

# Weather, Weather, Everywhere

Adding a Weather Forecast to your pages

By Bradley Roberts

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# Awesome Hiking Experience

[www.awesomehikingexperience.com](http://www.awesomehikingexperience.com)



Awesome Hiking  
Experience

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## Laurel Falls in the AM

Submitted by admin on Mon, 09/04/2017 - 09:45

**Hiking up to Laurel Falls is a short hike (1.3 mi), and best done in the morning.** By afternoon, the trail can get pretty crowded. However, the view of the falls and the cool mist is refreshing any time of day. The trail is mostly paved, so rain is not a problem.

Tags

[hiking](#)

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## Round the Gallaher Bend Greenway

Submitted by hiker on Thu, 08/31/2017 - 18:56



**Gallaher Bend Greenway** trail is a 5 mile trail located near Carbide Park in Oak Ridge TN. This gravel trail runs to Melton Hill lake and is easy walking.

Tags

[hiking](#)

[gallaher greenway](#)

[oak ridge](#)

[Lake houses](#)

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Laurel Falls

# The Challenge

How to encourage readers to go on trail hikes?

One Solution: Report the current weather forecast

# Existing Modules for Weather or Create My Own?

## Drupal 8

- ▶ Weather (only 7.x-2.14)
- ▶ Weather Block (2014)
- ▶ Wunderground (8.x-1.2)

## Custom

- ▶ Use GeoLocation (lat,lng)
- ▶ Support multiple places
- ▶ Support trails

Basic Strategy: Add a Filter

**Filter Content for Tag:**

**[WEATHER: Lat, Lng]**

“Drupal 8 is object oriented and Drupal 7 is primarily procedural. This means that a lot of your code will now be in classes rather than simple functions. This is going to be overwhelming for many, but will certainly make module development more flexible and you will upgrade your skills to modern programming practice in the process.”

By Blair Wadman at [www.befused.com](http://www.befused.com)

Taking the Drupal 8 module approach will make your custom module better in the long run.

# Directory Structure

/modules/custom/hiking\_weather

## Under Hiking Weather:

/images

/src

/src/Controller

/src/Plugin

# hiking\_weather\_info.yml

**name:** Hiking Weather

**description:** Shows the current weather on the hiking trail

**package:** Custom

**type:** module

**core:** 8.x



# HikingWeatherController.php

```
/**
 * FILE:    HikingWeatherController.php
 * GOAL:    To support Awesome Hiking
 * AUTHOR:  Bradley Roberts
 * EMAIL:   Bradley@Roberts.net
 * DATE:    8/28/2017
 */

namespace Drupal\hiking_weather\Controller;

// Add Controller Base
use Drupal\Core\Controller\ControllerBase;

/**
 * Class Hiking Weather Controller
 * To process weather requests for specific hiking
locations
 * @package Drupal\HikingWeather\Controller
 */
class HikingWeatherController extends ControllerBase {

}
```

# HikingWeatherController.php

## Properties:

```
private $weatherTag = 'WEATHER';  
private $weatherRegEx = '/^[(.*\s)?(-?(?:\d+|\d*\.\d+))?,(-?  
(?:\d+|\d*\.\d+))?\]/';
```

## Methods:

```
public function content() {}  
public function hiking_weather_node_view_alter() {}  
public function parse_weather_tag() {}  
public function getForecast() {}
```

## TIP:

*Use [regex101.com](http://regex101.com) to build your regular expression.*

# hiking\_weather.routing.yml

```
hiking_weather.content:  
  path: '/hikingweather'  
  defaults:  
    _controller: '\Drupal\hiking_weather\Controller\HikingWeatherController::content'  
    _title: 'Hiking Weather'  
  
  requirements:  
    _permission: 'access content'
```

# hiking\_weather.links.menu.yml

```
hiking_weather.admin:  
  title: 'Hiking Weather Module Settings'  
  description: 'Settings for the Hiking Weather Module'  
  parent: system.admin_config_development  
  route_name: hiking_weather.content  
  weight: 100
```

# hiking\_weather.theme.css

```
.hiking {  
    font-weight: bold;  
}  
  
.hiking_forecast {  
    background-color: #cdd9fe;  
    float: left;  
    padding-right: 5px;  
    margin-right: 10px;  
}
```

# hiking\_weather.libraries.yml

```
hiking-weather:  
  version: 1.x  
  css:  
    theme:  
      hiking_weather.theme.css: {}
```

# API Call

Wunderground provides a Weather API

Free service for development and low usage



[Wunderground.com](http://Wunderground.com)

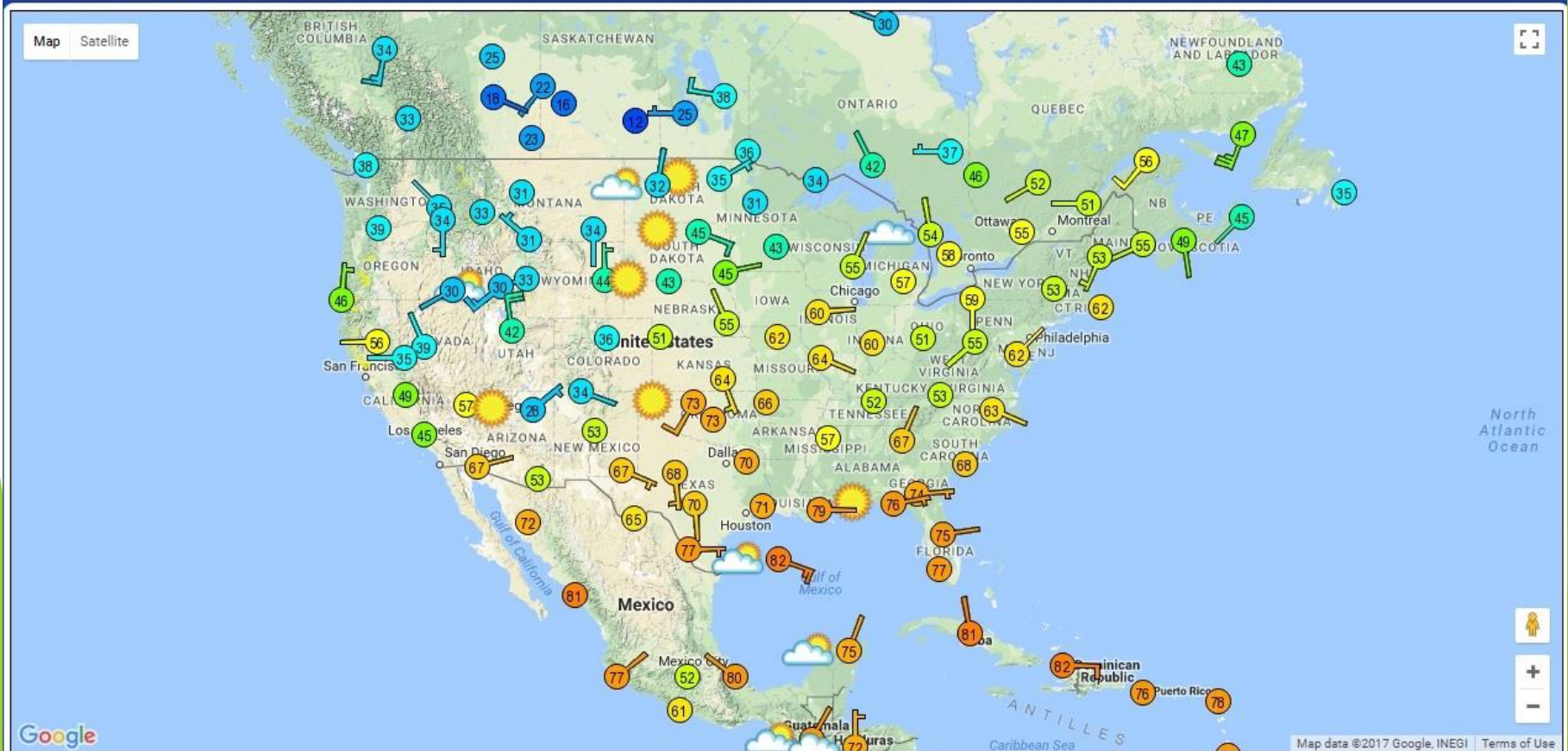
# Weather Underground Map



WunderMap™

Save or send this map to someone as you see it now. [Link to current view.](#)

## Interactive Radar & Weather Stations





# Get Forecast API Call

```
/**
 * Get the Hiking Weather Forecast for a geolocation
 *
 * @param float $lat is the decimal latitude - e.g. 35.89
 * @param float $lng is the decimal longitude - e.g. -83.94
 *
 * If not given, then defaults are used for home
 *
 * @return string rendering a DIV for the Forecast block
 */
public function getForecast($lat = 0.00, $lng = 0.00) {
    $weather_api = 'http://api.wunderground.com/api';
    $api_key      = APIKEY;

    // Get the weather forecast from WonderGround.com
    // EG: http://api.wunderground.com/api/APIKEY/geolookup/forecast/q/35.89583,-
    83.9411.json
    $json_string = file_get_contents($weather_api . '/' . $api_key .
    '/geolookup/forecast/q/' . $lat . ',' . $lng . ".json");
    $parsed_json = json_decode($json_string);
    if ($parsed_json && (json_last_error() == JSON_ERROR_NONE)) {
        $icon_url = (isset($parsed_json->forecast->simpleforecast->forecastday[0]-
        >icon_url) ? $parsed_json->forecast->simpleforecast->forecastday[0]->icon_url :
        $default_icon);
        $conditions = (isset($parsed_json->forecast->simpleforecast->forecastday[0]-
        >conditions) ? $parsed_json->forecast->simpleforecast->forecastday[0]->conditions :
        $default_cond);
    }
}
```

# Get Forecast API Call

```
Site Images // Map icon file to image on this system, since Drupal rejects Cross
if (file_exists($images_dir . basename($icon_url))) {
    $icon_img = $images_dir . basename($icon_url);
}
else {
    $icon_img = $default_icon;
}

if (!$conditions || (strlen($conditions) == 0)) {
    $conditions = $default_cond;
}

// Render DIV for the weather block with class hiking_forecast
return '<div><p class="hiking_forecast">' . $conditions . '</p></div>' .
PHP_EOL;
}
```

## modules/custom/hiking\_weather/src/Plugin/Filter/FilterArticle.php

```
/**
 * FILE:   FilterArticle.php
 * GOAL:   To support Awesome Hiking by filtering articles
 * AUTHOR: Bradley Roberts
 * EMAIL:  Bradley@Roberts.net
 * DATE:   09/01/2017
 */

namespace Drupal\hiking_weather\Plugin\Filter;

use Drupal\filter\FilterProcessResult;
use Drupal\filter\Plugin\FilterBase;
use Drupal\Core\Form\FormStateInterface;

/**
 * Class FilterArticle
 * Looks for WEATHER tags to replace with a forecast object
 *
 * @package Drupal\hiking_weather\Plugin\Filter
 *
 * EG:
 * @Filter(
 *   id = "filter_hiking_weather",
 *   title = @Translation("Hiking Weather Filter"),
 *   description = @Translation("Help potential hikers by providing forecast"),
 *   type = Drupal\filter\Plugin\FilterInterface::TYPE_MARKUP_LANGUAGE,
 * )
 */
class FilterArticle extends FilterBase {
  /**
   * Process the Filter Request
   * @param string $text
   * @param string $langcode
   * @return \Drupal\filter\FilterProcessResult
   */
}
```

modules/custom/hiking\_weather/src/Plugin/Filter/FilterArticle.php


```
public function process($text, $langcode) {  
    // Instantiate the controller instance  
    $weathering = new \Drupal\hiking_weather\Controller\HikingWeatherController();  
  
    // Identify the tag, latitude and longitude  
    $geoTagged = $weathering->parse_weather_tag($text);  
  
    // Use API Call to retrieve the current forecast nearest this location  
    $forecast = $weathering->getForecast($geoTagged['lat'], $geoTagged['lng']);  
  
    // Embed the rendered HTML into the markup  
    $new_text = str_replace($geoTagged['tag'], $forecast, $text);  
  
    // Instantiate a filter process  
    $result = new FilterProcessResult($new_text);  
  
    $result->setAttachments(array(  
        'library' => array('hiking_weather/hiking-weather'),  
    ));  
  
    return $result;  
}
```

# Rainbow Falls

Rainbow Falls and Bears | Awesome Hiking Experience

awesomehikingexperience.com/rainbowfalls

ABOUT WEATHERHIKING TIPSHOME



Awesome Hiking Experience

## Rainbow Falls and Bears

Home > » Rainbow Falls and Bears >

Submitted by hiker on Sat, 10/07/2017 - 18:13

**Rainbow Falls** trail is a popular trail outside of Gatlinburg TN. It features a spectacular waterfall and is well groomed by the National Park Service. The area was impacted by the wild fires of 2016, but has recovered nicely. This trail dates to the early days of the Smoky Mountains National Park, when Paul Adams was exploring the land.

**View:** The falls are a spectacular view, dropping 80 feet to the boulders below. In fact, this is the highest single-drop waterfall in the Smoky Mountains National Park. LeConte Creek drains water off of Mount LeConte, which is over a mile high. The trail follows Le Conte's flank. At first, you follow the creek, which turned out to be helpful. Then, the trail ascends along the ridge, away from the creek. You go through a rocky area with several switch backs. The trail then crosses over LeConte Creek using narrow footbridges (there is a handrail). Then, you climb up to the falls. If it is a sunny day, then you may well see a rainbow in the spray - hence, the name.



**Trailhead:** From Gatlinburg, you take Cherokee Orchard Road up the mountain. The trail is clearly marked, and there is **plenty of parking** in several lots along the road. Since the trail is very popular, there is even a bathroom at the trailhead (waterless).

**Rating:** This trail is rated hard in difficulty. It climbs up some 1450 feet, as it leads you up a ridge with several switch backs. It is 2.7 miles in length, so you will travel 5.5 miles out and back again.


**Notes:** This makes a great day hike, but pack plenty of water. I also saw a bear family on the way back down the mountain. Fortunately, they were across the river, but it was still exciting.

**Warnings:** This trail is steep in places and not wheelchair accessible. Be careful around the falls, as the rocks are wet and slippery. Pets and bicycles are prohibited.


Current Weather on the Trail:

 Clear 

**Tags**



Rainbow Falls 80 foot drop



RAINBOW FALLS TRAIL	
Trellum Gap Trail	0.1
Rainbow Falls	2.7
Mt Le Conte	6.6

# Rainbow Falls Currently



## HTML

```
<p>Current Weather on the Trail:</p>
<div>
<p class="hiking_forecast">

Clear
</p>

</div>
```

# CAVEATS

- Weather is always changing, so you want to provide updates
- Caching should be limited to 1 hour to ensure up-to-date data
- Copy the Weather Icons to your server to customize them
- Wunderground limits the free, basic API to 10 calls/min

Weather Icon Sets:

<https://www.wunderground.com/weather/api/d/docs?d=resources/icon-sets>





# CAVEATS

## wunderground API usage alert

Message 2030 of 24572



From **wunderground** <noreply@wunderground.com>   
To **Bradley@Roberts.net**   
Date **2017-09-05 08:40**

Hello,

Your wunderground API key (\*\*\*\*\* ) exceeded its allotted usage today by making 24 calls within a minute but the limit is 10.

We used one of your raindrops instead of disabling the key for the remainder of the day. You now have 2 remaining raindrops.

We check usage for 24-hour periods based on U.S. Eastern Time.

The plan you are registered for is Stratus - Developer, granting you 500 calls per day with 10 calls per minute limit. To upgrade your plan go to: [http://www.wunderground.com/weather/api/d/\\*\\*\\*\\*\\*/edit.html](http://www.wunderground.com/weather/api/d/*****/edit.html)

Details: exceededrate: maxrate: 24 (of 10)  
Time: Tue, Sep 05, 2017 12:30 UTC

Thank you,  
wunderground.com API Team

This is an automatically generated email; it cannot be replied to. For Documentation review read through:  
<http://www.wunderground.com/weather/api/d/documentation.html>

For Developer questions and forms post in our Community here:

<http://www.wunderground.com/weather/api/d/community.html>

For Technical Support submit a ticket here:

[http://wuhelp.wunderground.com/index.php?\\_m=tickets&\\_a=submit&step=1&departmentid=32](http://wuhelp.wunderground.com/index.php?_m=tickets&_a=submit&step=1&departmentid=32)

--

wunderground.com | 300 Interstate North Parkway, Atlanta, GA 30339



DEMO

# QUESTIONS & ANSWERS

The background of the slide is white with abstract green geometric shapes. On the right side, there are several overlapping, semi-transparent green triangles and polygons of various shades, ranging from a light lime green to a dark forest green. These shapes create a dynamic, layered effect. On the left side, a single, solid green triangle points upwards from the bottom edge.

# In Conclusion

[www.awesomehikingexperience.com](http://www.awesomehikingexperience.com)

Select a hike

Check the weather forecast for today!

Go hiking - you'll love it

For more info about the Great Smoky Mountains:

[www.nps.gov/grsm](http://www.nps.gov/grsm)

# Learning More About Drupal 8

[www.drupal.org/docs/8/creating-custom-modules](http://www.drupal.org/docs/8/creating-custom-modules)

Lots of great information on all aspects of creating a module.

[www.befused.com/drupal/first-drupal8-module](http://www.befused.com/drupal/first-drupal8-module)

Step by step instructions for creating a D8 module.

<https://youtu.be/EPjJQ7j3GaM>

Drupal Camp Atlanta 2016 module on building a site for CancerQuest.org

<https://www.wunderground.com>

Weather Underground Web Service. See about/data for details on their data sources.



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