# Recent Lightning Strikes for US - v3

Domain Portfolio: Observations | Domain: Historical | Usage Classification: **Limited Availability**

**Geography:** CONUS **Attribution Required:** N/A **Attribution Requirements:** N/A

## Overview

The Lightning API provides the ability to lookup lightning strikes that happened for a given period of time in the specified region. This API provides data for the recent lightning strikes that occurred in the Continental United States for the specified period.

## HTTP Headers and Data Lifetime - Caching and Expiration

For details on appropriate header values as well as caching and expiration definitions, please see **The Weather Company Data | API Common Usage Guide**.

| Atomic Endpoints | Aggregate Product Name |
|---|---|
| /v3/wx/lightning/recent/conus/15seconds | v3-wx-lightning-recent-conus-15seconds |
| /v3/wx/lightning/recent/conus/1minute | v3-wx-lightning-recent-conus-1minute |
| /v3/wx/lightning/recent/conus/5minute | v3-wx-lightning-recent-conus-5minute |

## URL Construction

| |
|---|
| **Request by Geocode: Required Parameters:** startDateTime, format, units, apiKey **\| Optional Parameters:** strikeType<br>https://api.weather.com/v3/wx/lightning/recent/conus/15seconds?**startDateTime=<startDateTime>**&format=<format>&units=<units>&apiKey=**yourApiKey** |
| https://api.weather.com/v3/wx/lightning/recent/conus/15seconds?**startDateTime=20170921120515**&format=json&units=e&apiKey=**yourApiKey** |

## Valid Parameter Definitions

| Parameter | Description | Example |
|---|---|---|
| startDateTime | Start date time of period request in UTC. The start date time must be within past 1 hour from the current time. For example, if the current time is “13-Dec-2017 09:27:21”, then a valid startDateTime would be between “13-Dec-2017 08:27:21” and “13-Dec-2017 09:27:21”<br><br>For 15seconds endpoint, the format must be YYYYMMDDHHmmss and seconds (ss) value must be an interval of 15. For example: 00, 15, 30, 45.<br>For 1minute endpoint, the format must be YYYYMMDDHHmm and minute (mm) value must be any value from 00 to 59.<br>For 5minute endpoint, the format must be YYYYMMDDHHmm and minute (mm) value must be an interval of 5. For example: 00, 05, 10, … , 50, 55. | **20170925120015**<br>**201709251201**<br>**201709251205** |
| format | The format in which the response is to be returned. | **json** |

| | | |
|---|---|---|
| units | For units = e, the output fields errorMajor and errorMinor will be in miles.<br>For units = m, the output fields errorMajor and errorMinor will be in kilometers. | **e** |
| strikeType | strikeTypeCode of cloud = cloud to cloud strike type<br>strikeTypeCode of ground = cloud to ground strike type<br>strikeTypeCode of all = both cloud to cloud AND cloud to ground strike types | **cloud** |

## Data Elements & Definitions

Note: Field names are sorted alphabetically in the table below for presentation purposes. The table below does not represent the sort order of the API response.

| Field Name | Description | Type | Range | Sample | Nulls Allowed |
|---|---|---|---|---|---|
| "lightning" | | [array] | | | |
| errorAzimuth | Azimuth of error ellipse, in degrees. Clockwise bearing from 0 degrees north. | [decimal] | 0 to 180.0 | 23.37 | N |
| errorMajor | Error ellipse semi-major axis length | [decimal] | 0 to 50.0 km for units = m and 0 to 80.0 mi for units = e | 1.2116768 | N |
| errorMinor | Error ellipse semi-minor axis length | [decimal] | 0 to 50.0 km for units = m and 0 to 80.0 mi for units = e | 1.1060435 | N |
| detectedTimeUtc | Time when the strike was made available, UTC timezone. | [string] | ISO 8601 with milliseconds precision | 2017-03-30T13:57:39.458+00:00 | N |
| intensity | Magnitude and polarity of strike | [decimal] | Any integer | 15000 | N |
| latitude | Latitude of strike location up to five (5) decimals | [decimal] | -90.0 to 90.0 | -1.79979 | N |
| longitude | Longitude of strike location up to five (5) decimals | [decimal] | -180.0 to 180.0 | -44.54565 | N |
| sensorsInvolved | Number of sensors involved in detecting the lightning strike | [integer] | Any integer greater than 0. | 3 | N |
| strikeTypeCode | Cloud indicator | [integer] | 0 or 1: 0 means cloud to ground, 1 means cloud to cloud | 0 | N |
| validTimeUtc | Valid time of strike (the time the lightning strike actually occurred), UTC timezone | [string] | ISO 8601 with milliseconds precision | 2017-03-30T13:57:31.231+00:00 | N |

## JSON Sample


```
{
  "metadata": {
      "status_code": 200,
      "version": "1.0",
      "transaction_id": "1506003035369:1667353793",
      "units": "e",
      "expire_time_gmt": 1506006635
  },
  "success": true,
  "lightning": {
```

```
      "intensity": [
         -10000,
         -38000
      ],
      "sensorsInvolved": [
         1,
         4
      ],
      "strikeTypeCode": [
         0,
         0
      ],
      "errorAzimuth": [
         29.4,
         36.1
      ],
      "errorMajor": [
         1.2116768,
         1.1246847
      ],
      "errorMinor": [
         1.1060435,
         0.9258454
      ],
      "latitude": [
         18.206506,
         18.247723
      ],
      "longitude": [
         75.542999,
         75.676939
      ],
      "validTimeUtc": [
         "2017-09-21T13:59:14.221+0000",
         "2017-09-21T13:59:14.268+0000"
      ],
      "detectedTimeUtc": [
         "2017-09-21T14:00:09.000+0000",
         "2017-09-21T14:00:09.000+0000"
      ]
   }
}
```