the http://climate.ncsu.edu/drought/map/timeseries page with their options bookmarked. As an example, the drought index Time Series tool on the NC SCO's website can be found at http://climate.ncsu.edu/drought/map/timeseries, so our basic iframe looks like:

```
<iframe
src="http://climate.ncsu.edu/products/hirdtt/ts_framed.php?url_start=climate.ncsu.edu/drought/map/timeseries" frameborder="0" scrolling="no"></iframe>
```

3. This is all you need to get the page running ***but*** there are some caveats. Foremost, if no lat/lon is entered, the page will default to the approximate lat/lon of Raleigh, NC. It's a good idea to make sure whatever host page you use checks to see if a lat/lon has been entered and, if not, defaults to a lat/lon of *your* choosing. Like the map tool page, the time series page is designed to be user-specific with lots of URL parameters. Some PHP code used by the http://climate.ncsu.edu/drought/map/timeseries page to capture URL inputs is listed below:

```
// The Time Series script URL (iframe source URL)
$src_url = "http://climate.ncsu.edu/products/hirdtt/ts_framed.php";

// Initialize the URL parameter string
$url_params = "";

// Get the gridded layer duration
```

```php
if($_GET['dur'])
        $url_params .= "&dur=" . $_GET['dur'];

// Get the range of dates, from start date...
if($_GET['sdate'])
        $url_params .= "&sdate=" . $_GET['sdate'];
//...to end date (default is most recent date with calculated maps)
if($_GET['edate'])
        $url_params .= "&edate=" . $_GET['edate'];

// Get latitude and longitude of selected point
if($_GET['latitude'])
        $url_params .= "&latitude=" . $_GET['latitude'];
if($_GET['longitude'])
        $url_params .= "&longitude=" . $_GET['longitude'];

// Get time series type. Like with the mapping tool, options are: "spi", "pctnml", "mpeprcp",
// "spiblend", "spei", and "kbdi". Default is "spi")
if($_GET['ts_type'])
        $url_params .= "&ts_type=" . $_GET['ts_type'];

// Add URL string for current webpage
$bkmk_url_starter = explode("?",$_SERVER['HTTP_HOST'].rtrim($_SERVER['REQUEST_URI'], "/"));
$bkmk_url = $bkmk_url_starter[0];
$url_params .="&url_start=".$bkmk_url;

// Finally, trim off the ending "&" and append a "?" to the start of the url parameter string
// add this all to the source url string
if($url_params!="")
        $src_url .= "?" . ltrim($url_params,"&");

// YouR iframe should look like this:
<iframe src="<?php echo $src_url; ?>" frameborder="0" scrolling="no"></iframe>
```

Now let's go through a simple example that puts this all together. As an example, suppose you want to obtain a SPI time series for College Station, Texas which has lat/lon coordinates of 30.6,-96.3. You're also interested in defaulting to a 3-month SPI duration for a 1 month period ending on the most recent date (note: going to the time series webpage from the map webpage will always default to a 1 month time series). The website you'll be iframing the drought index Time Series tool from is called "www.mytimeseries.php".

You would either:

need to have the following url for your host webpage:
www.mytimeseries.php?edate=today&dur=3&ts_type=spi&latitude=30.6&longitude=-96.3 and use
$_GET(['url_param'] to capture the input url variables

OR

leave your host webpage's url as www.mytimeseries.php and use

```
if($_GET['url_param'])
        use url param
else
        use param value that gives default page
```

Either way, your iframe should look like:

```
<iframe
src="http://climate.ncsu.edu/products/hirdtt/ts_framed.php?dur=3&edate=today&latitude=30.6&longitude=
-96.3&ts_type=spi&url_start=www.mytimeseries.com" frameborder="0" scrolling="no"></iframe>
```

Leaving off a sdate parameter defaults to a start date 1 month before the end date; entering "today" for the edate value chooses the most recent date with data as the end date (otherwise format is YYYY-MM-DD).

Any features added to the webpage will be made to work seamlessly with the existing iframe convention and this document will reflect any changes. In the rare instance a conflict with the webpage will result in changes that need to be made on your pages, either the changes will be reflected in a new script and the original left unchanged and/or you will be given ample notice in addition to assistance in altering your webpages.

If you have any questions, comments, or feedback, please email Rebecca Ward at rvcumbie@ncsu.edu.