

Exercise 10: Global Terrorism

Time Based Data

Objectives

1. Create a calendar filter
2. Gain intuition regarding date parts (discrete) versus date values (continuous).
3. Gain experience with date calculations and custom dates

Building a Calendar Chart

For this dates exercise, we are going to build a filter in the form of a calendar. You can select an entire month or a series of days to create a subset of data on your dashboard. Let's create this dashboard step-by-step:

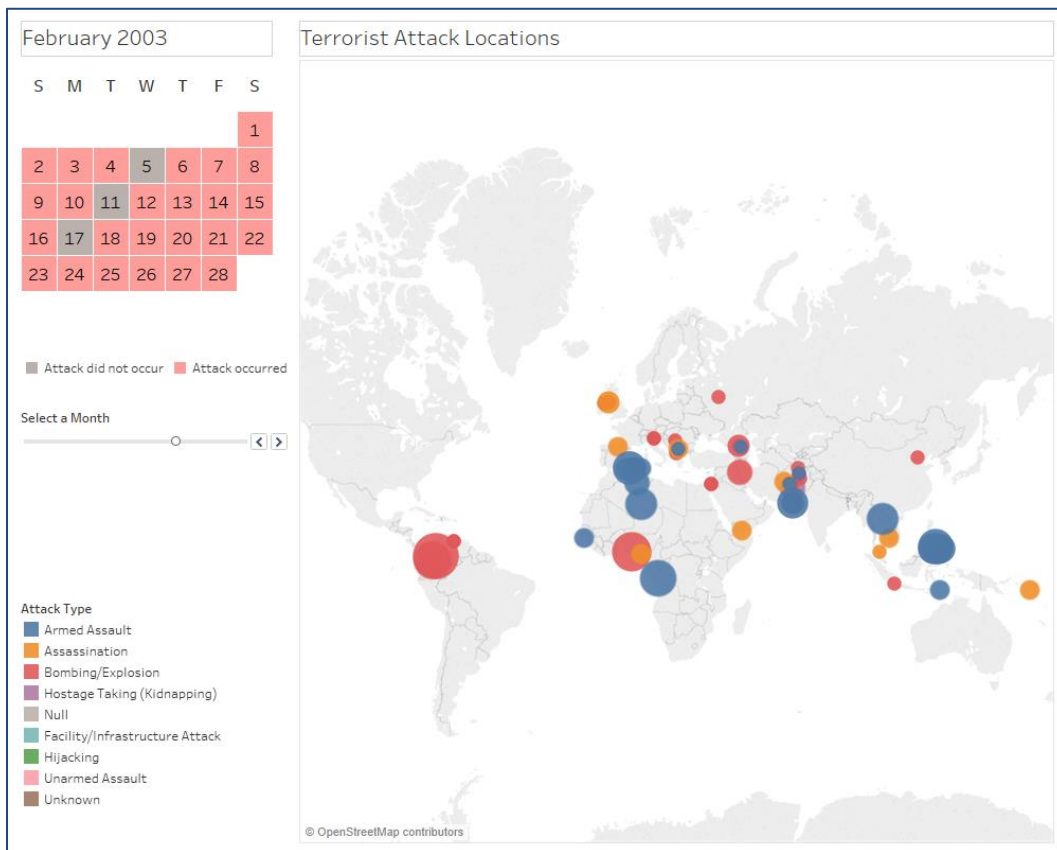
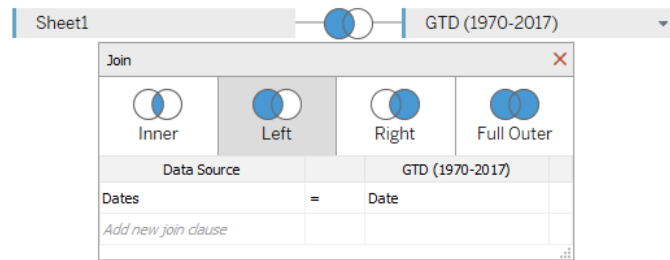


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1. Open the Tableau starter workbook called **Exercise 10 Global Terrorism Starter** in the Exercise Starter Workbooks folder. The data set you will use for this exercise represents world-wide terrorist events from 1970 to 2017 and is taken from the Global Terrorism Database (GTD).
2. First, navigate to your Data Source tab. You'll notice that there are two sheets in this dataset. One represents global terrorist attacks, called 'GTD (1970-2017),' and the other, called 'Date Master', contains the date for every single day from 1970 to 2017, regardless of whether an attack occurred on that specific date. This is so that when we build our calendar, a mark for every day appears in the calendar even if a terrorist event did not occur.
3. Drag 'Date Master' into your data source and then join 'GTD (1970-2017)' to 'Date Master' with a left join by the respective date fields. You will need to specify on which fields to perform the join.

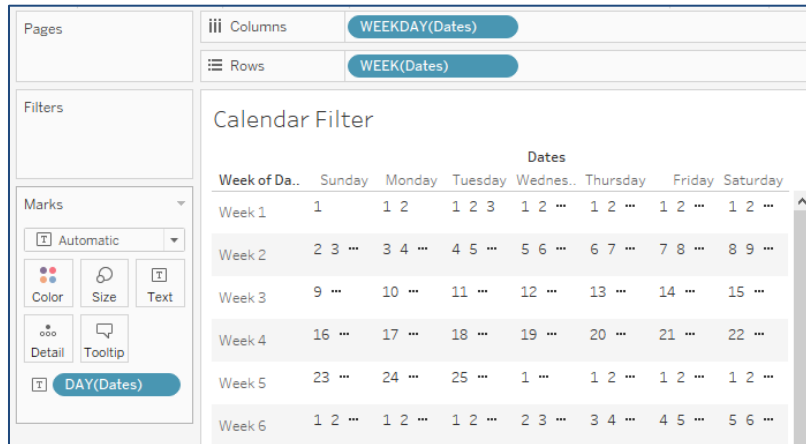


Question 1: Why are we performing a left join here?

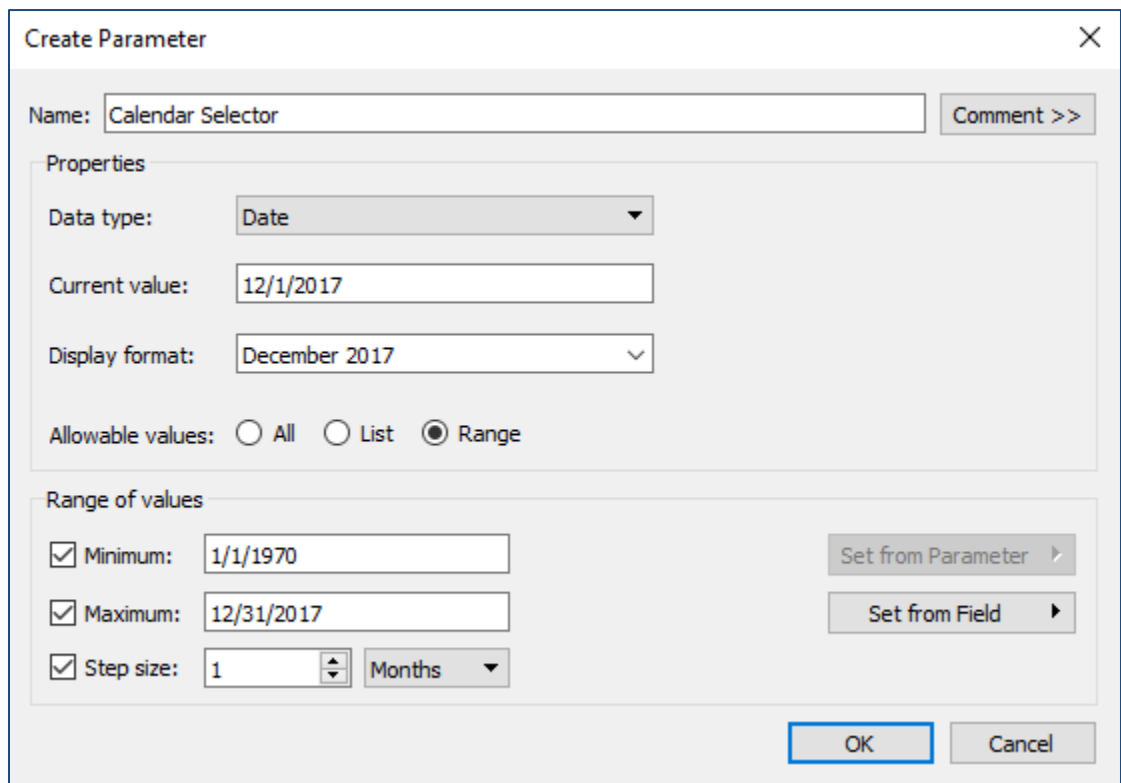
4. To start building the calendar, add **Weekday(Dates)** onto **Columns**, **Week(Dates)** onto **Rows** and **Day(Dates)** onto **Text** to create a crosstab. Remember to use the **Dates** field from the 'Date Master' table.



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5. Right-click on the header field **Weekdays(Dates)** and select **format**. Choose **First Letter** and then **center align**.
6. Next, create a date parameter called **Calendar Selector**.



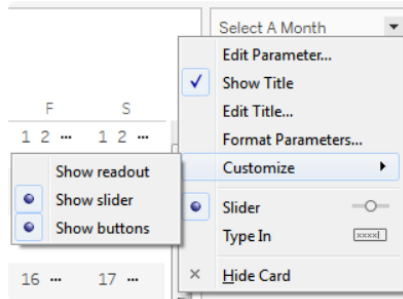
To format the date with only the month and year, select that format from the **Display format** drop-down box. Under **Range of values**, click Set from Field and choose the **Dates** field from the primary table, 'Date Master,' and select a **Step size** of 1 Month.

7. Once you've created the parameter, right-click on the parameter in the Data Pane and select **Show Parameter Control**. To modify the parameter control's appearance, rename

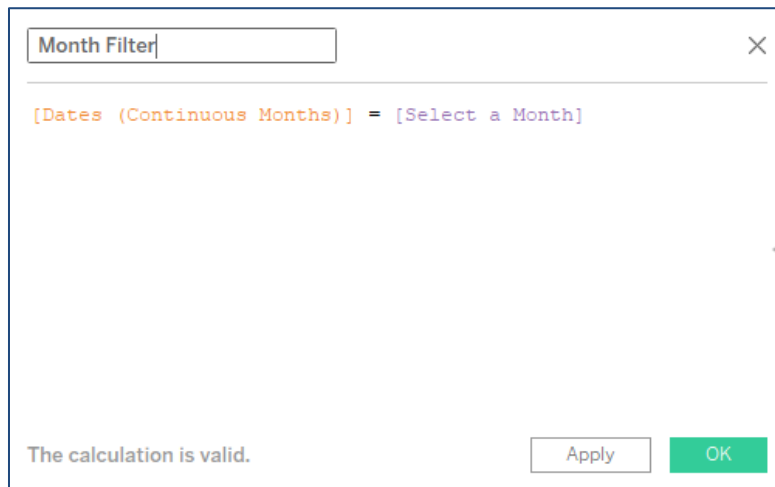


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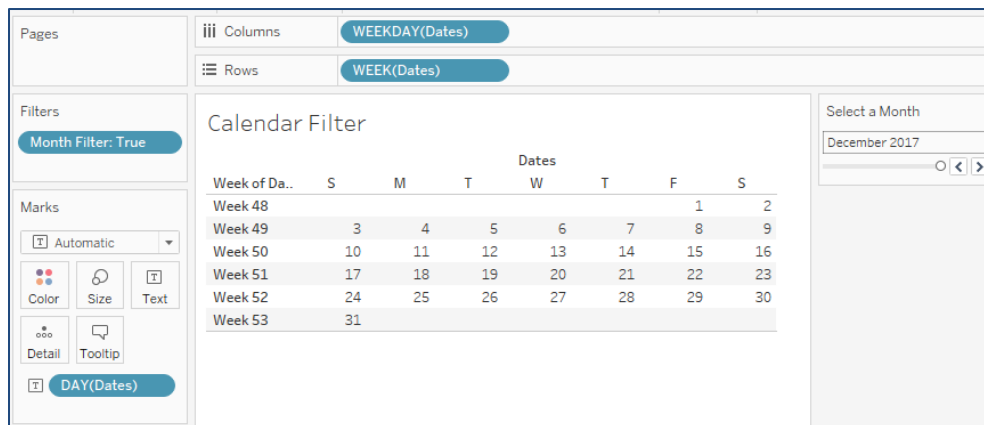
the parameter to **Select A Month** and use the down arrow on the parameter control and select **Customize**. Unselect **Show readout** to remove the text.



- Next, create a custom date field for continuous months. Remember to select **Date Value** for a continuous field.



- Call it **Month Filter**. Drag this field onto the **Filters** card and show only **true**.



- To create the title for the calendar, drag **Year(Dates)** and **Month(Dates)** to **Detail** so we can use the **Insert** option on the **Edit Title**.

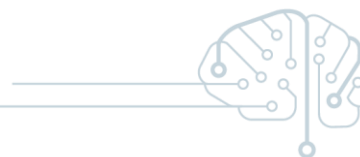
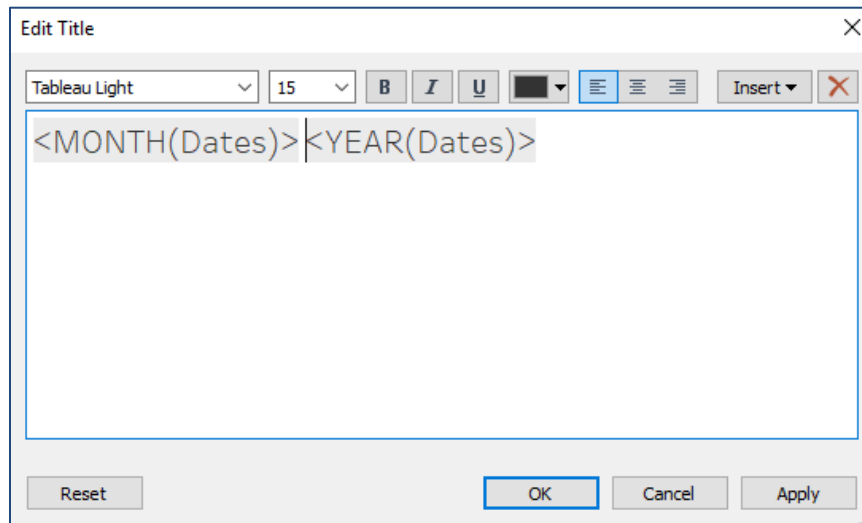
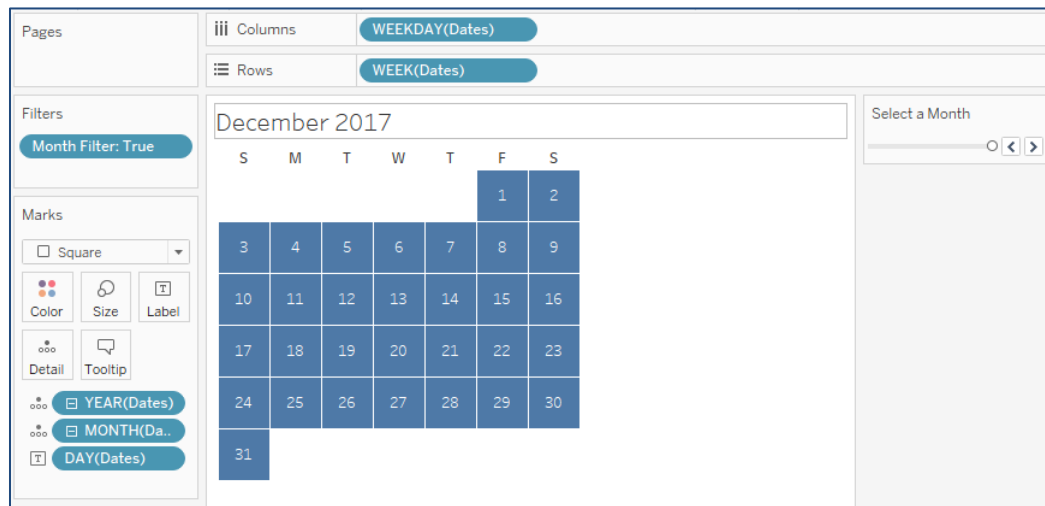


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11. Now it's time to format! Perform the following steps to format the calendar like the first image:
- Right-click on the title and select **format** to add a thin grey border.
 - Right-click on the row header and unselect **Show Header**.
 - Right-click on **Dates** at the top of the table and select **Hide Field Labels for Columns**.
 - Change the mark type to square with white borders and adjust the mark size, width and height in the table to get a square that fills the entire space.
 - Center-align your labels
 - Remove the line beneath the table and the weekday initials by going to **Format** and then **Borders** and turn off **Row Dividers**.

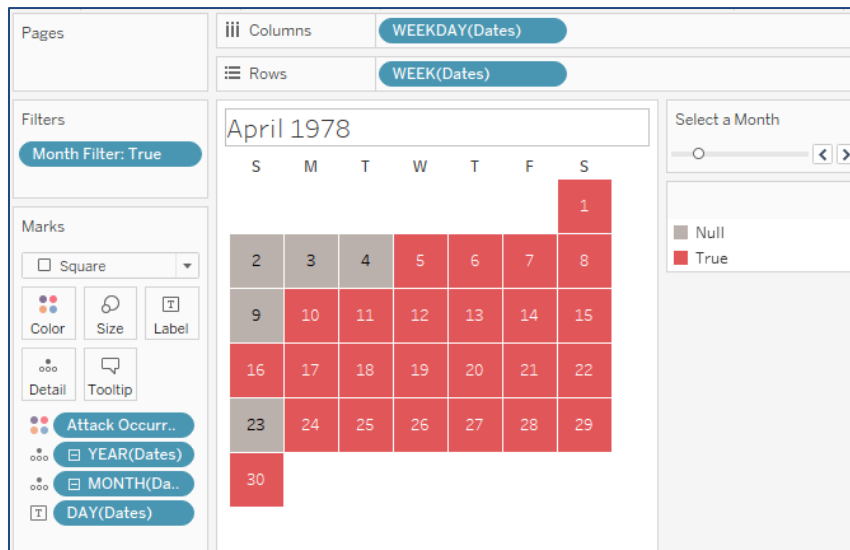


12. Now that we have created the calendar using 'Sheet 1', we can begin using the **Date** field from 'GTD (1970-2017)'. Create the following calculated field:





Add the field to the Colors card. This will show which days on the calendar had terrorist events and which did not. You are now finished creating the calendar! The next step will be adding it to a dashboard and using it to filter a view.

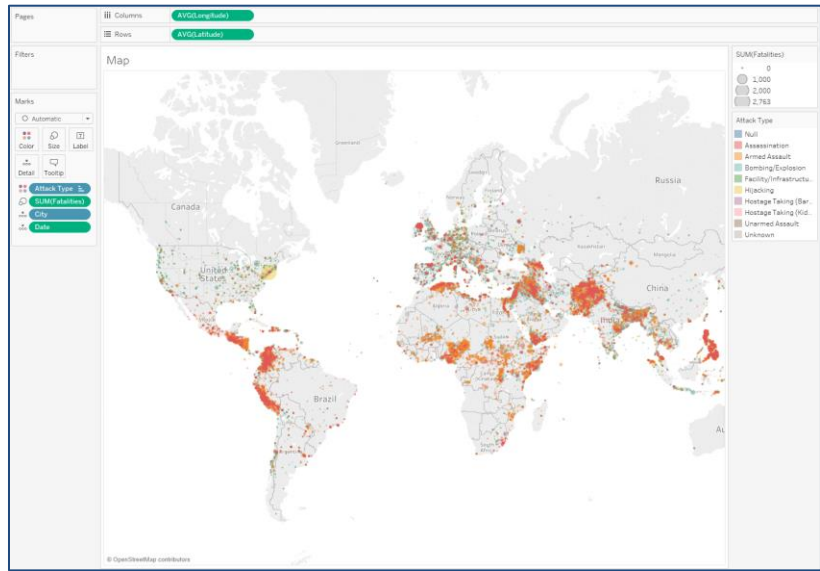


Apply Calendar Filter

- To use the calendar as a filter, you will need to create a view on which you'd like to filter by month and date. Create the following map applying **Latitude** and **Longitude** to the Columns and Rows shelves, **City** and **Exact Date** to Detail, **# Fatalities** to Size and **Attack Type** to Color.



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2. Next, create a new Dashboard and position your calendar and map as shown in the first image of this exercise. You may need to hide or resize items.
3. Once you have your dashboard arranged correctly, the last step is applying filters to allow the map to be filtered by the calendar. Select the filter icon in the top right corner of the calendar on your dashboard to select 'Use as filter'. Now, you can select days on your calendar and your map will filter only attacks that occurred on that day.

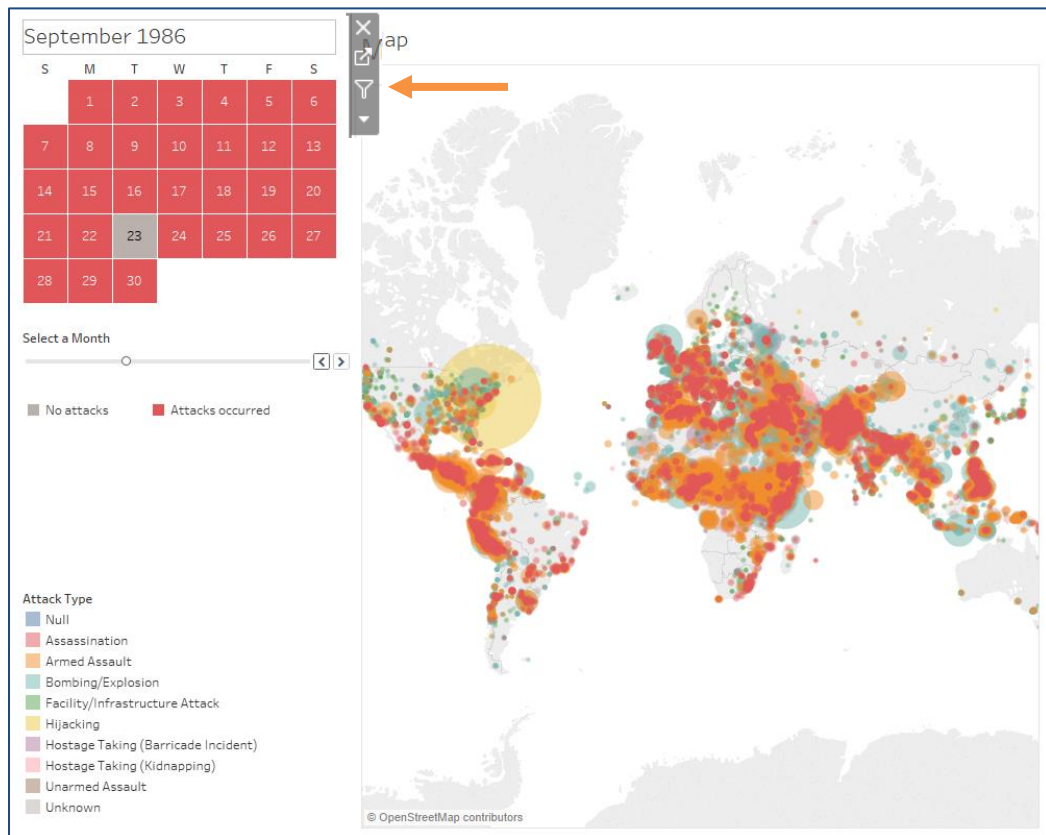
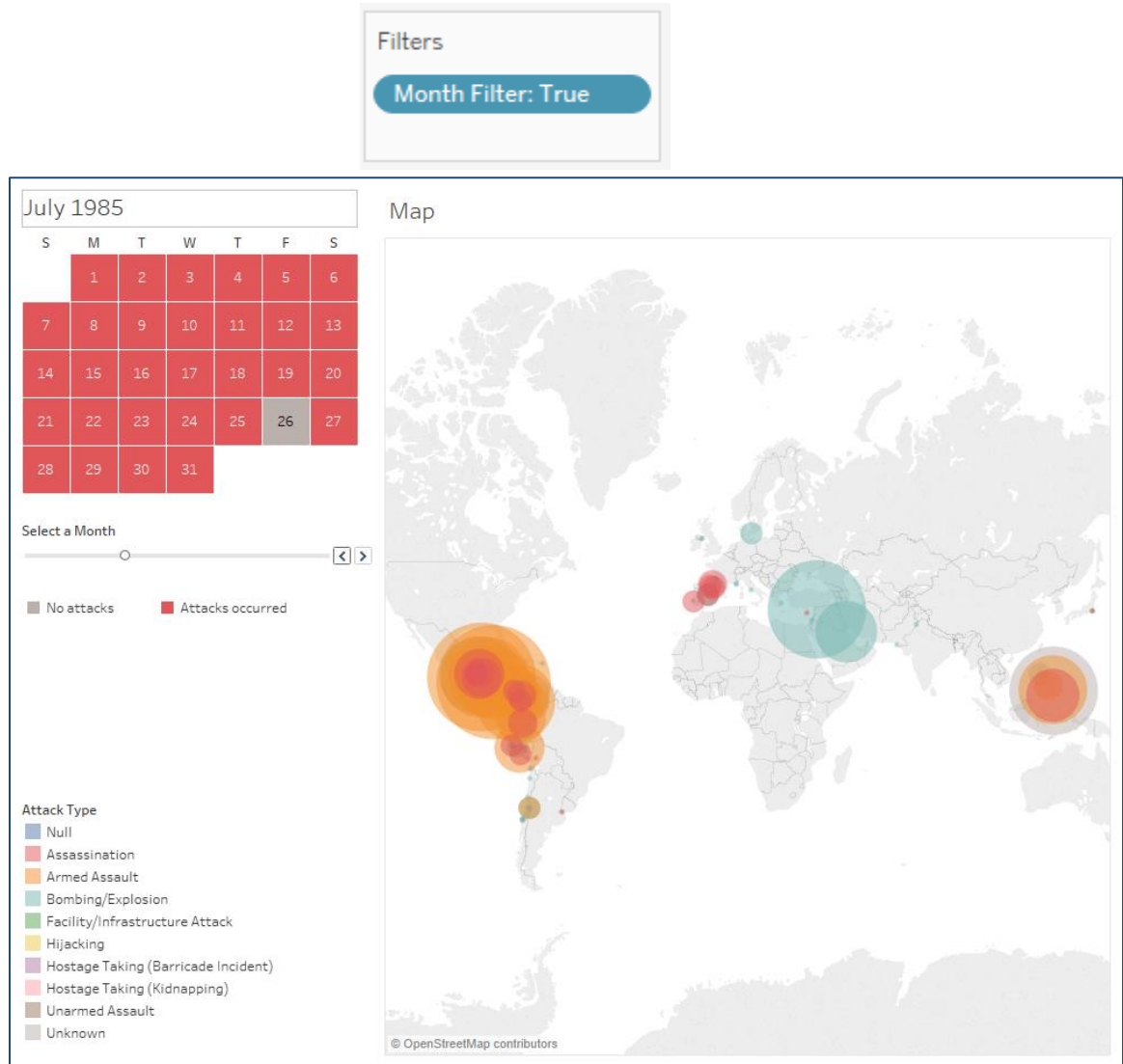


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- When no days are selected, however, the map shows all terrorist events and we'd like only terrorist events that occurred in the given month/year to be shown. To do this we must go back to the map view and put **Month Filter** on the Filters card and set the filter to 'True' values only.



Now you've created a calendar filter for your dashboard!

