PowerOutage.us REST API

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JSON REST API

JSON API Overview

Json is a data format standard as defined by the ECMA here: ECMA-404

These parameters can be used with any of the JSON API calls, they are listed here to keep the rest of the documentation clean, organized, and short.

Parameter Name	Data Type	Description	Default	Required
Key	String	Authentication Key, Grants access to the API		Yes
OutageCount	INT	Returns the states with OutageCount greater than the supplied value.	-1	No
CountryId	String	Two char country abbreviation for filtering returned data set by country.	US	No
Encoding	String	Changes the encoding of the returned JSON. Allowed values: UTF8, ASCII Some applications can't take Unicode characters, in these cases you can pass in ASCII and the API will encode all Unicode characters to ASCII	UTF8	No

State Outage Information

JSON URL: https://poweroutage.us/api/json_v1.6/state?key=[Key]

Additional Input Parameters

Parameter Name	Data Type	Description	Default	Required
`returnInfo`	Bool	Returns an additional information field	false	No

Returns "StateOutageInfo" records with the following definition:

Field Name	Data Type	Description
StateId	TINYINT	Unique Identity Id
US_State_FIPS	TINYINT	US Federal Information Processing Standards State Id
StateName	VARCHAR(20)	The name of the State
TrackedCount	INT	The number of Customers Tracked
OutageCount	INT	The number of Customers without power
Info	VARCHAR(400)	When enabled, provides additional information about the state, this can be alerts, informational messages, or transmission grid status. CONTAINS HTML
LastUpdatedDateTime	SMALLDATETIME	The Date and Time the Record was last updated UTC time zone – format: yyyy-mm-ddTdd:hh:ssZ

Example:


```
[{
	"StateId":1,
	"US_State_FIPS":23,
	"StateName":"Maine",
	"CustomersTracked":845050,
	"CustomersOut":5,
	"LastUpdatedDateTime":"2022-09-11T22:10:50Z"
}]
```

County Outage Information

JSON URL: https://poweroutage.us/api/json_v1.6/county?key=[Key]

Input Parameters

Parameter Name	Data Type	Description	Required
StateId	INT	Returns the Counties for the specified StateId	No

Returns "CountyOutageInfo" records with the following definition:

Field Name	Data Type	Description
CountyId	INT	Unique Identity Id
StateId	TINYINT	StateId for reference to the State records
US_State_FIPS	TINYINT	US Federal Information Processing Standards State Id
US_County_FIPS	SMALLINT	US Federal Information Processing Standards County Id
US_Full_FIPS	CHAR(5)	US Federal Information Processing Standards Id
CountyName	VARCHAR(100)	The name of the County
TrackedCount	INT	The number of Customers Tracked
OutageCount	INT	The number of Customers without power
LastUpdatedDateTime	SMALLDATETIME	The Date and Time the Record was last updated UTC time zone – format: yyyy-mm-ddTdd:hh:ssZ

Example:


```
[{
	"CountyId":1,
	"StateId":1,
	"US_State_FIPS":23,
	"US_County_FIPS":1,
	"US_Full_FIPS":"23001",
	"CountyName":"Androscoggin",
	"CustomersTracked":57664,
	"CustomersOut":0,
	"LastUpdatedDateTime":"2022-09-11T13:20:51Z"
}]
```

City Outage Information

JSON URL: https://poweroutage.us/api/json_v1.6/city?key=[Key]

Input Parameters

Parameter Name	Data Type	Description	Required
StateId	INT	Returns the Counties for the specified StateId	No
CountyId	INT	Returns the cities for the specified CountyId	No

Returns “CountyOutageInfo” records with the following definition:

Field Name	Data Type	Description
CityId	INT	Unique Identity Id
CountyId	INT	CountyId for reference to the County records
StateId	TINYINT	StateId for reference to the State records
CityName	VARCHAR(100)	The name of the CIty
TrackedCount	INT	The number of Customers Tracked
OutageCount	INT	The number of Customers without power
LastUpdatedDateTime	SMALLDATETIME	The Date and Time the Record was last updated. UTC time zone – format: yyyy-mm-ddTdd:hh:ssZ

Example:


```
[{
      "CityId":1,
      "CountyId":1,
      "StateId":1,
      "CityName":"Turner",
      "TrackedCount":3040,
      "OutageCount":0,
      "LastUpdatedDateTime":"2022-09-11T13:20:51Z"
}]
```

Utility Outage Information

JSON URL: https://poweroutage.us/api/json_v1.6/utility?key=[Key]

Input Parameters

Parameter Name	Data Type	Description	Required	Default
UtilityId	INT	Returns the Utility for the specified UtilityId	No	
ReturnURLs	Bool	Returns Utility URLs in the response JSON	No	false
`returnInfo`	Bool	Returns an additional information field	false	No

Returns "UtilityOutageInfo" records with the following definition:

Field Name	Data Type	Description
UtilityId	INT	Unique Identity Id
UtilityName	VARCHAR(100)	The name of the Utility
OutageCount	INT	The number of Customers without power
TrackedCount	INT	The number of Customers Tracked
SiteUrl	VARCHAR(200)	Utility's Website URL
OutageURL	VARCHAR(200)	Utility's Outage Management System URL
CoverageURL	VARCHAR(200)	Utility's Coverage Area URL
Info	VARCHAR(400)	When enabled, provides additional information about the utility, this can be alerts or informational messages. CONTAINS HTML
LastUpdatedDateTime	SMALLDATETIME	The Date and Time the Record was last updated. UTC time zone – format: yyyy-mm-ddTdd:hh:ssZ

Example:


```
[{
	"UtilityId":1,
	"UtilityName":"Central Maine Power",
	"CustomersTracked":658572,
	"CustomersOut":2,
	"LastUpdatedDateTime":"2022-09-11T22:10:48Z "
}]
```

County By Utility Outage Information

JSON URL: https://poweroutage.us/api/json_v1.6/countybyutility?key=[Key]

Input Parameters

Parameter Name	Data Type	Description	Required
UtilityId	INT	Returns the Counties for the specified UtilityId	No
StateId	INT	Returns the Counties for the specified StateId	No

Returns “CountyByUtilityOutageInfo” records with the following definition:

Field Name	Data Type	Description
UtilityByCountyId	INT	Unique Identity Id
UtilityId	INT	UtilityId for reference to the Utility records
StateId	TINYINT	StateId for reference to the State records
CountyId	INT	CountyId for reference to the County records
CountyName	VARCHAR(100)	The name of the County
OutageCount	INT	The number of Customers without power
TrackedCount	INT	The number of Customers Tracked
LastUpdatedDateTime	SMALLDATETIME	The Date and Time the Record was last updated. UTC time zone – format: yyyy-mm-ddTdd:hh:ssZ

Example:


```
[{
	"CountyByUtilityId":1,
	"CountyId":1,
	"UtilityId":1,
	"StateId":1,
	"CountyName":"Androscoggin",
	"CustomersTracked":57664,
	"CustomersOut":0,
	"LastUpdatedDateTime":"2022-09-11T13:20:51Z"
}]
```

City By Utility Outage Information

JSON URL: https://poweroutage.us/api/json_v1.6/citybyutility?Key=[Key]

Input Parameters

Parameter Name	Data Type	Description	Required
UtilityId	INT	Returns the City records for the specified UtilityId	No
StateId	INT	Returns the City records for the specified StateId	No
CountyId	INT	Returns the City records for the specified CountyId	No

Returns "CityByUtilityOutageInfo" records with the following definition:

Field Name	Data Type	Description
UtilityByCityId	INT	Unique Identity Id
UtilityId	INT	UtilityId for reference to the Utility records
StateId	TINYINT	StateId for reference to the State records
CountyId	INT	CountyId for reference to the County records
CityId	INT	CityId for reference to the City records
CityName	VARCHAR(100)	The name of the City
OutageCount	INT	The number of Customers without power
TrackedCount	INT	The number of Customers Tracked
LastUpdatedDateTime	SMALLDATETIME	The Date and Time the Record was last updated. UTC time zone – format: yyyy-mm-ddTdd:hh:ssZ

Example:


```
[{
	"CityByUtilityId":1196,
	"CityId":5,
	"CountyId":4,
	"StateId":1,
	"UtilityId":1,
	"CityName":"Palermo",
	"CustomersTracked":1070,
	"CustomersOut":0,
	"LastUpdatedDateTime":"2022-09-11T17:40:55Z"
}]
```

GeoJSON REST API

GeoJSON API Overview

Access for the GeoJSON API endpoints is only available with Enterprise or higher license types.
GeoJSON is a data format standard as defined by the IETF here: https://www.rfc-editor.org/rfc/rfc7946

These parameters can be used with any of the GeoJSON API calls, they are listed here to keep the rest of the documentation clean, organized, and short.

Parameter Name	Data Type	Description	Default	Required
Key	String	Authentication Key, Grants access to the API		Yes
OutageCount	INT	Returns objects with the number of customers out greater than the supplied value.	-1	No
CountryId	String	Two char country abbreviation for filtering returned data set by country.		No
Encoding	String	Changes the encoding of the returned JSON. Allowed values: UTF8, ASCII	UTF8	No

County Geometry Information

JSON URL: https://poweroutage.us/api/geojson_v1.6/county?key=[Key]

Returns a standard GeoJSON array of Features part of a FeatureCollection. Inside each feature there is a "geometry" object and a "properties" object. The properties object is defined bellow:

Property Name	Data Type	Description
CountyId	INT	Unique Identity Id
StateId	TINYINT	StateId Identity Id for reference to the State level records
US_State_FIPS	TINYINT	US Federal Information Processing Standards State Id
US_County_FIPS	SMALLINT	US Federal Information Processing Standards County Id
US_Full_FIPS	CHAR(5)	US Federal Information Processing Standards Id
CountyName	VARCHAR(100)	The Name of the County
CustomersTracked	INT	The number of Customers Tracked
CustomersOut	INT	The number of Customers without power
LastUpdatedDateTime	SMALLDATETIME	The Date and Time the Record was last updated. UTC time zone – format: yyyy-mm-ddTdd:hh:ssZ

Example:


```
{"type":"FeatureCollection","features":[{
      "type":"Feature",
      "geometry": {
            "type":"Polygon",
            "coordinates":[[ . . . ]]
            },
      "properties":{
            "CountyId":1,
            "StateId":1,
            "US_State_FIPS":23,
            "US_County_FIPS":1,
            "US_Full_FIPS":"23001",
            "CountyName":"Androscoggin",
            "CustomersTracked":57915,
            "CustomersOut":0,
            "LastUpdatedDateTime":"2022-09-11T13:20:51Z"
      }]
}
```

Current Outage Geometry Information

JSON URL: https://poweroutage.us/api/geojson_v1.6/outage?key=[Key]

Additional Input Parameters:

Parameter Name	Data Type	Description	Default	Required
GeoType	String	Filter dataset by type of geometry, Allowed values: All, Point, Polygon	All	No
returnPSPSflag	Boolean	Adds a PSPSEvent field to the returned dataset which returns true if the outage record is related to a PSPS event.	false	No

Returns a standard GeoJSON array of Features part of a FeatureCollection. Inside each feature there is a "geometry" object and a "properties" object. The properties object is defined bellow:

Property Name	Data Type	Description	Nullable
RecordId	INT	Unique Id to identify the record in the current dataset	No
UtilityId	INT	Unique Identity Id	No
OutageId	VARCHAR(100)	A Unique Id given by the Utility to an outage	Yes
OutageCount	INT	The number of Customers without power due to this outage	No
OutageCause	INT	The utility determined cause of the outage	Yes
EstimatedRestoration	DATETIME	The DateTime for when the utility thinks the outage will be repaired. UTC time zone – format: yyyy-mm-ddTdd:hh:ssZ	Yes
DateTimeRecorded	DATETIME	The DateTime the Record was retrieved from the utility. UTC time zone – format: yyyy-mm-ddTdd:hh:ssZ	No
PSPSEvent	Boolean	If enabled, returns true if the outage record is related to a PSPS event.	No

Example:


```
{"type":"FeatureCollection","features":[{
      "type":"Feature",
      "geometry":{
            "type":"Point",
            "coordinates":[-69.1123447997726,44.8287105996145]
            },
      "properties":{
            "RecordId":268,
            "UtilityId":1,
            "OutageId":"18479234",
            "CustomersOut":2,
            "OutageCause":"Tree on line",
            "EstimatedRestoration":"2022-09-11T16:15:00Z",
            "DateTimeRecorded":"2022-09-11T14:40:54Z"
            }
      }]
}
```

Planned Geometry Information

JSON URL: https://poweroutage.us/api/geojson_v1.6/planned?key=[Key]

Additional Input Parameters:

Parameter Name	Data Type	Description	Default	Required
GeoType	String	Filter dataset by type of geometry, Allowed values: All, Point, Polygon	All	No
returnPSPSflag	Boolean	Adds a PSPSEvent field to the returned dataset which returns true if the outage record is related to a PSPS event.	false	No

Returns a standard GeoJSON array of Features part of a FeatureCollection. Inside each feature there is a "geometry" object and a "properties" object. The properties object is defined bellow:

Field Name	Data Type	Description	Nullable
RecordId	INT	Unique Id to identify the record in the current dataset	No
UtilityId	INT	Unique Identity Id	No
OutageId	VARCHAR(100)	A Unique Id given by the Utility to an outage	Yes
OutageCount	INT	The number of Customers without power due to this outage	No
OutageCause	INT	The utility determined cause of the outage	Yes
PlannedStart	DATETIME	The DateTime the utility plans to start the outage. UTC time zone – format: yyyy-mm-ddTdd:hh:ssZ	Yes
DateTimeRecorded	DATETIME	The DateTime the Record was retrieved from the utility. UTC time zone – format: yyyy-mm-ddTdd:hh:ssZ	No
PSPSEvent	Boolean	If enabled, returns true if the outage record is related to a PSPS event.	No

Example:


```
{"type":"FeatureCollection","features":[{
      "type":"Feature",
      "geometry":{
            "type":"Point",
            "coordinates":[-117.0702995395,33.1365114296]
            },
      "properties":{
            "RecordId":1,
            "UtilityId":764,
            "OutageId":"935676-1039",
            "CustomersOut":0,
            "OutageCause":"Overhead Equipment Work",
            "PlannedStart":"2022-09-13T15:30:00Z",
            "DateTimeRecorded":"2022-09-11T15:16:57Z"
            }
      }]
}
```

CSV REST API

Universal Parameters

These parameters can be used with any of the CSV API calls, they are listed here to keep the rest of the documentation clean, organized, and short.

Parameter Name	Data Type	Description	Default	Required
Key	String	Authentication Key, Grants access to the API		Yes
OutageCount	INT	Returns the states with OutageCount greater than the supplied value.	-1	No

State Outage Information

CSV API URL: https://poweroutage.us/api/csv/state?key=[API Key]

Input Parameters

Parameter Name	Data Type	Description	Required	Default
CountryId	String	Two char country abbreviation for filtering returned data set by country.	No	
IncludeFIPS	Bool	Returns the State's US FIPS Id	No	False

Returns records with the following definition:

Field Name	Data Type	Description
StateId	TINYINT	Unique Identity Id
US_FIPS	TINYINT	US Federal Information Processing Standards State Id
StateName	VARCHAR(20)	The Name of the State
TrackedCount	INT	The number of Customers Tracked
OutageCount	INT	The number of Customers without power
LastUpdatedDateTime	SMALLDATETIME	The Date and Time the Record was last updated. UTC time zone – format: yyyy-mm-ddTdd:hh:ssZ

Example:

```
StateId,US_State_FIPS,StateName,TrackedCount,OutageCount,LastUpdatedDateTime
1,23,"Maine",797139,77,9/9/2018 3:10:31 PM
34,12,"Florida",9395769,1408,9/9/2018 3:13:11 PM
```

County Outage Information

CSV API URL: https://poweroutage.us/api/csv/county?key=[Api Key]&stateid=[StateId]

Input Parameters

Parameter Name	Data Type	Description	Required	Defualt
CountryId	String	Two char country abbreviation for filtering returned data set by country.	No	
StateId	INT	Returns the Counties for the specified StateId	No	
IncludeFIPS	Bool	Returns the State's US FIPS Id	No	False

Returns "CountyOutageInfo" records with the following definition:

Field Name	Data Type	Description
StateId	TINYINT	StateId for reference to the stateoutageinfo records
CountyId	INT	Unique Identity Id
US_State_FIPS	TINYINT	US Federal Information Processing Standards State Id
US_County_FIPS	SMALLINT	US Federal Information Processing Standards County Id
CountyName	VARCHAR(100)	The Name of the County
TrackedCount	INT	The number of Customers Tracked
OutageCount	INT	The number of Customers without power
LastUpdatedDateTime	SMALLDATETIME	The Date and Time the Record was last updated. UTC time zone – format: yyyy-mm-ddTdd:hh:ssZ

Example:

```
StateId,CountyId,US_State_FIPS,US_County_FIPS,CountyName,OutageCount,TrackedCount,Last
UpdatedDateTime
1,1,23,1,"Androscoggin",55766,5,9/9/2018 3:10:30 PM
34,329,12,87,"Monroe",60661,0,9/9/2018 4:53:26 PM
```

Assistance

If you are unable to resolve an issue you are experiencing, have any questions about the API, or have any suggestions for improvements, then reach out at any time to support@bluefirestudios.com!

You can always check https://status.poweroutage.us/ to see the current status of our systems. In the event of a service disruption we will update the status page with detailed information.

You can also join our discord server and ask questions or participate in power outage related discussions: https://discord.gg/PRrqwe7dpD

Troubleshooting

Empty Response

An empty response means there is no data for the requested query.
Check the parameters that you are passing into the REST URL, the entire dataset might be filtered out.

Cast / Code Page / Unicode issues

The strings retuned by this API are by default in UTF-8 a Unicode code page.
This is required to support the names of some cities and counties in the United States and Canada.
For example:
In USA - New Mexico there is a county named “Doña Ana”
In Canada – Quebec there is a county named “Côte-de-Gaspé”
Make sure that the system you are integrating this API with supports UTF-8 and that the integration is configured correctly.
You can use the “Encoding” parameter to force ASCII encoding if absolutely required but know that names that require UTF-8 will end up with UTF char ids. For example Doña Ana will become Do\\u00f1a Ana.

Slow API response

Make sure you are using the most recent version of the API, and are filtering out any data you do not need. i.e pass in a ContryId filter for city level requests. We are tracking over 200k sub county areas and this can result in slow API responses when trying to pull all of them at once.

Access Denied Response

If you receive a 401 unauthorized error
Or a JSON payload of `{"error":"Access Denied"}`

Check the Key parameter that you are passing into the REST URL, make sure you have entered it in as the first parameter and that it is typed correctly, without any ". The API key is your “password” for accessing the API.

If you receive a 403 unauthorized error, and you are running your script or integration from an Azure based service:
You probably have internal Azure routing enabled to Azure webapps, microsoft.web endpoint added to your virtual network. This does not work due technical limitations within azure, an azure virtual network can’t give access to other virtual networks not in the same azure subscription.
To resolve this you can use our reverse proxy service. Replace the “poweroutage.com” or “poweroutage.us” in your REST API URL call with “poweroutageproxy.com” This will cause your traffic to our API to go to Cloudflare instead of staying internal to Azure.

Additional Information

API Testing

There is a preprod environment for this API.
All Production API keys have access, just add the subdomain preprod to access it, for example:
https://preprod.poweroutage.us/api/csv/state?key=[API Key]
We will roll out any changes to the API here first, and send out e-mail notifications to all technical contacts we have on file, if you wish to get these emails about future changes make sure to let us know!

Area name equivalents

States are the equivalent of a countries highest level area separation, i.e US States, CA Provinces, etc. or for really small countries the provided state name will be the same as the county name like the Cayman Islands.

Counties are the equivalent of a countries second level area separation.

Cities are the equivalent of the lowest level area of separation available from the Utility, This set gets a little more disorganized as it can include cities, towns, villages, townships, township-ranges, and zip codes.

There will be a future update to generalize the area names in the API endpoint names and add a field that acts a descriptor for what the area is.