Weather Alerts for Insurance
Version 1.0.0

Weather Alerts for Insurance User Guide

IBM
Note
Before using this information and the product it supports, read the information in "Notices" on page 27.

Product Information
This document applies to Insight Cloud Services Weather Alerts for Insurance Version 1.0.0 and may also apply to subsequent releases.

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IBM Weather Alerts for Insurance

IBM Weather Alerts for Insurance is an IBM Insight Cloud Services product that provides alerts about weather events to insurance policyholders when monitored locations are forecast to experience severe weather.

Weather Alerts for Insurance is powered by The Weather Company, an IBM Business, which supplies the weather data that provides these alerts. Insurance companies can increase customer loyalty and reduce claims by delivering accurate weather alerts to the policyholders that need them.

You can configure Weather Alerts for Insurance to provide alerts for specific weather events that occur in monitored locations. Monitored locations can be specified by physical address or geospatial coordinates.

You can use the Weather Alerts for Insurance graphical user interface to perform the following tasks:
1. “Select alert types” on page 3.
2. “Specify alert messages” on page 4.

Alternatively, you can use the Weather Alerts for Insurance APIs to create, read, update, and delete the assets of subscriptions. For more information, see Chapter 6, “Develop with the APIs,” on page 19.
Chapter 1. Access the service

To access the Weather Alerts for Insurance service, you must purchase it from IBM Insight Cloud Services.

When IBM registers a subscription to the Weather Alerts for Insurance service, you receive an email that describes the terms of the subscription to the Weather Alerts for Insurance service. This email has some useful links to launch the service, get support, and learn about Weather Alerts for Insurance.

You can configure and use the Weather Alerts for Insurance service from a graphical user interface in a web browser. The service is supported on the following browsers:

- Chrome version 49.0.2 or later
- Firefox version 45.0 or later
- Internet Explorer version 11 or later
- Safari for OS X version 10.11 or later

**Note:** If your subscription is not renewed or it is suspended for any reason, you cannot access Weather Alerts for Insurance.

You can use IBM Insight Cloud Services to leverage data-driven insights in your business. From the Weather Alerts for Insurance graphical user interface, you can return to the IBM Insight Cloud Services home page at any time.
Chapter 2. Configure the service

You can configure the Weather Alerts for Insurance service to monitor specific weather events. You can also configure the service to use specific notification methods when weather events occur in the locations of your policyholders.

The graphical user interface

When you sign in to the graphical user interface for the first time, a welcome tour helps you configure the service and upload policyholder data. To return to the Welcome page at anytime, click 🎯 and then click Welcome. To open the Client Success Portal for the service and find support for your plan, click Support.

Note: You must configure the service before you can upload policyholder data. When you configure the service, you can upload policyholder data by using the graphical user interface or by using the APIs.

Select alert types

To configure Weather Alerts for Insurance, you must choose at least one weather event to monitor. When weather occurs within the thresholds of the following events, alerts are sent.

Table 1. Weather events

<table>
<thead>
<tr>
<th>Event</th>
<th>Description</th>
<th>Coverage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hail</td>
<td>Accumulated hail is greater than or equal to 1 inch in a 30-minute period</td>
<td>Continental US</td>
</tr>
<tr>
<td>Lightning</td>
<td>Lightning is greater than or equal to 0.10 flashes per square kilometer in a 30-minute period</td>
<td>Continental US</td>
</tr>
</tbody>
</table>
Table 1. Weather events (continued)

<table>
<thead>
<tr>
<th>Event</th>
<th>Description</th>
<th>Coverage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wind</td>
<td>Wind speed is greater than or equal to 15 meters per second within a 10-minute to 24-hour time period</td>
<td>Worldwide</td>
</tr>
<tr>
<td>Snow</td>
<td>Accumulated snow is greater than or equal to 5 centimeters in a 4-hour period</td>
<td>Worldwide</td>
</tr>
<tr>
<td>Rain</td>
<td>Accumulated rain is greater than or equal to 50 millimeters in a 3-hour period</td>
<td>Worldwide</td>
</tr>
</tbody>
</table>

When an alert type is selected on the Configure Service page, it is highlighted in the color that it is represented as on the dashboard. For more information about the dashboard, see Chapter 4, “Explore the dashboard,” on page 13.

In the following example, the service is configured to receive alerts for hail, snow, and rain.

Select policy holder alert types:

![Hail](image1) ![Lightning](image2) ![Wind](image3) ![Snow](image4) ![Rain](image5)

**Note:** For policyholders to receive notification about specific events, you can configure each policyholder to be notified about events that are available to the insurance company as a subscriber. For more information about configuring notifications for policyholders, see Chapter 3, “Upload policyholder data,” on page 9.

### Specify alert messages

To configure the Weather Alerts for Insurance service, you must specify the contents of the alert messages that are sent to policyholders when events occur. You can alert policyholders with SMS or email messages. You must specify the following information:

**Company Name (for SMS)**

The name of the insurance company that is sending SMS alerts to the policyholder. This name is used in SMS messages. It must be 30 characters or less. For example, the company name *ABC Insurance* might use the following SMS message:

Weather notification from *ABC Insurance*: hail greater than 1in in diameter is forecast to occur in your area within the next 30 minutes.

**Note:** The first SMS message that is sent to a policyholder instructs them how to stop receiving SMS messages. For example: Reply "STOP" if you no longer wish to receive these messages.
Company Name (for Email)
The name of the insurance company that is sending email messages to the policyholder. This name is used in the body of the email message. The length of the company name has no character limit.

Sender Email Address
The email that is sent to the policyholder is created from an email address that is entered in the Add Sender Email Address field. For example, the administrator can enter donotreply@nationstatemutual.com in the Add Sender Email Address.

Unsubscribe URL for Email
The URL of the insurance company’s unsubscribe page for email. The policyholder’s email address is appended to the URL to create the unsubscribe email link in the email message that is sent to the policyholder.

For example, you can enter: https://www.abc.insurance.com/emailunsubscribe?.

Unsubscribe URL for SMS
The URL of the insurance company’s unsubscribe page for SMS. The policyholder’s SMS number is appended to the URL to create the unsubscribe SMS link in the SMS message that is sent to the policyholder.

For example, you can enter: https://www.abc.insurance.com/smsunsubscribe?.

You can preview the SMS message or email message that is sent to the policyholder in the preview panes.
Customize your email messages

You can customize the content of the email message that is sent to the policyholder.
1. Click Download to save the default email template (emailTemplate.txt).
2. Edit the template with your preferred editor and save it to your file system.
3. Click Upload to store a customized template that the Weather Alerts for Insurance service uses for your organization.

You can use basic HTML styling to customize your email message template. You can provide custom text, logos, and links to your company website.

Note: The default email template contains tokens that are replaced dynamically with the appropriate values. For example, {CNP} is replaced with the Company Name (for Email) and {PDP} is replaced with the appropriate weather alert statement.

You can revert to the default template by clicking Download to download the default email template. Then, click Upload to overwrite your custom template.

Configure notifications settings

As a subscriber to the Weather Alerts for Insurance service, you can receive regular notifications of when your policyholders are alerted. Each subscriber who signs in to the service can configure personal notifications.

Add an email address and select your notification frequency as one of the following types:

Daily Email messages are sent every day, beginning as soon as you click Save. For example, if you configure your service to send notifications Daily, and you click Save on Friday, April 1, 2016, you will receive your first notification email on Saturday, April 2, 2016 and every day that follows.

Weekly Email messages are sent every week on Monday and contain data for the previous week. For example, if you configure your service to send notifications weekly, and you click Save on Friday, April 1, 2016, you will receive your first notification email on Monday, April 4, 2016 and every Monday that follows.

Bi-weekly Email messages are sent every two weeks every other Monday and contain data for the previous two-week period. For example, if you configure your service to send notifications bi-weekly, and you click Save on Friday, April 1, 2016, you will receive your first notification email on Monday, April 4, 2016, your second notification email on Monday, April 18, 2016, and every second Monday that follows.

Monthly Email messages are sent every month on the first day of the month and contain data for the previous month. For example, if you configure your service to send notifications Monthly, and you click Save on Friday, April 1, 2016, you will receive your first notification email on Sunday, May 1, 2016.
Note: You must confirm your email address to save your settings. You cannot copy and paste the email address to confirm it.

The email is similar to the following example:

Dear Trish Smith,

The following weather notifications were sent to your customers in the last 1 day.

For period **Apr 8, 2016** through **Apr 9, 2016**:

<table>
<thead>
<tr>
<th>Weather Condition</th>
<th>Email Notifications</th>
<th>SMS Notifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wind</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1</strong></td>
<td><strong>0</strong></td>
</tr>
</tbody>
</table>

Sign in to [IBM Weather Alerts for Insurance](#) to learn more about the notifications that were delivered to your customers. Powered by [IBM®](#)

You can use the link in the email to sign in to the Weather Alerts for Insurance dashboard to view the alerts.

Note: The server that sends these regular notifications operates on Coordinated Universal Time. The email summarizes alerts that are sent up to 12:00 midnight Coordinated Universal Time. Emails are sent at 12:30 AM Coordinated Universal Time.
Chapter 3. Upload policyholder data

You can upload policyholder data to the Weather Alerts for Insurance service by supplying a file in comma-separated value format in the graphical user interface.

The CSV file that you upload provides the details about the policyholders of an insurance company that you want to configure to receive alerts from the Weather Alerts for Insurance service.

Note: Every entry in the CSV file must have an ID that is unique within a subscription. An ID cannot contain special characters such as # and <TAB>.

Use data templates to specify locations

The Weather Alerts for Insurance service provides two data templates that you can use to make it easier to format your CSV file. The data templates illustrate how to create a unique location for each policyholder.

Note: Mandatory location fields are specified by * in the data template examples.

You can use the following template to specify a location with an address:

```
id,street,city,country,provinceState,postalcode
Asset1,12 Bank St.,Ottawa,Canada,ON,K1V 5H3,Nas
```

The following fields are mandatory:
- id
- street
- city
- country

Note: If these fields do not provide an address that is unique, you might need to include a postal code.

You can use the following template to specify a location with latitude and longitude coordinates:

```
id,lat,lon,description,active,emails,sms,
Asset1,45.34566,34.56345,Nash's House,true
```

The following fields are mandatory:
- id
- lat
- lon

To define a location unambiguously, the following guidelines apply:
1. If you provide latitude and longitude coordinates, all other address information is ignored.
2. If you don't provide latitude and longitude coordinates, you must provide street, city, and country coordinates.
3. If a location cannot be unambiguously calculated from the address that is provided, the data upload returns an error.

Specify notifications for policyholders

In your CSV file, you can specify a set of notification methods by providing the type of the notification and contact information for each policyholder. You can configure the following notification methods:

**Email** You can specify one or more email addresses for a policyholder to which notifications are sent. If multiple email addresses are specified, notifications are sent to all of them. Multiple email addresses are separated by semi-colons.

**SMS** You can specify one or more SMS service-enabled phone numbers for a policyholder to which SMS text messages are sent. If multiple phone numbers are specified, notifications are sent to all of them. Multiple SMS phone numbers are separated by semi-colons. You must include the country code with SMS phone numbers.

Here’s an example of how to specify two email addresses and one SMS phone number for a policyholder:

```
Policyholder1,45.34566,34.56345,Nash’s House,TRUE,a@home.com;b@home.com,1-613-444-5555
```

An entry can be created for a policyholder without providing any notification information. If notification information is not supplied for a policyholder, alerts are recorded and can be analyzed, but the policyholder is not notified with email or SMS.

**Note:** The policyholderID, policyholderName, policyholderDescription, and language fields in the data templates are specific to the insurance company and optional.

Methods of uploading data

To upload your policyholder data, you can select one of the following methods after you click Upload Data:
Add  If you select **Add**, you must specify policyholders that do not exist. Each policyholder must have a unique ID. If you try to add a policyholder with an existing ID, the upload fails. You must change the ID in the upload file (to add a policyholder with a unique ID) or delete the policyholder in your file and upload your file again. When the upload succeeds, all new policyholders are added.

Update  If you select **Update**, you must specify policyholders that exist. Updating a policyholder that does not exist causes the upload to fail. You must correct the ID or delete the policyholder in your file that doesn’t exist and upload your file again. When the upload succeeds, all existing policyholders are replaced with the new data.

Delete  If you select **Delete**, you must specify policyholders that exist. Deleting a policyholder that does not exist causes the upload to fail. You must correct the ID or delete the policyholder in your file that doesn’t exist and upload your file again. When the upload succeeds, all existing policyholders are deleted.

Replace All  If you select **Replace All**, all of the policyholders that were previously uploaded are deleted and replaced with the new policyholders. This action must be confirmed because it deletes all policyholders for this subscription before it adds the replacement policyholders. The new policyholders must be syntactically correct and must not contain duplicate IDs.

When you successfully upload data, the **Data Upload History** tab shows a history of policyholders that were added, updated, or deleted for a subscription. The total number of locations of policyholders that are monitored for this subscription is listed at the top of the **Data Upload History** page. The history is sorted by date and time with the most recent upload shown at the top.

**Note:** The Data Upload History also shows the policyholders that were added, updated, or deleted using the APIs. For more information about using the APIs, see **Chapter 6, “Develop with the APIs,” on page 19.**

---

**Troubleshoot data errors**

**Troubleshoot data upload**

When you click **Upload Data**, you use a wizard to add a CSV file to the upload process. The upload process analyzes the data for errors. The upload process might fail for the following reasons:

- The file is not in CSV file format. The upload step fails.
- The location information is ambiguous. The analyze step fails.
- The IDs are not unique. The upload does not complete.

For each error, you must correct the CSV file and upload the data again.

During an upload, if 200 or more errors are found during the analysis step, the first 200 errors are presented in the **Error Details** tab. You can download the error details as a .txt file to see all of the errors and correct your CSV file.
Troubleshoot alert delivery

When alerts are sent but they fail to reach their intended email or SMS address, the Alert Delivery Issues tab is displayed on the Data page. This tab displays all of the policyholders that have incorrect email or SMS addresses, or other incorrect data that prevents alerts from being delivered.

To resolve these issues, click Download Delivery Issues to view a CSV file of the issues. The Alert Delivery Issues tab disappears from the Data page after you download the CSV file. After you download the CSV file, the ▲ icon is removed from the dashboard.

Note: One policyholder can have multiple issues that must be corrected. Each issue is listed separately in the CSV file.
Chapter 4. Explore the dashboard

You can use the dashboard of the Weather Alerts for Insurance service to view the history of weather alerts that your policyholders receive.

A policyholder is associated with a location. Weather that is forecast in the location triggers an alert or notification to a policyholder.

You can view alerts on the dashboard for a specific location in a specific time range. The dashboard displays weather alerts for an area that is centered on the location that received alerts. The alerts are presented on an interactive map in the map view, or as alert details in the grid view.

You can use the toolbar at the top of the dashboard to choose which alerts are shown on the dashboard.

Use the toolbar

In the toolbar of the dashboard, you can select a date range to display alerts for. You can select any date for the minimum and maximum range by using the data picker; however, the date range must make sense for your subscription to the Weather Alerts for Insurance service. For example, if you set the maximum date beyond the current date or if you set the minimum date before subscription activation, you don’t see any data for the dates that are beyond your subscription. The default date range is the three-month period that ends on the current date.

Each subscription maintains historical alert data for the time that the user uploads a policyholder to the time that they remove the policyholder. For example, if you select a 300-year time range, and policyholders were entered within the previous three months, the dashboard shows only the alert data for the three months.

You can also view specific weather events in the dashboard by selecting the weather alert types that you want to view. The default view of the dashboard has all of the alert types selected. When you clear an alert type, the alerts for that type are not shown on the map.

To collapse the toolbar, click .

Use the histogram

The histogram on the dashboard shows the timeline of weather alerts based on the previous three months. The histogram also shows the number of alerts that were sent to policyholders in the locations that are in view on the map, and the number of locations that were not alerted. The scale indicates thousands (k), millions (m), or billions (g) of alerts sent.

The number of alerts sent represents the total number of alerts that are sent to all policyholders in locations that are affected by weather for all notification types.
(email or SMS). The number of **locations not notified** represents the number of entries in the policyholder data that were not affected by weather and were not alerted.

You can click a bar in the histogram to see the details for that time period. The dialog box displays the number of alerts sent for each event type.

**Note:** When alerts are sent to policyholders but there are issues with the delivery of the alerts (such as invalid email addresses), a warning icon appears in the upper right corner of the dashboard. To understand why the alerts were not sent, click ![](warning-icon.png). To clear the warning icon from the dashboard, view the **Alert Delivery Issues** tab on the **Data** page and download the issues as a CSV file. For more information, see “Troubleshoot data errors” on page 11. You can correct the issues in your policyholder data and update your policyholder data.

---

**Map view**

Alerts are presented on an interactive map in the map view of the dashboard. Each bubble on the map represents a single weather event that affects multiple policyholders that were notified. The number in the bubble indicates how many policyholders were notified of the weather event.

When the map is displayed, it is focused on the center point of all visible alerts and zoomed so that all alerts are visible on the map.

You can move the map outside of the default or searched location to see alerts for any location worldwide. You can click ![search](search-icon.png) to search for a location in the world. The location search focuses the map on that area.

**Note:** Bubbles on the map self-aggregate at higher zoom levels. The number in the bubble reflects the number of alerts in the new location.
Alerts might be sent before the weather occurs, depending on the weather event. For more information about weather events, see Table 1 on page 3 in “Select alert types” on page 3. It is also possible to receive several weather alerts sequentially for different weather events.

Alert data is gathered at 15-minute intervals. A specific location appears at most once for each alert within the alert time frame. For example, if policyholder A10445 in a specific location receives a Heavy snow forecast >= 5 cm cumulative in the next 4 hours alert, that same policyholder is not sent that alert for at least 4 hours. The same policyholder might receive a different weather alert. Each alert type is independent.

**Grid view**

You can search and filter the alerts data by location, time, and alert type by using the grid view. The columns of the grid view are sortable.

The grid view displays only the ID, the alert type (Hail, Lightning, Wind, Snow, Rain), a description of the event, and the date of the alert.

---

**Export weather alerts data**

To export the weather alerts data from the dashboard, click \[\]. You can export all weather alerts data for the selected date range to a CSV file.
Chapter 5. Add and manage users

You can invite other administrators from your organization to manage alerts by using the Manage Account link in the graphical user interface.

The service supports two types of subscriber roles: users and administrators. Users and administrators can both configure the Weather Alerts for Insurance service by using the graphical user interface and the Weather Alerts for Insurance APIs.

- A user can be subscribed to the service but can retrieve and update information only for this subscription.
- An administrator can manage users and subscriptions. An administrator can add, update, or delete the users of this subscription.
Chapter 6. Develop with the APIs

The Weather Alerts for Insurance RESTful APIs provide an easy way for insurance companies to register policyholders to receive weather alerts for specified weather events. Alert notifications can be sent through preferred media, such as email, SMS text messaging, or posting alert data to user-predefined web services endpoints.

After you upload your policyholder data, you can add, retrieve, update, and delete assets for your subscription by using the Weather Alerts for Insurance APIs. The APIs are powered by IBM® API Management. You can perform operations on subscription, asset, endpoints, and events entities. You can also update multiple assets at the same time by using the bulkupload operation.

On the API page of the graphical user interface, click the link to browse the documentation in API Explorer.

API entity model

The Weather Alerts for Insurance APIs implement the following entities:

subscription

A subscription represents an organization (for example, an insurance company) that purchases the Weather Alerts for Insurance service. Each policyholder of a subscription entity is represented by an asset entity.

Subscription entities can be retrieved. When a subscription is created, the Weather Alerts for Insurance service creates a unique ID to represent the subscription in the service.

asset

An asset represents a policyholder of the subscription. Assets can be created, edited, and deleted. When an asset is created, an ID that is unique within the subscription must be provided.

Policyholder information is represented by the subscriber property of an asset.

Notifications are a subentity of asset.

events

Each subscription can define a list of events that must be monitored. The following events are available:

- Hail is greater than or equal to 25 millimeters in a 30-minute period
- Lightning flashes greater than or equal to 0.10 flashes per square kilometer in a 30-minute period
- Wind speed greater than or equal to 15 meters per second within a 10-minute to 24-hour time period
- Snow is greater than or equal to 5 centimeters in a 4-hour period
- Rain is greater than or equal to 50 millimeters in a 3-hour period

datepoints

Each subscription can specify an optional list of endpoints, which can be used for receiving alert data when events that the subscription subscribed

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to are forecast to occur. The Weather Alerts for Insurance APIs send POST requests to these endpoints with a list of affected assets of the subscription.

**bulkupload**

You can update multiple assets at the same time by using the bulk upload operations. You can add, change, or delete multiple assets in a bulk job; retrieve the history of all bulk upload transactions; or retrieve a specific bulk upload transaction.

---

## Authentication

To use the Weather Alerts for Insurance APIs, you must purchase the Weather Alerts for Insurance service.

Buying the Weather Alerts for Insurance service registers your subscription in IBM Cloud Services. Then, you must sign in to API explorer with the IBM ID that is registered against a subscription.

When you sign in to API Explorer with this IBM ID, your IBM-Client-Id and IBM-Client-Secret credentials are automatically filled into the header parameters and the TEST option is available. The IBM-Client-Id and IBM-Client-Secret authentication credentials are masked.

To use your keys, click **Pick your key** to select the plan to retrieve the keys for. Then, click **Manage your keys**. API Explorer opens a page where you can create, delete, regenerate, or retrieve your keys. Use the interface to show your keys, and then you can copy and paste them into your REST API calls.

![API Explorer Interface](image)

**Note:** If you aren’t signed in to API Explorer, click **I already have a key** in API Explorer and sign in.

---

## Available operations

You can perform the following operations by using the Weather Alerts for Insurance APIs.

**Operations on subscription entities**

- **GET:** Retrieves a subscription.
  
  Returns:

  ```json
  {
    "name": "string",
    "enabled": true,
    "doNotifyAsset": true,
  }
  ```
Operations on asset entities

- **GET/assets/{AssetId}**: Retrieves an asset with a specific assetId. You must supply a valid assetId to the GET operation. If you try to retrieve an asset that doesn't exist, the API returns a 404 Resource not found response.

- **DELETE/assets/{AssetId}**: Deletes an asset with a specific assetId. You must supply a valid assetId to the DELETE operation. If you try to delete an asset that doesn't exist, the API returns a 404 Resource not found response.

- **POST/assets/**: Creates an asset with a specific assetId. The asset data that is enclosed in the request body must contain complete information that is syntactically correct. If you try to add an asset that exists, the operation returns a 400 Bad Request response. If you try to add an asset with incorrect data, the operation returns a 400 Bad Request response. If the update is successful, the asset information, which is enclosed in the response body in JSON format, is returned.

For example, the following POST request updates an existing asset with the ID identifier1:

```json
{
  "id": "identifier1",
  "description": "Bob's House",
  "isActive": true,
  "location": {
    "street": "555 Suffolk Ln.",
    "city": "Ottawa",
    "provinceState": "ON",
    "postalcode": "K1W 2Z9",
    "country": "Canada",
    "geo": {
      "lat": 43.063862,
      "lon": -88.228493
    }
  },
  "notifications": [
    {
      "type": "email",
      "value": "bob_smith@yeehaw.com"
    },
    {
      "type": "email",
      "value": "bob.smith@home.com"
    },
    {
      "type": "sms",
      "value": "613.555.7303"
    },
    {
      "type": "sms",
      "value": "613.555.7303"
    }
  ]
}
```
PUT/assets/{AssetId}: Updates an asset with a specific assetId. The asset data that is enclosed in the request body must contain complete information, not just fields to be updated. All information for an asset overwrites the previously recorded information for the asset. If you try to change an asset that doesn't exist, the operation returns a 400 Bad Request response. If the update is successful, the asset information, which is enclosed in the response body in JSON format, is returned.

For example, the following PUT request updates an existing asset with the ID identifier1:

```json
{
  "id": "identifier1",
  "description": "Bob's New House",
  "isActive": true,
  "location": {
    "street": "565 Suffolk Ln.",
    "city": "Ottawa",
    "provinceState": "ON",
    "postalcode": "K1W 2Z9",
    "country": "Canada",
    "geo": {
      "lat": 43.063862,
      "lon": -88.228493
    }
  },
  "notifications": [
    {
      "type": "email",
      "value": "bob_smith@yeehaw.com"
    },
    {
      "type": "email",
      "value": "bob.smith@home.com"
    },
    {
      "type": "sms",
      "value": "613.555.7227"
    },
    {
      "type": "sms",
      "value": "613.555.7303"
    }
  ],
  "policyholder": {
    "id": "123456",
    "name": "Bob Smith family",
    "description": "A revised description of this policyholder."
  }
}
```

**Operations on endpoints**

- GET/endpoints: Retrieves a list of endpoints, which are used to receive alert notifications. A JSON array is embedded in the response body, which contains one or more previously defined endpoints. If an endpoint has username and password that is associated with it, the Basic Authentication mechanism is used to send alert notifications.
• PUT/endpoints: Updates endpoints through which the subscription can receive alert notifications. The HTTP request body needs to contain an array of valid web URLs, which are designated for processing alert notifications sent by the alert services. If an endpoint uses Basic Access authentication, a valid username and password must be specified in the PUT request.

For example, https://alerts.abcinsurance.com/notification might be supplied as an SSL-secured endpoint that can receive alerts.

The JSON payload for each weather alert API is similar to the following example:

```json
{
  "event": "Heavy snow forecast >= 5 cm cumulative in the next 4 hours.\",
  "timestamp": "2015-05-26T05:35:37.000Z",
  "impacts":
    ["A10445",
    "B10562",
    "A40312"
  ]
}
```

The size of the notification message depends on the number of assets affected by each event and the length of the identifier used by the subscription.

**Operation on events**

• GET/events: Retrieves the detailed information about the events that are available for a subscription.

  Returns:

  ```json
  [  
    {
      "type": "HAIL_ZONE_30MIN_GTE1.00_IN",
      "default": false
    },  
    {
      "type": "STRIKE_ZONE_30MIN_GTE0.10_FLKM2",
      "default": true
    },  
    {
      "type": "ACCUM_RAIN_TOTAL_3HR_GTE50.00_MM",
      "default": true
    },  
    {
      "type": "ACCUM_SNOW_TOTAL_4HR_GTE5.00_CM",
      "default": true
    },  
    {
      "type": "WIND_SPEED_10M_24HR_GTE15.00_MS",
      "default": false
    }
  ]
  ```

• PUT/events: Updates which events are active for a subscription. To update an event, it must exist for that subscription. To receive alert notifications, the default property in an event must be set to true.

**Bulk API operations**

If you have many assets, you can use the bulk asset upload APIs. If you have a subscription, you can create or update many assets by using fewer API requests. You must enclose JSON-format text, which contains a list of assets, in the request body. Each of these assets must use the same format that is used to create or
update individual assets. The bulk asset upload is an atomic operation. If one of the assets fails to be created or updated for any reason, the whole operation fails and no updates are made.

The bulk asset upload process is asynchronous. The process sends an asset registration request in one API call. The retrieval of the registration results is sent in another API call. Bulk asset registration starts with sending an HTTP POST request, in which a JSON body is enclosed to specify asset information. The Weather Alerts for Insurance REST API server receives the request and returns a transaction ID to the caller.

Examples

In the following example, a request successfully registers an asset that has four different notification methods.

**Request**

```plaintext
POST http://services.ibm.com/v1/AlertService/assets HTTP/1.1
Content-Length: 428
Content-Type: application/json
Subscription: SubscriptionIdentifier

{  
  "id": "identifier1",
  "description": "Sasa's House",
  "location": {
    "street": "187 Suffolk Ln.",
    "city": "Ottawa",
    "province/state": "ON",
    "postalCode": "K1W 2Z9",
    "country": "Canada",
    "geo": {
      "lat": 43.063862,
      "lon": -88.228493
    }
  },
  "notifications": [
    {
      "type": "email",
      "value": "sasa_conic@yahoo.com"
    },
    {
      "type": "email",
      "value": "sasa.conic@gmail.com"
    },
    {
      "type": "sms",
      "value": "613.883.7303"
    },
    {
      "type": "sms",
      "value": "613.730.7227"
    }
  ]
}
```

**Response**

```plaintext
HTTP/1.1 201 Created
Content-Length: 652
Content-Type: application/json;charset=utf-8
Location: http://services.ibm.com/v1/AlertService/assets/identifier1

{  
  "id": "identifier1",
  "orgId": "orgid1",
  "wsiId": "wsiId1",
}
```
If the address information provided is not sufficient for calculating geolocation coordinates, the API service returns an error.

In the following example, the street is not sufficient.

Request
POST http://services.ibm.com/v1/AlertService/assets HTTP/1.1
Content-Length: 428
Content-Type: application/json
Subscription: SubscriptionIdentifier
{
   "id":"identifier1",
   "description":"Sasa's House",
   "location":{
       "street":"187 Suffolk Ln."
   }
   "notification":{
       "email":[
           "value":"sasa_conic@yahoo.com"
       ],
   }
}

Response
HTTP/1.1 400 Bad Request

Content-Length: 652
Content-Type: application/json;charset=utf-8
Location: http://services.ibm.com/v1/AlertService/assets
{
   "error": "Insufficient address information for lat/lon calculation."
}
In the following example, an incorrect street address and country are not sufficient to determine the location unambiguously.

**Request**

```plaintext
POST http://services.ibm.com/v1/AlertService/assets HTTP/1.1
Content-Length: 428
Content-Type: application/json

{  
  "id": "identifier",
  "description": "Sasa's House",
  "location": {  
    "street": "Bad Street",
    "province/state": "ON",
    "country": "Bad Country"
  }
}
```

**Response**

```plaintext
HTTP/1.1 400 Bad Request
Content-Length: 652
Content-Type: application/json;charset=utf-8

{  
  "error": "Bad address information. Lat/lon coordinates cannot be calculated."
}
```

---

**Error handling**

The Weather Alerts for Insurance APIs use standard HTTP status codes.

The following general status codes are used in this API:

- 200 - Success
- 201 - Success (created)
- 202 - Accepted (Request accepted and queued for execution)

Client-side errors:

- 400 - Bad request
- 401 - Authentication failure
- 403 - Request forbidden
- 404 - Resource not found
- 405 - Method not allowed
- 409 - Conflict
- 412 - Precondition failed
- 413 - Request entity too large

Server-side errors:

- 500 - Internal server error
- 501 - Not implemented
- 503 - Service not available
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