

# Instructions for iframing the Experimental High Resolution Drought Trigger Tool (HiRDTT) Map and Time Series Webpages

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## Who is this document for?

The Experimental HiRDTT websites 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> 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.

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## **UPDATES IN 2016 REVISION:**

Several URL parameter names have been changed or discontinued. More details about these can be found in this document, but an abbreviated list of changes to make to your scripts is listed here. Anything in **red** should be removed or replaced. Anything in **green** should be added.

## HiRDTT Page

1. Remove **mpe\_type** URL parameter. It has been discontinued since now only maps generated with AHPS precipitation can be viewed.
2. Change any reference to URL parameters **spi\_layer=on**, **spiblend\_layer=on**, **pctnml\_layer=on**, **etc.** to **layer=layer\_name**, where **layer\_name = spi**, **spiblend**, **spei**, **pctnml**, **mpeprcp**, or **kbd**.
3. Change **spi\_lag** URL parameter to **dur**. This was changed for clarity of meaning.
4. Change any reference to URL parameters **states=on**, **counties=on**, **etc.** to **boundaries=boundary\_layer** where **boundary\_layer = states**, **counties**, **hucs** (for huc 6), **climdiv**, or **cities**. Boundary layer can be one layer or a comma-separated list, i.e. **boundaries=states,counties** to display both state and county lines.

## HiRDTT Time Series Page

1. Change **lag** URL parameter to **dur**. This was changed for clarity of meaning.
  2. Remove **mpe** URL parameter. It has been discontinued since now only maps generated with AHPS precipitation can be viewed.
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## Experimental High Resolution Drought Trigger Tool (HiRDTT)

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

Iframable\* webpage: [http://climate.ncsu.edu/spi/spi\\_framed.php](http://climate.ncsu.edu/spi/spi_framed.php)

**\* DO NOT DIRECTLY LINK TO THE IFRAMABLE WEBSITE! \***

## To have your own personalized HiRDTT webpage there are a few steps to follow:

1. Create a script (PHP or HTML) with an `<iframe/>` tag and point to the following in the iframe's source: [http://climate.ncsu.edu/spi/spi\\_framed.php](http://climate.ncsu.edu/spi/spi_framed.php)

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

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

There is an associated time series tool to the HiRDTT. How this works: users can click on the map to place a marker. A popup will appear with details about the location clicked, the value of the layer at this point, and a link to view the grid point's time series. If you have iframed your page, you probably want the URL that appears in this popup to take users to a page on **your** site, instead of the default [http://climate.ncsu.edu/drought/drought\\_timeseries](http://climate.ncsu.edu/drought/drought_timeseries). To do this, you must pass the 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 HiRDTT time series page is at [http://climate.ncsu.edu/drought\\_timeseries](http://climate.ncsu.edu/drought_timeseries). Adding on to our iframe above, we now have:

```
<iframe
src="http://climate.ncsu.edu/spi/spi_framed.php?url_start=climate.ncsu.edu/drought
&ts_url_start=climate.ncsu.edu/drought_timeseries" frameborder="0" scrolling="no" />
```

If you do not do this, the time series link will take users to [http://climate.ncsu.edu/drought\\_timeseries](http://climate.ncsu.edu/drought_timeseries). **If you complete steps 1 and 2, you should have a working HiRDTT on your website! Step 3 will go over all the different URL parameters that can be passed to the iframe to tailor the website.**

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 example PHP code to capture the URL inputs and pass these to the iframe.

```
// HiRDTT script source (the iframed page)
$src_url = "http://climate.ncsu.edu/spi/spi_framed.php";
```

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

```
// SPI duration parameter: 'dur'. Default is 3.
// Possible values: 1, 2, 3, 4, 5, 6, 7, 8, 9, 12, 15, 18, 24, or 36.
// Note: 'dur' replaces the deprecated (but still supported) 'spi_lag'
if($_GET['dur'])
    $url_params .= "&dur=" . $_GET['dur'];
```

```

// Zoom to 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 (ex: "zoomtype=state&state=NC"))
//     "full" (for CONUS; no need to pass in center_pt or state),
//     "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 map; format is lat,lon in deg (include "-" for longitude)
if($_GET['center_pt'])
    $url_params .= "&center_pt=" . $_GET['center_pt'];

// Use 2-letter state abbreviation for zooming to specific state
if($_GET['state'])
    $url_params .= "&state=" . $_GET['state'];

// Example: the two lines below are used to default to NC:
if(!$_GET['center_pt'] && !$_GET['state']){
    $url_params.="&zoom_type=state&state=NC";
}

```

```

// 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'];

```

```

// Geographic and political overlays use the parameter 'boundaries' and a list of
// comma-separated layers. All possible layers are: states, counties, hucs (HUC 6),
// and climdiv (for climate divisions).
if($_GET['boundaries']){
    $url_params .= "&boundaries=" . $_GET['boundaries'];

// DEPRECATED: SEPARATE VARIABLES FOR EACH OVERLAY. CODE INCLUDED FOR REFERENCE.
if($_GET['state_lines']) // State lines
    $url_params .= "&state_lines=" . $_GET['state_lines'];
if($_GET['county_lines']) // County Lines
    $url_params .= "&county_lines=" . $_GET['county_lines'];
if($_GET['clim_div']) // Climate Division Lines
    $url_params .= "&clim_div=" . $_GET['clim_div'];
if($_GET['huc_six']) // HUC-6 Lines
    $url_params .= "&huc_six=" . $_GET['huc_six'];
if($_GET['cities']) // Cities and Towns (points)
    $url_params .= "&cities=" . $_GET['cities'];

```

```

// End date format is "yyyy-mm-dd" OR "yesterday" or "today." Maps are generated by
// 12pm EST each day. The page defaults to yesterday's date.
if($_GET['end_date'])
    $url_params .= "&end_date=" . $_GET['end_date'];

```

```

// Gridded map layer to display on page load (default is SPI). Possible values: spi,
// spiblend, spei (beta), kbdi, pctnml (% normal precip), mpeprcp (accumulated precip)
if($_GET['layer'])
    $url_params .= '&layer=' . $_GET['layer'];

// DEPRECATED: Previously individual variables existed for each layer, i.e.
// spi_layer=on. These will eventually be phased out in favor of new 'layer' variable.
// Deprecated code included for reference:
// Gridded map layer to display on page load. Format is 'spi_layer=on'
if($_GET['spi_layer']) // SPI layer
    $url_params .= "&spi_layer=" . $_GET['spi_layer'];
if($_GET['pctnml_layer']) // Percent normal layer
    $url_params .= "&pctnml_layer=" . $_GET['pctnml_layer'];
if($_GET['mpeprcp_layer']) // Accumulated precipitation
    $url_params .= "&mpeprcp_layer=" . $_GET['mpeprcp_layer'];
if($_GET['spiblend_layer']) // SPI Blend
    $url_params .= "&spiblend_layer=" . $_GET['spiblend_layer'];
if($_GET['spei_layer']) // SPEI
    $url_params .= "&spei_layer=" . $_GET['spei_layer'];
if($_GET['kbdi_layer']) // KBDI
    $url_params .= "&kbdi_layer=" . $_GET['kbdi_layer'];

```

**\*\* SPI-Blend is an experimental product; for documentation on the calculation, <http://docs.lib.purdue.edu/ddad2011/15/> for documentation on the calculation. \*\***

**\*\*\* SPEI IS STILL IN DEVELOPMENT! USE THESE LAYERS WITH CAUTION. FOR QUESTIONS ABOUT THESE GRIDS, PLEASE CONTACT REBECCA WARD AT [RVCUMBIE@NC.SU.EDU](mailto:rvcumbie@ncsu.edu). \*\*\***

```

// DISCONTINUED:
// Grids were originally generated using two precip datasets: AHPS and NCEP Stage IV,
// and a URL parameter was passed to choose which precip dataset the displayed maps
// would be based on (AHPS was default). As 2016, NCEP Stage IV-based grids are no
// longer generated, and only AHPS precip based maps will be viewable on the HiRDTT.
// The archive of NCEP Stage IV maps will remain. To access these, contacting the NC
// State Climate Office at sco@climate.ncsu.edu or Rebecca Ward at rvcumbie@ncsu.edu.

// Original instructions follow, for reference.
// Which precipitation dataset (i.e. 'Multisensor Precipitation Estimates') should
// the displayed maps be based on (use "nws" for AHPS or "ncep" for NCEP Stage IV).
if($_GET['mpe_type'])
    $url_params .= "&mpe_type=" . $_GET['mpe_type'];

```

```

// 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 parameter for this
$ts_bkmk_url_starter = explode("?",$_SERVER['HTTP_HOST']."/drought_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. Then, 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="drought" src="<?php echo $src_url; ?>" frameborder="0" scrolling="no" />
```

**Example:** Suppose you want the page to always be centered on Texas, display a 4-month SPI for the most recent date, and overlay both state and county lines. The website you'll be iframing the HiRDTT tool from is called "[www.mywebpage.php](http://www.mywebpage.php)" and the website you'll be iframing the HiRDTT Time Series tool from is called "[www.mytimeseries.php](http://www.mytimeseries.php)". Suggestions follow:

1. Have the following URL for your host webpage:  
[www.mywebpage.php?dur=4&state=TX&boundaries=states,counties&layer=spi](http://www.mywebpage.php?dur=4&state=TX&boundaries=states,counties&layer=spi), then use `$_GET(['url_param'])` to capture the input URL variables and pass these to iframe source.
2. Leave your host webpage's url as [www.mywebpage.php](http://www.mywebpage.php) and assign the default URL parameters to iframe source, without accepting any URL inputs.
3. Still use the host webpage's URL [www.mywebpage.php](http://www.mywebpage.php) but allow users to enter in URL parameters. If no URL parameters entered, then default to your desired parameters. Ex:  

```
if($_GET['url_param'])
    pass the user input URL parameter to iframe source
else
    pass the desired default URL parameters to iframe source
```

**In all three cases, your iframe source should end up looking like:**

```
<iframe src="http://climate.ncsu.edu/spi/spi_framed.php?dur=3&state=TX&layer=spi
&edate=today&boundaries=states,counties&url_start=www.www.mypwebpage.com
&ts_url_start=www.mytimeseries.com" frameborder="0" scrolling="no" />
```

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

# HiRDTT Time Series Webpage iFraming Instructions

See it in action at: [climate.ncsu.edu/drought\\_timeseries](http://climate.ncsu.edu/drought_timeseries)

Iframable\* webpage: [climate.ncsu.edu/spi/ts\\_framed.php](http://climate.ncsu.edu/spi/ts_framed.php)

**\* DO NOT DIRECTLY LINK TO THIS IFRAMABLE WEBSITE! \***

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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/spi/ts\\_framed.php](http://climate.ncsu.edu/spi/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\\_timeseries](http://climate.ncsu.edu/drought_timeseries) page with their options bookmarked. As an example, the HiRDTT Time Series tool on the NC SCO's website can be found at [http://climate.ncsu.edu/drought\\_timeseries](http://climate.ncsu.edu/drought_timeseries). Our basic iframe looks like:

```
<iframe frameborder="0" scrolling="no" src="http://climate.ncsu.edu/spi/spi_framed.php
?url_start=climate.ncsu.edu/drought_timeseries" />
```

3. This is all you need to get the page running **but** there are some caveats. 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 HiRDTT page, the time series page is designed to be user-specific with multiple URL inputs. Example PHP code for these follow.

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

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

```
// Duration for the variable to plot. 'dur' replaces the deprecated variable name 'lag'.
if($_GET['dur'])
    $url_params .= "&dur=" . $_GET['dur'];
```

```
// 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'];
```

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

```
// Time series variable. Options: spi (default), spiblend, spei, pctnml, mpeprcp, kbdi.
if($_GET['ts_type'])
    $url_params .= "&ts_type=" . $_GET['ts_type'];

// DISCONTINUED: As with the mapping page, the ability for users to choose between the
// precip datasets originally used to generate grids (AHPS and NCEP Stage IV) is no
// longer supported. Only AHPS precipitation based grids are available.

// Original instructions for reference: Which precip dataset should the displayed maps
// be based on ( "nws" for AHPS; "ncep" for NCEP Stage IV).
if($_GET['mpe'])
    $url_params .= "&mpe=" . $_GET['mpe'];
```

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

```
// Finally, trim off the ending "&" and append a "?" to the start of the URL parameter
// string. Then 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" />
```

**Example:** Suppose you want to view a SPI time series for College Station, Texas (lat/lon = 30.6,-96.3). You also want to default to 3-month SPI, and plotting this for a 1 month period ending on the most recent date. The website you'll be iframing the tool from is "[www.mytimeseries.php](http://www.mytimeseries.php)". Suggestions follow:

1. Have the following URL for your host webpage: [www.mytimeseries.php?edate=today&dur=3&ts\\_type=spi&latitude=30.6&longitude=-96.3](http://www.mytimeseries.php?edate=today&dur=3&ts_type=spi&latitude=30.6&longitude=-96.3), then use `$_GET(['url_param'])` to capture the input URL variables and pass these to iframe source.
2. Leave your host webpage's URL as [www.mytimeseries.php](http://www.mytimeseries.php) and assign the default URL parameters to iframe source, without accepting any URL inputs.
3. Still use the host webpage's URL, [www.mytimeseries.php](http://www.mytimeseries.php), but allow users to enter in URL parameters. If no URL parameters are entered, then default to your desired parameters. Ex:
 

```
if($_GET['url_param'])
    pass the user input URL parameter to iframe source
else
    pass the desired default URL parameters to iframe source
```

**In all three cases, your iframe source should end up looking like:**

```
<iframe
src="http://climate.ncsu.edu/spi/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" />
```

## **Final Notes:**

Any features added to the webpage will be made to work seamlessly with the existing iframe convention and this document will reflect any changes. Though some URL variables have been deprecated or discontinued, we will strive to maintain the older versions as long as possible. 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](mailto:rvcumbie@ncsu.edu).