

FORECASTING

Forecasting in Tableau uses a technique known as **exponential smoothing**. Forecast algorithms try to find a regular pattern in measures that can be continued.

Typically, we need a minimum of **1 date dimension**, and **1 measure** to create a **forecast**.

However, in the absence of a date, Tableau can create a forecast for a view that contains a dimension with integer values in addition to at least one measure

FORECASTING

Prediction Intervals:

By default, the **shaded area** shows the **95% prediction interval** for the forecast. That is, the model has determined that there is a 95% likelihood that the value of measure used in the view will be within the shaded area for the forecast period.

We can configure the confidence level percentile for the prediction bands (to either 90% or 99%), and whether prediction bands are included in the forecast, using the Show prediction intervals setting in the Forecast Options dialog box.

FORECASTING

Enhancing Forecasts:

We can include the below mentioned metrics in the tooltip after creating a forecast:

Actual & Forecast

Trend

Precision

Precision %

Quality

Upper Prediction Interval

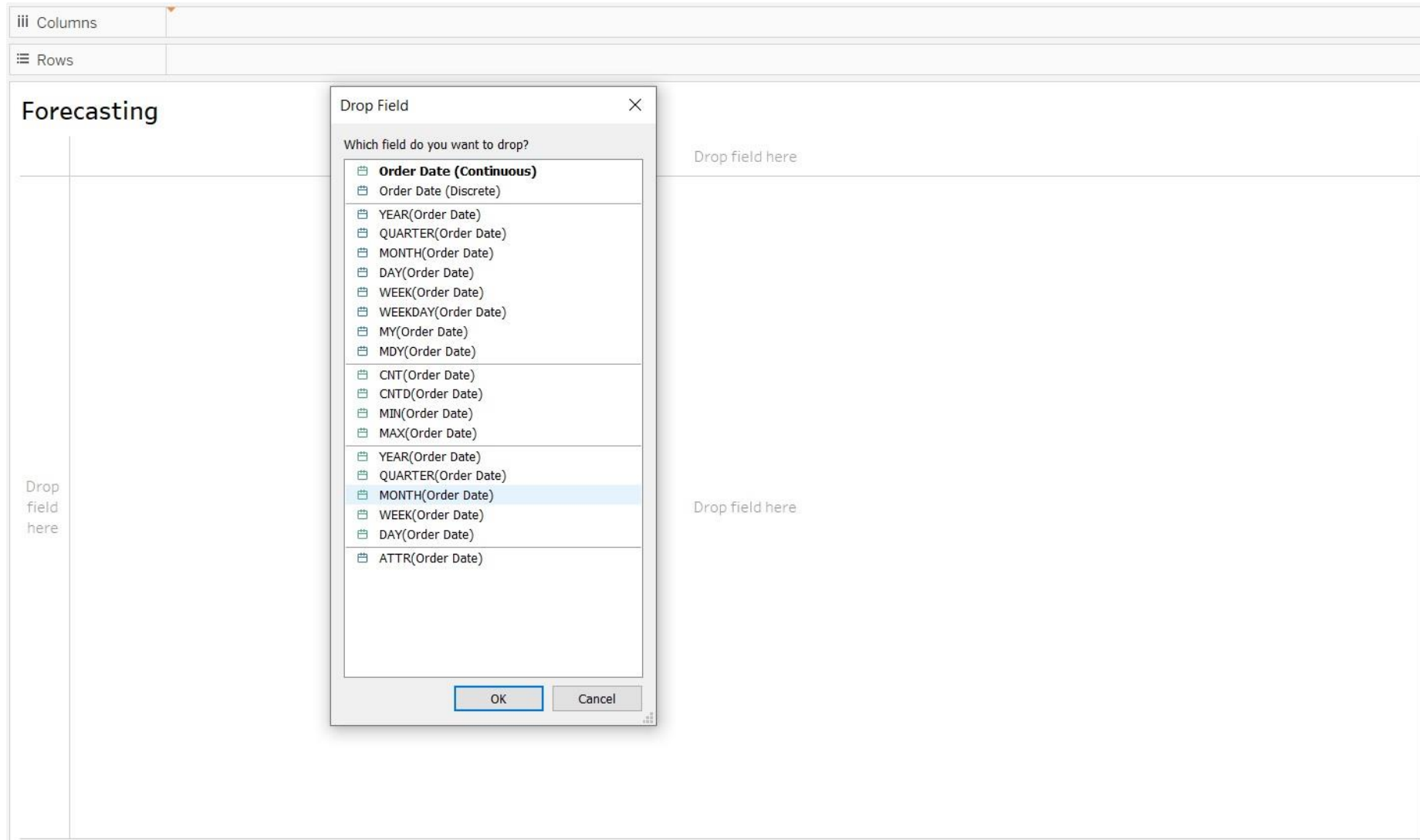
Lower Prediction Interval

Drag and drop another instance of the forecast measure from the Data pane to the Detail shelf on the Marks card and then after right-clicking the field to open the content menu, choosing one of the available options under Forecast result

By adding such result types to the Details shelf, we add information about the forecast to tooltips for all marks that are based on forecasted data.

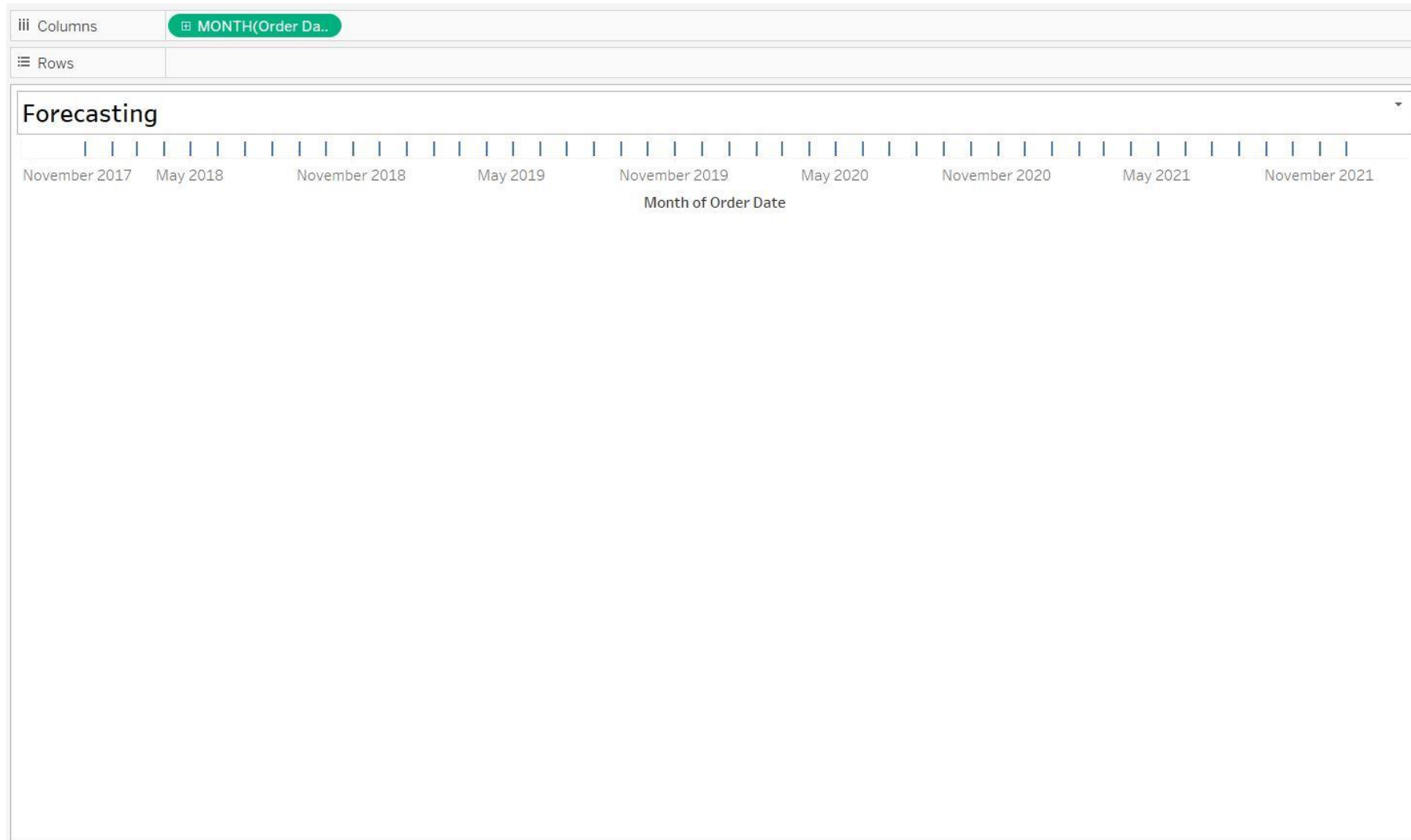
HOW TO CREATE A FORECAST

STEP 1: Right-click, drag and drop **Order Date** to the **Columns** shelf
Select the Date Value as **MONTH(Order Date)**



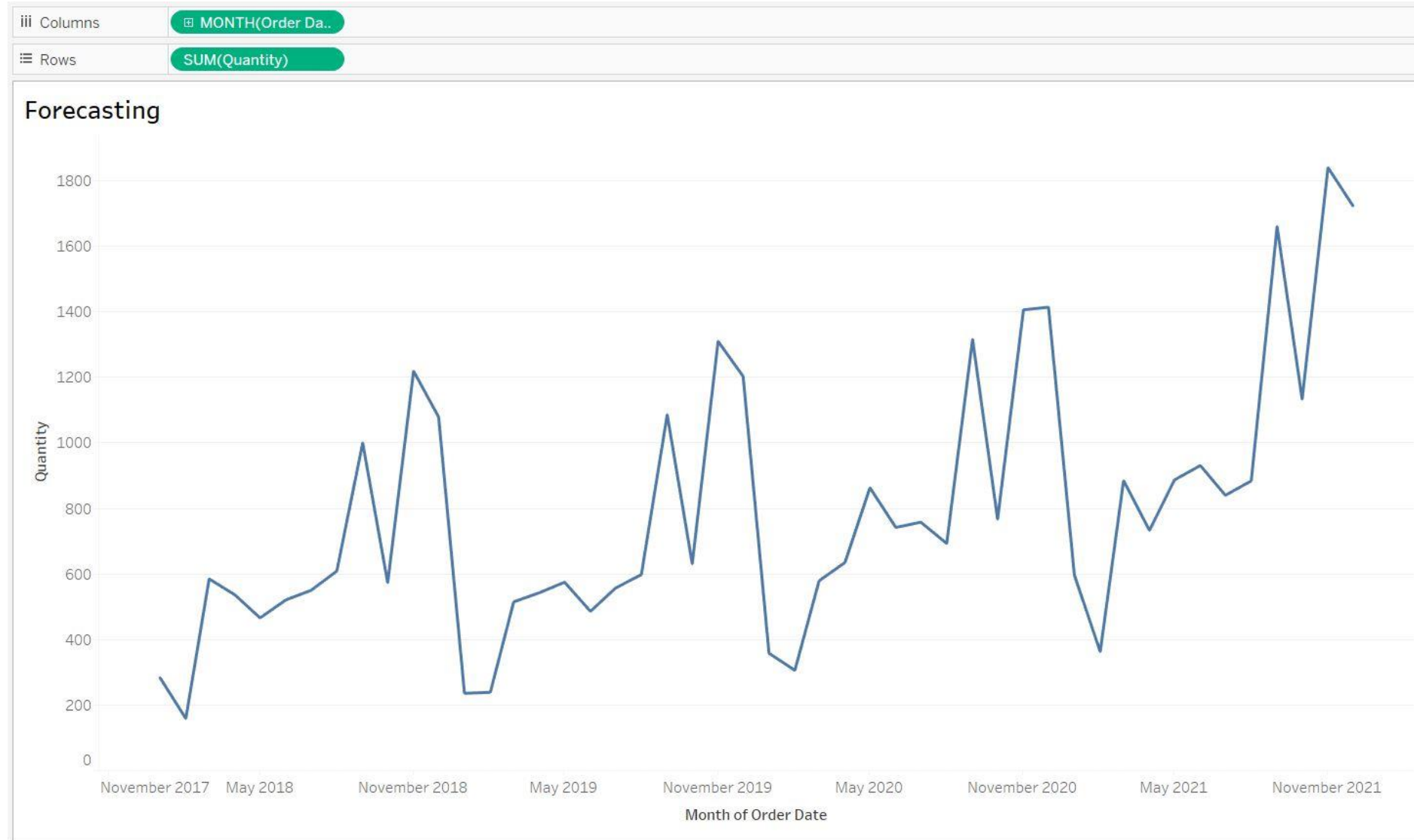
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STEP 2: MONTH(Order Date) in the Columns shelf



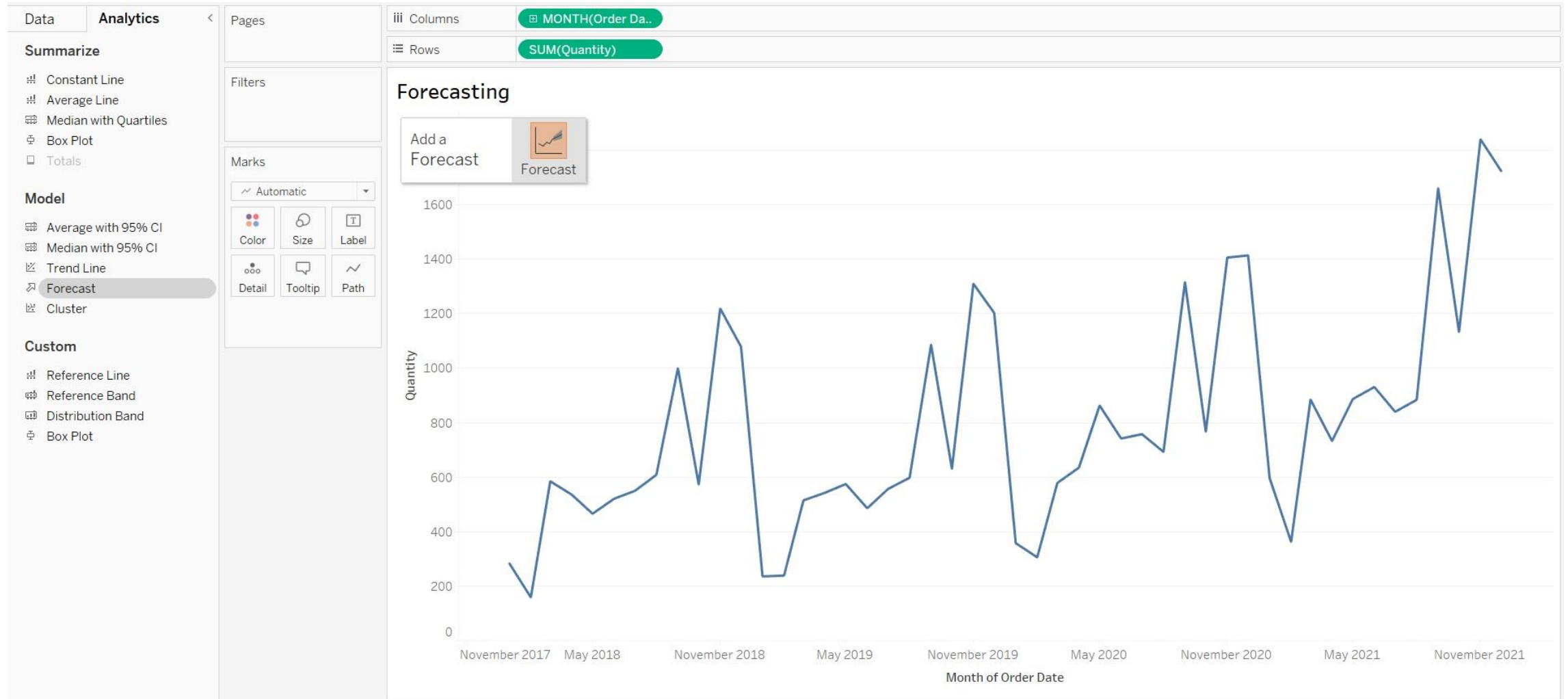
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STEP 3: Drag and drop **Quantity** to the **Rows** shelf



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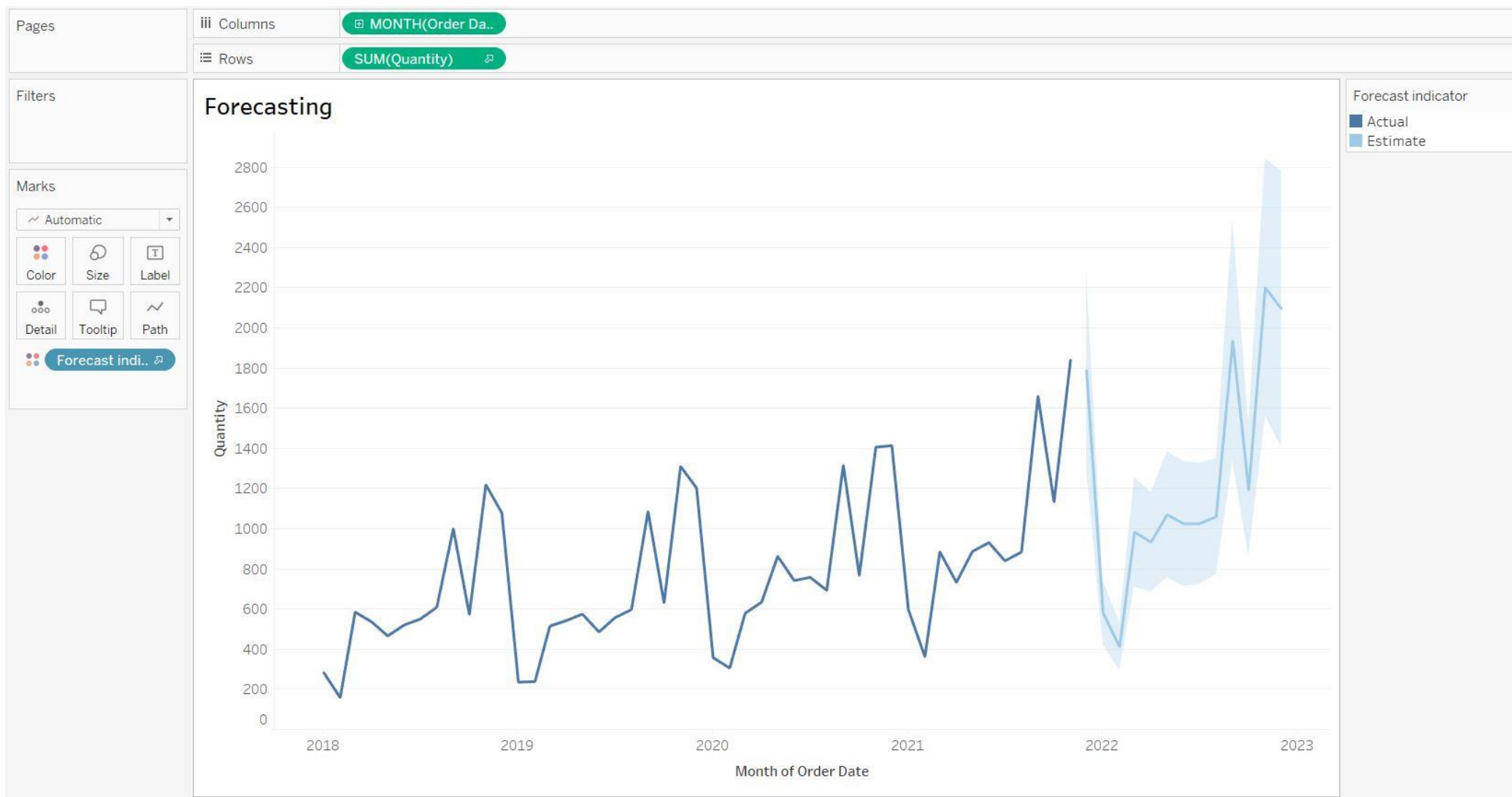
STEP 4: Analytics Pane, Drop the Forecast to Add a Forecast



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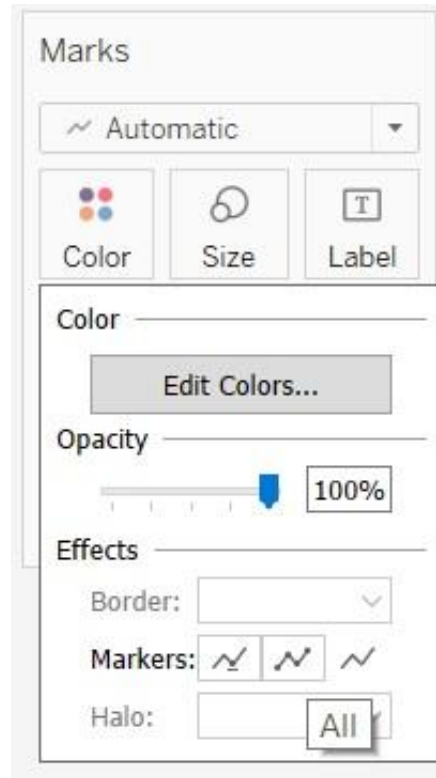
STEP 5: A **Forecast indicator** is now present on **Colors** on **Marks** card

The Actual and Estimate values are shown as different colors in the view



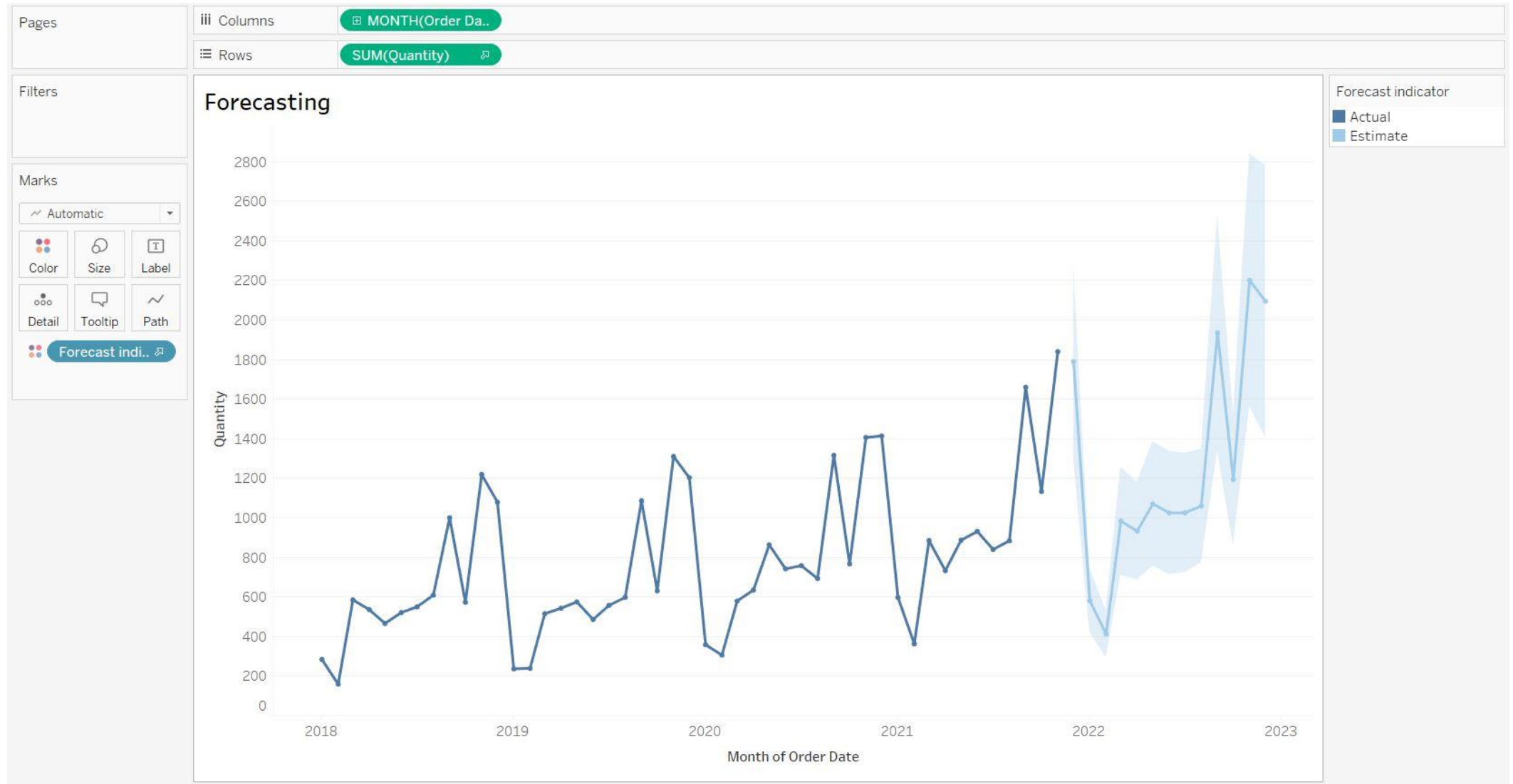
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STEP 6: Click on **Color** on **Marks** card, Select **All** (2nd option) for **Markers** type



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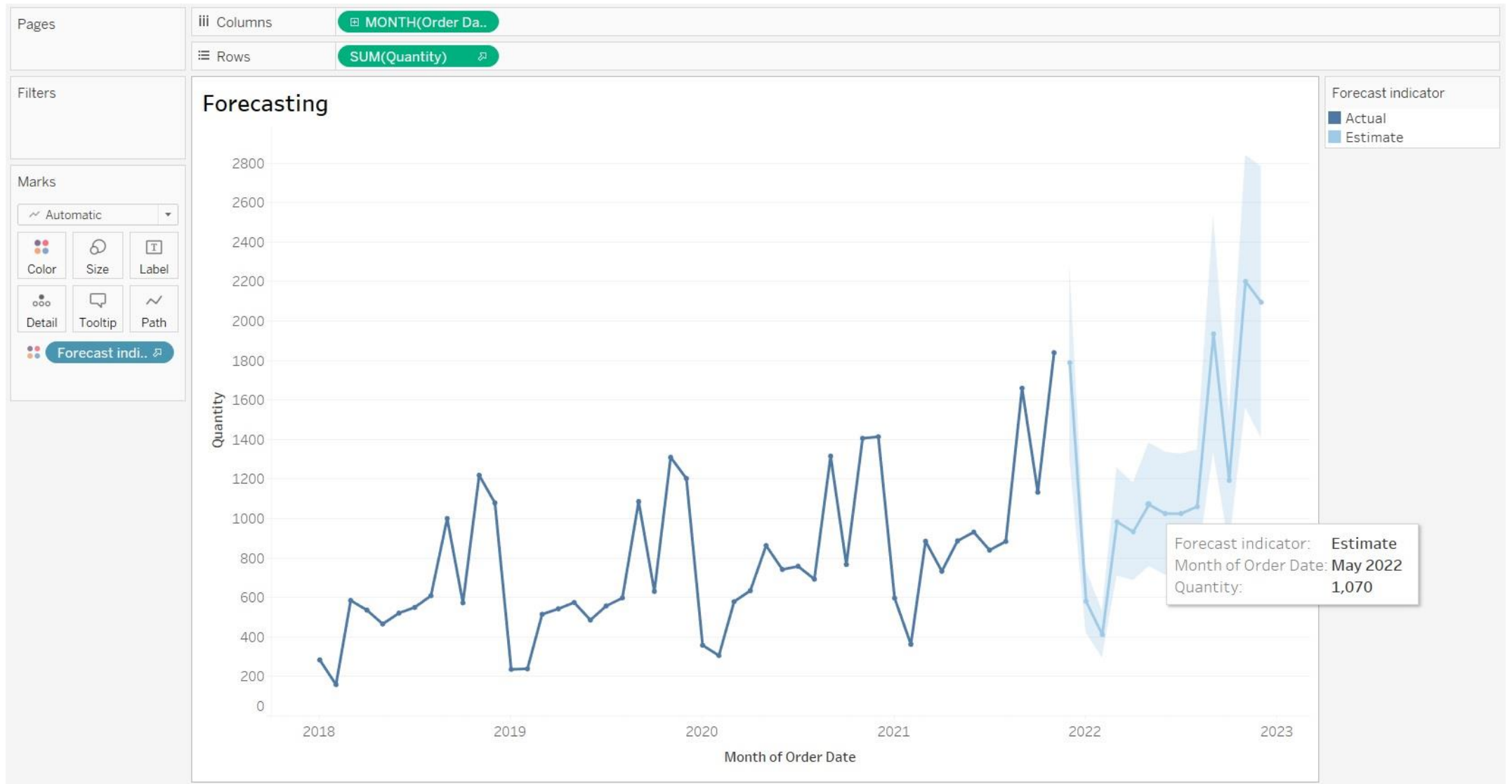
STEP 7: Now all marks are shown along the line chart



HOW TO CREATE A FORECAST

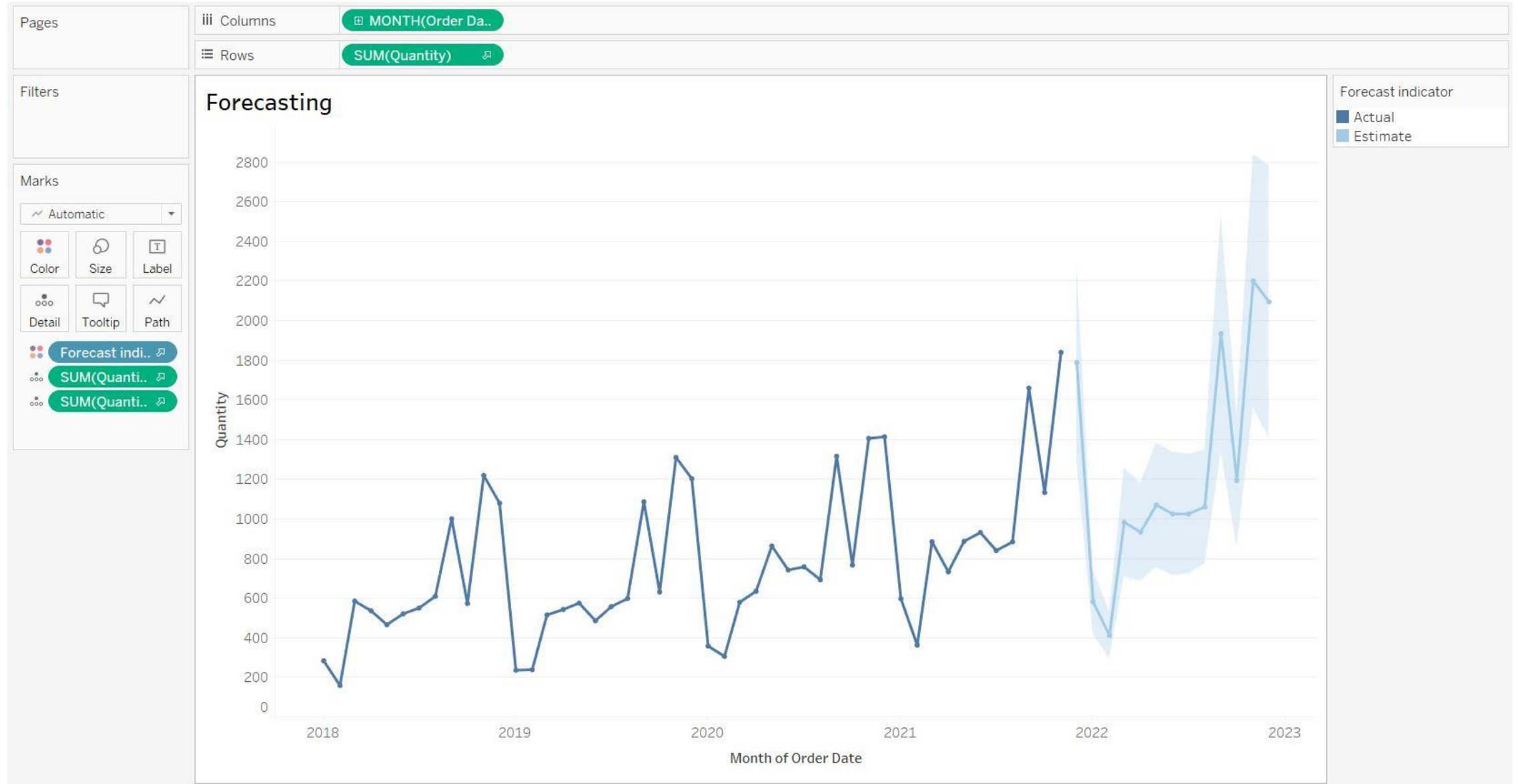
STEP 8: Hover over mark for **May 2022**

We can see the tooltip showing details of the **Estimate**



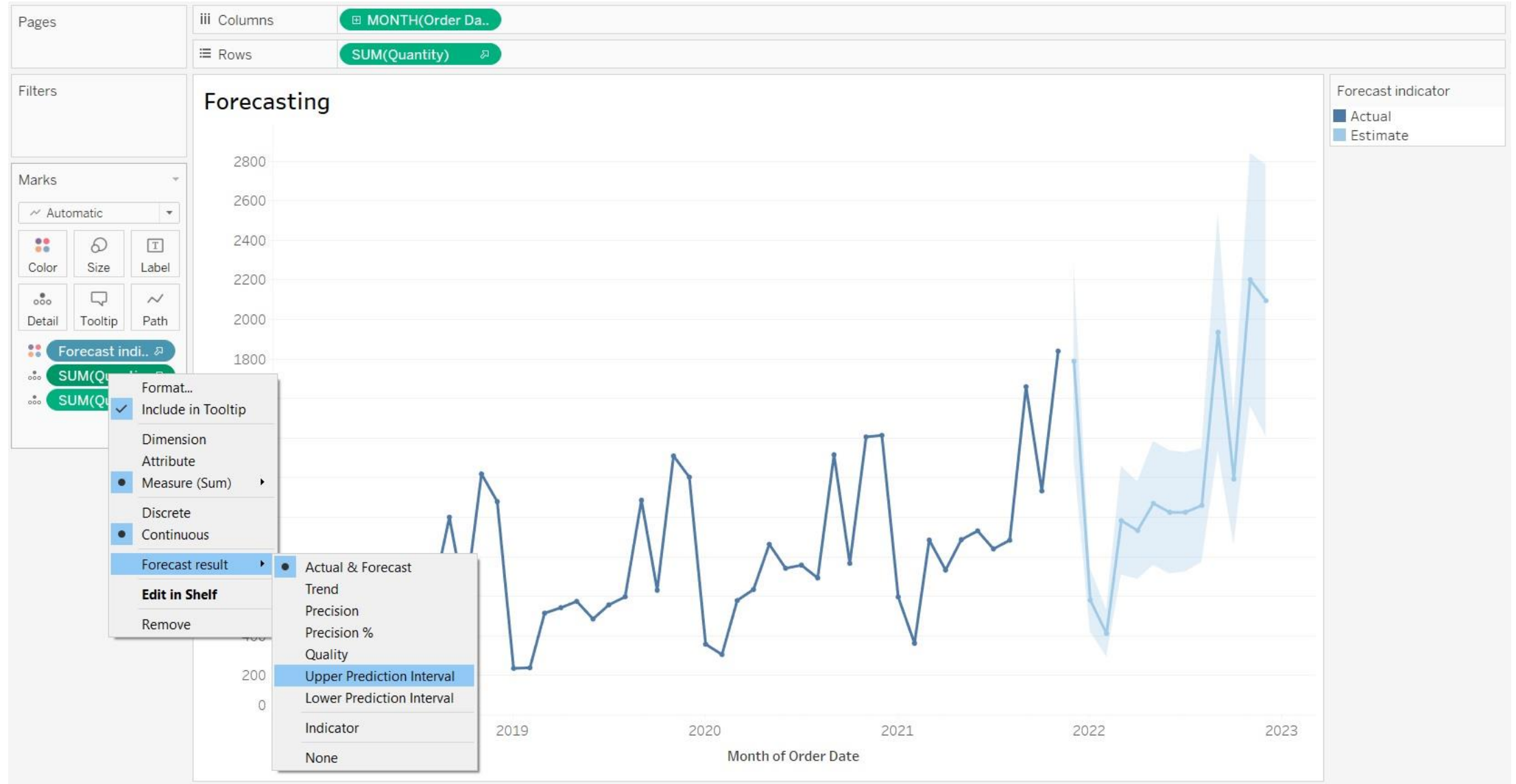
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STEP 9: Drag and drop two instances of **Quantity** to **Detail** on **Marks** card



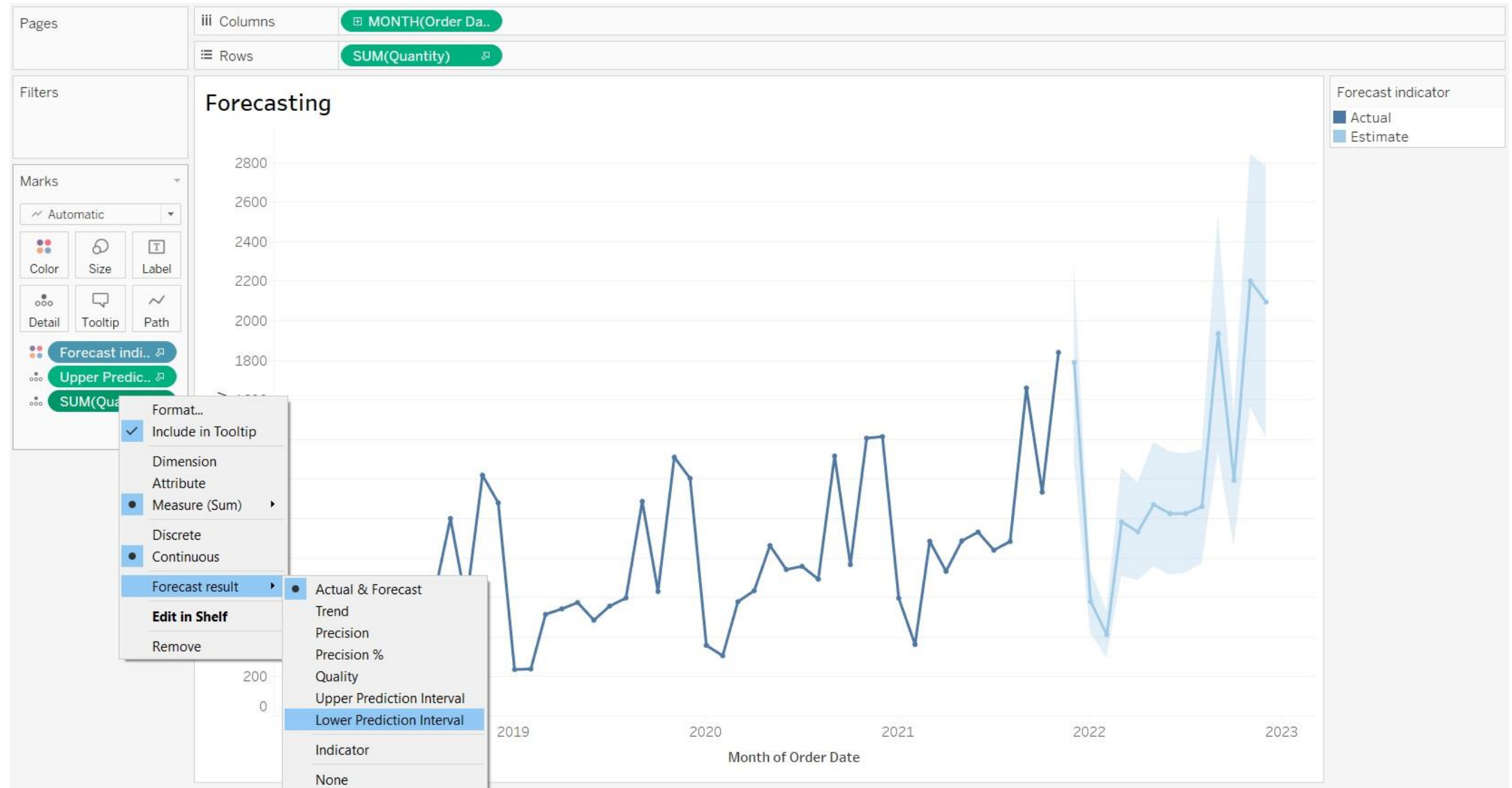
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STEP 10: Right-click **Quantity (1st instance)**, Forecast result > Upper Prediction Interval



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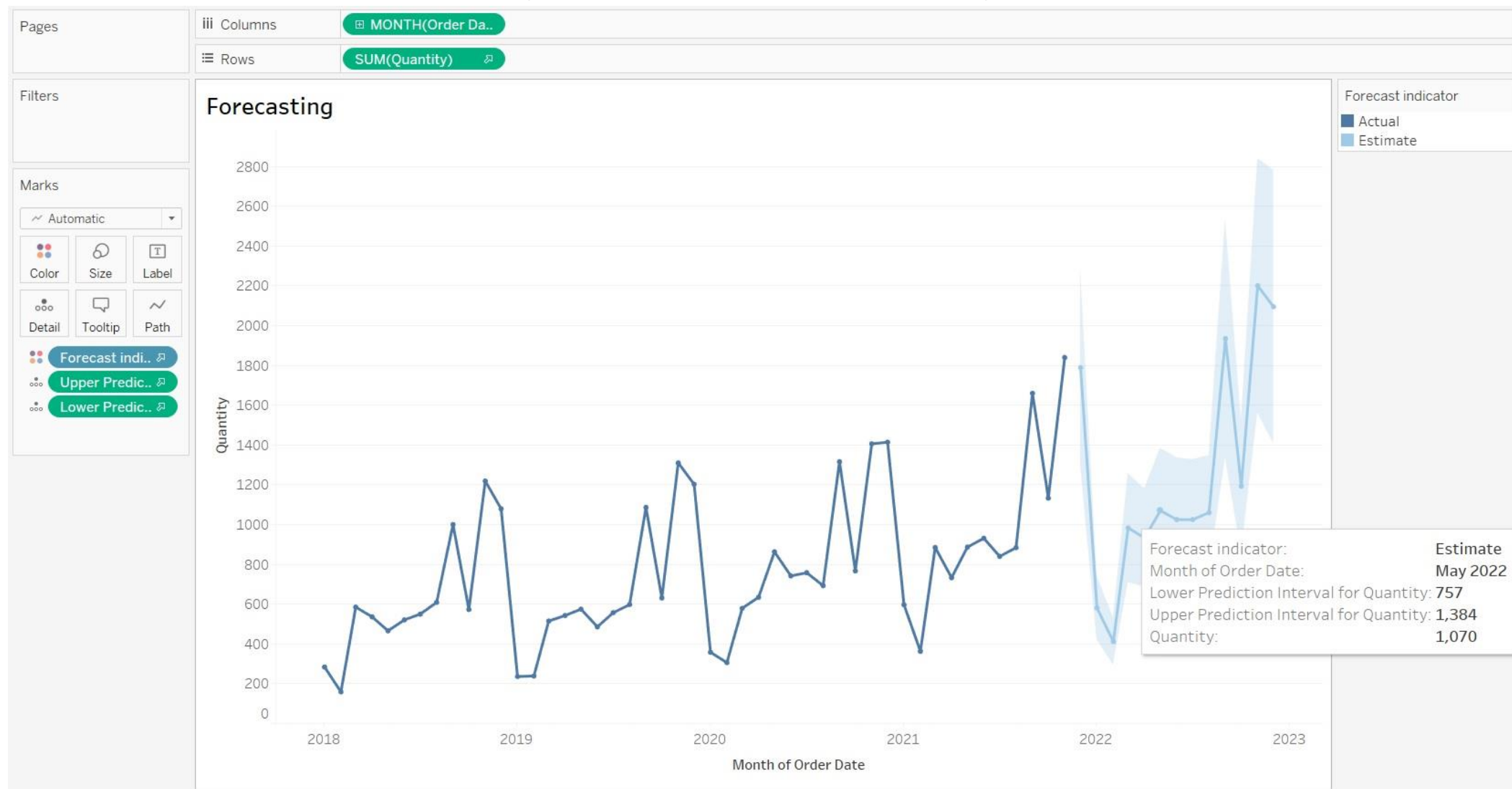
STEP 11: Right-click **Quantity (2nd instance)**, Forecast result > Lower Prediction Interval



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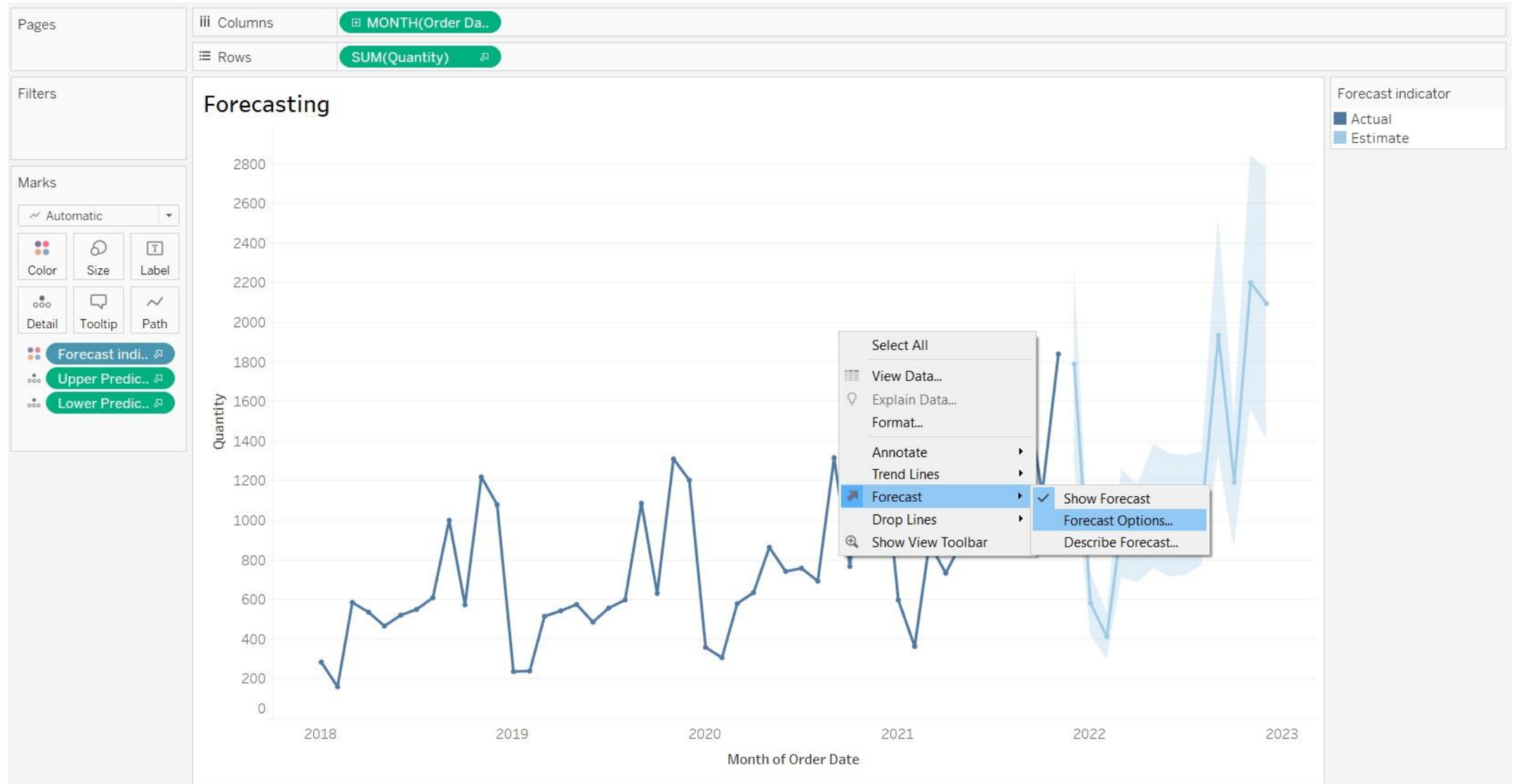
STEP 12: Hover over mark for May 2022

We can see the tooltip now includes the newly added Forecast result fields



HOW TO CREATE A FORECAST

STEP 13: Right-click anywhere within view area, **Forecast > Forecast Options**



HOW TO CREATE A FORECAST

STEP 14: Forecast Options dialog box will appear

Forecast Options

✕

Forecast Length

☒ Automatic

Next 13 months

☐ Exactly

1

↑

↓

Years

☐ Until

1

↑

↓

Years

Source Data

Aggregate by:

Automatic (Months)

▼

Ignore last:

1

↑

↓

Months

☐ Fill in missing values with zeroes

Forecast Model

Automatic

▼

Automatically selects an exponential smoothing model for data that may have a trend and may have a seasonal pattern.

☒ Show prediction intervals

95%

▼

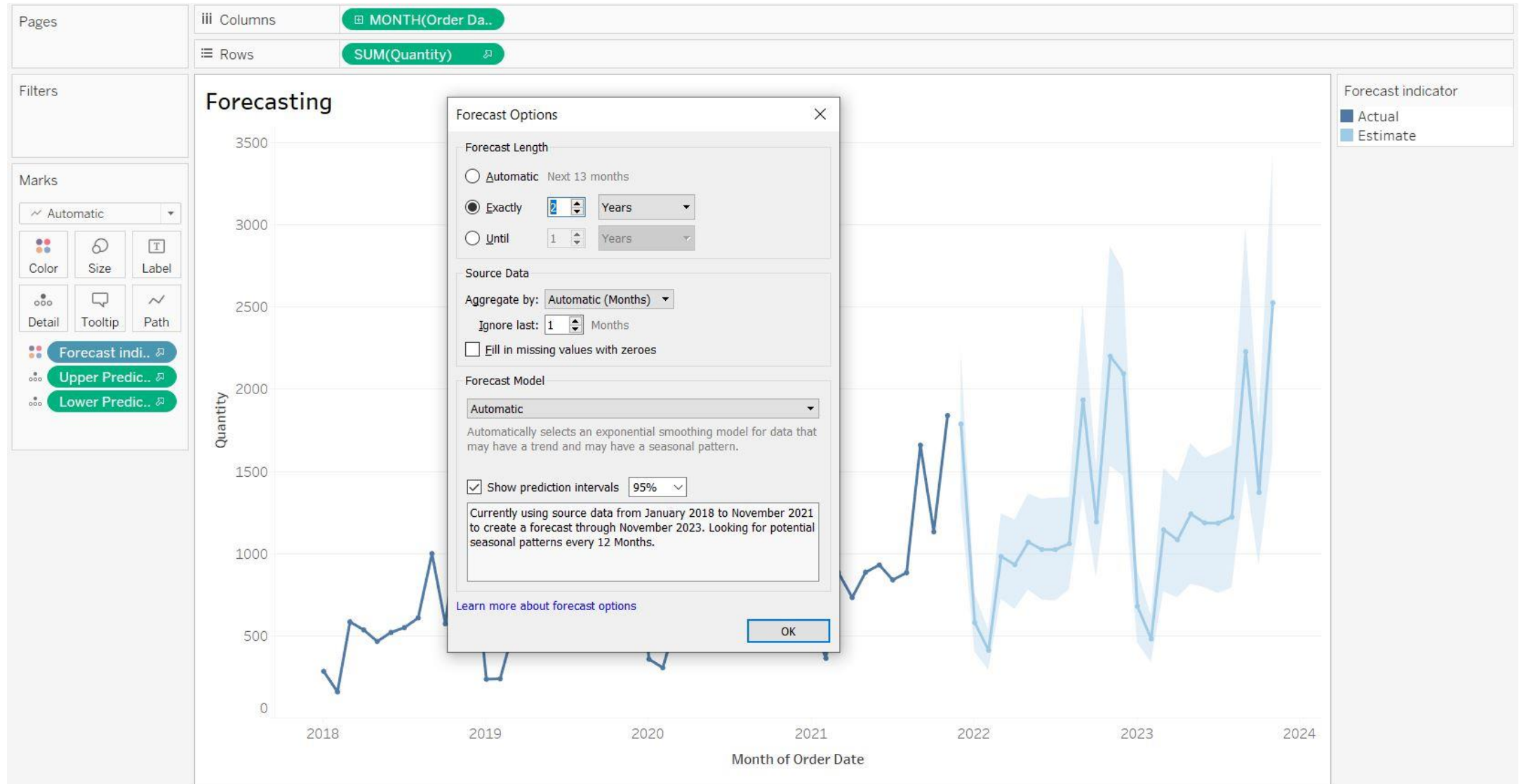
Currently using source data from January 2018 to November 2021 to create a forecast through December 2022. Looking for potential seasonal patterns every 12 Months.

[Learn more about forecast options](#)

OK

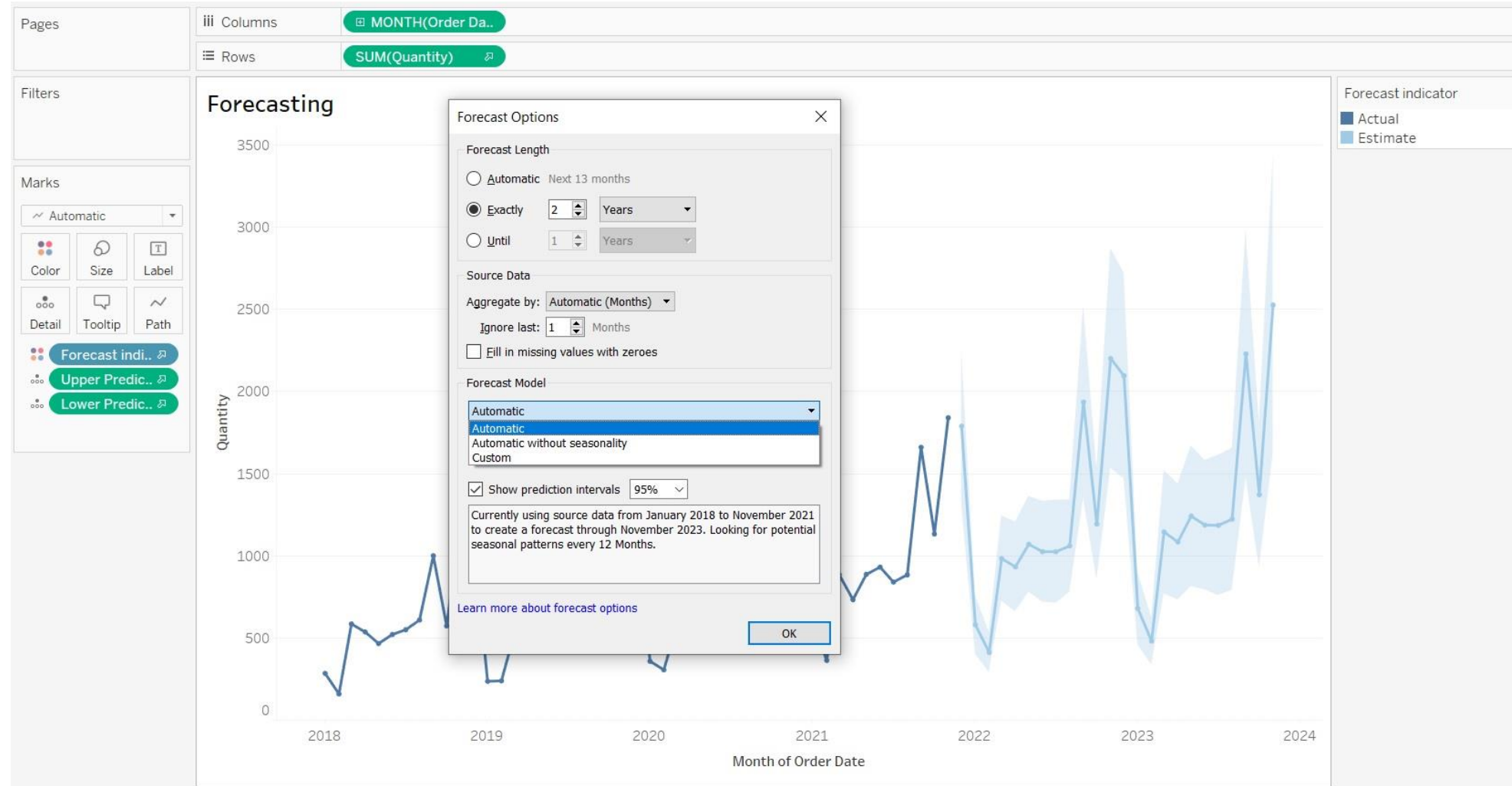
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STEP 15: Change Forecast Length to Exactly 2 Years



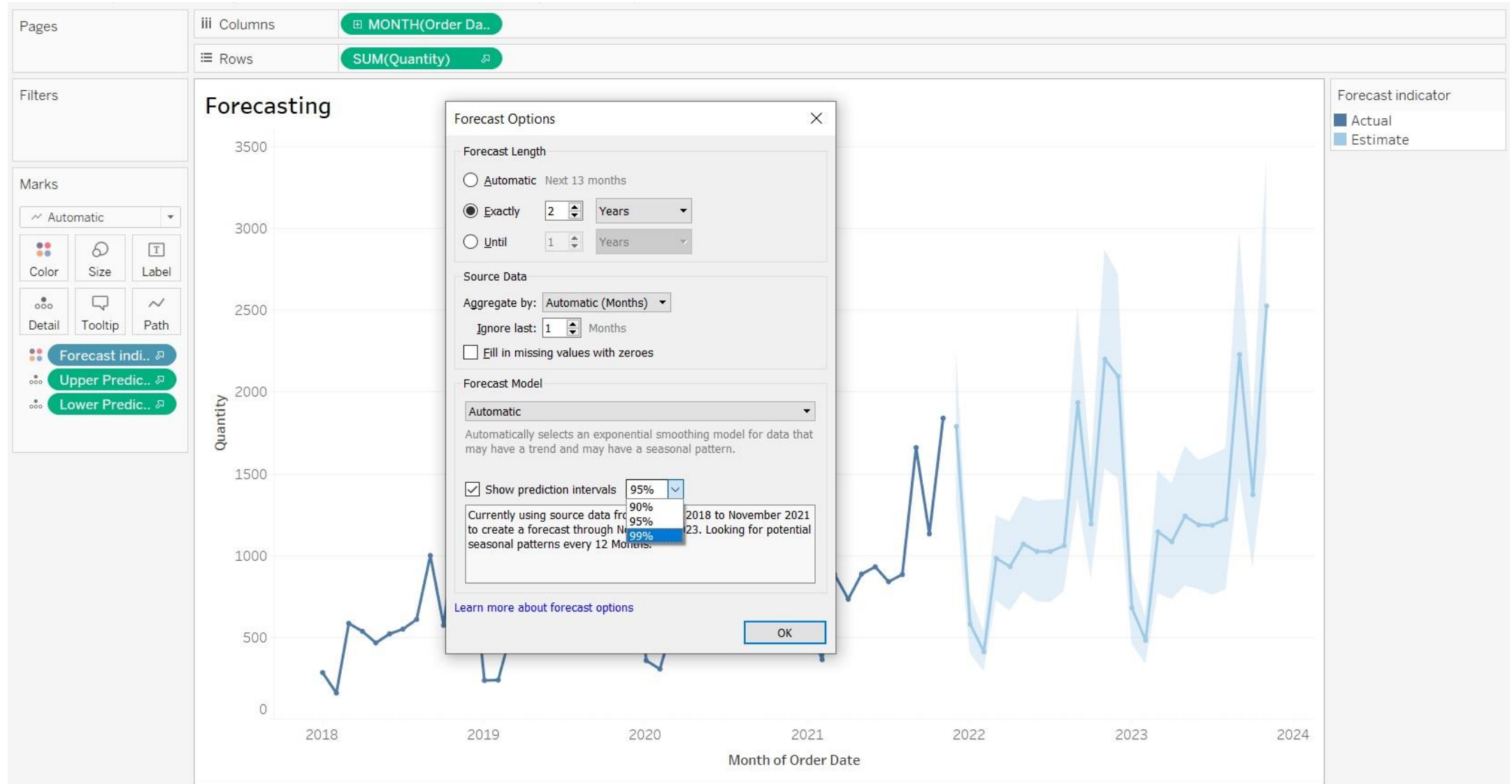
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STEP 16: If required we can change the **Forecast Model** type
It is recommended to leave it as **Automatic**



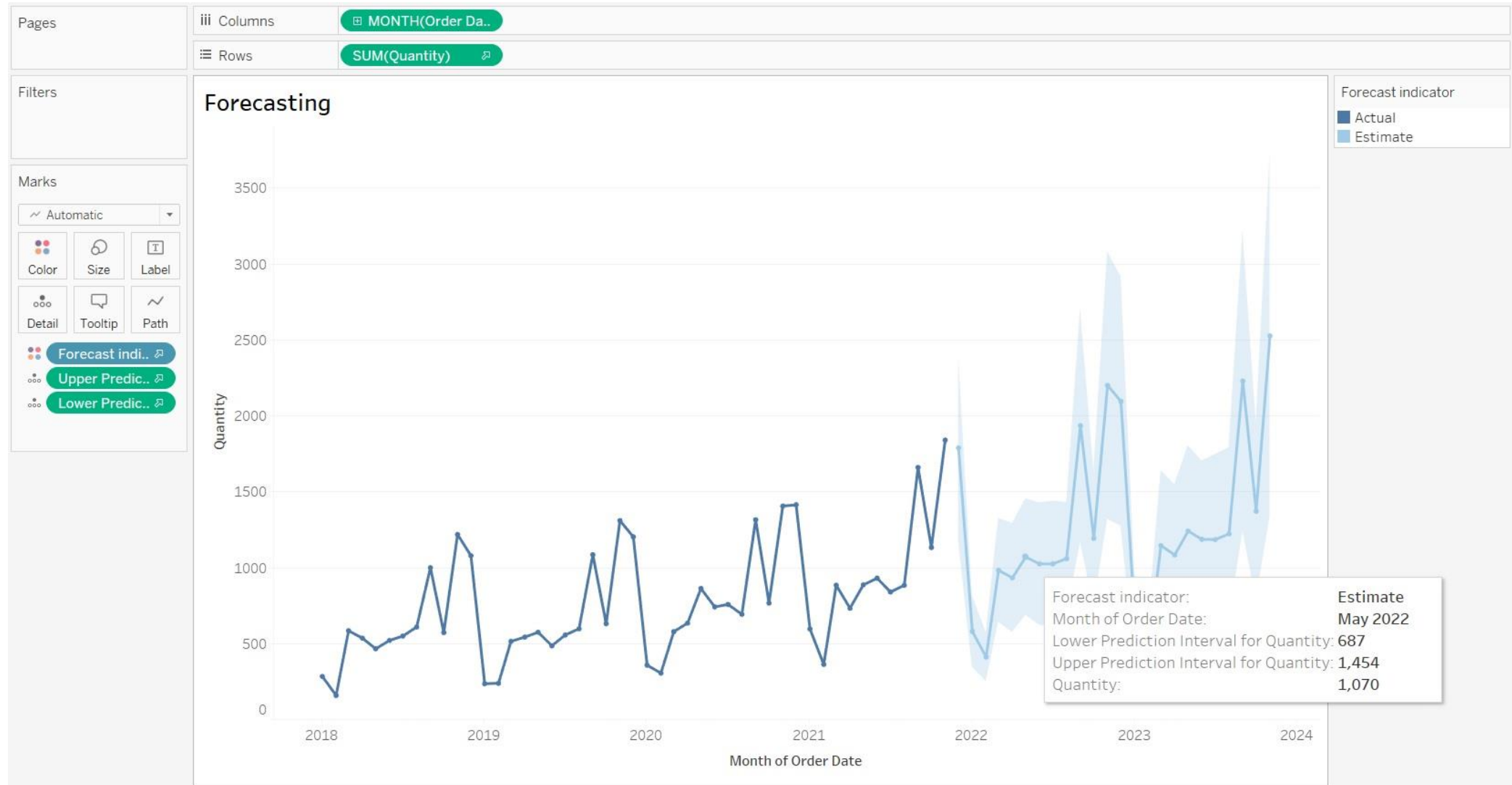
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STEP 17: If required we can change the **prediction intervals** to **99%**



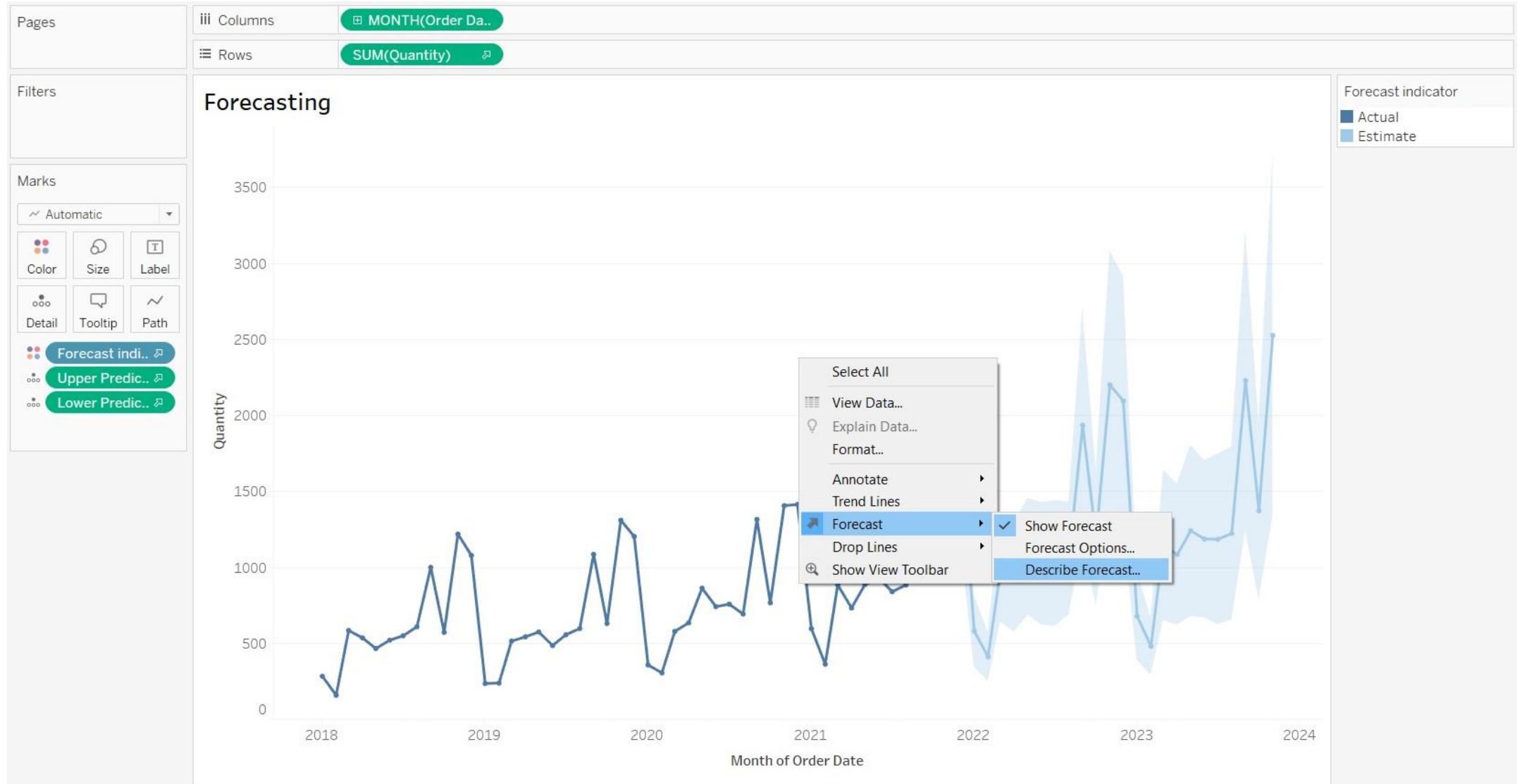
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STEP 18: For 99% the confidence interval has widened as compared to 95%



HOW TO CREATE A FORECAST

STEP 19: Right-click anywhere within view area, **Forecast > Describe Forecast**



HOW TO CREATE A FORECAST

STEP 20: The **Summary** Tab will provide details regarding **Options Used to Create Forecasts**

Describe Forecast

×

SummaryModels

Options Used to Create Forecasts

Time series: Month of Order Date

Measures: Sum of Quantity

Forecast forward: 24 months (December 2021 – November 2023)

Forecast based on: January 2018 – November 2021

Ignore last: 1 month (December 2021)

Seasonal pattern: 12 month cycle

Sum of Quantity

Initial			Change From Initial		Seasonal Effect			Contribution		Quality	
December 2021			December 2021 – November 2023		High	Low	Trend	Season			
1,789	±	615	738		November 2023	2	February 2023	0	100.0%	0.0%	Good

☐ Show values as percentages

Copy to Clipboard

[Learn more about the forecast summary](#)

Close

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STEP 21: The **Models** Tab will provide details regarding the model

If further details are needed regarding forecast models, click on the hyperlink
“Learn more about the forecast models” (at the bottom of this dialog box)

Click **Close**

Describe Forecast

×

SummaryModels

All forecasts were computed using exponential smoothing.

Sum of Quantity

Level	Model Trend	Season	Quality Metrics					Smoothing Coefficients		
			RMSE	MAE	MASE	MAPE	AIC	Alpha	Beta	Gamma
Multiplicative	Additive	Multiplicative	81	57	0.20	9.2%	447	0.061	0.100	0.353

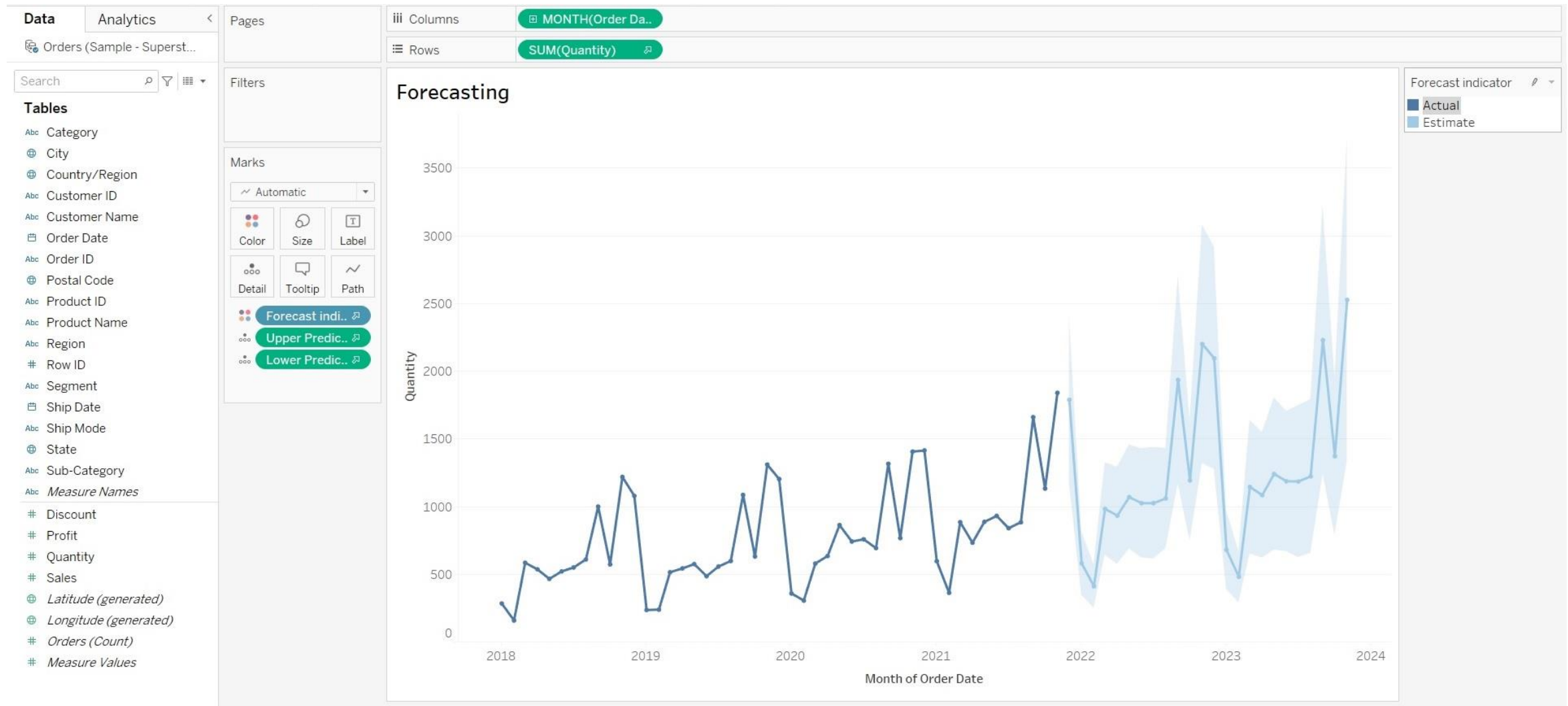
Copy to Clipboard

[Learn more about the forecast models](#)

Close

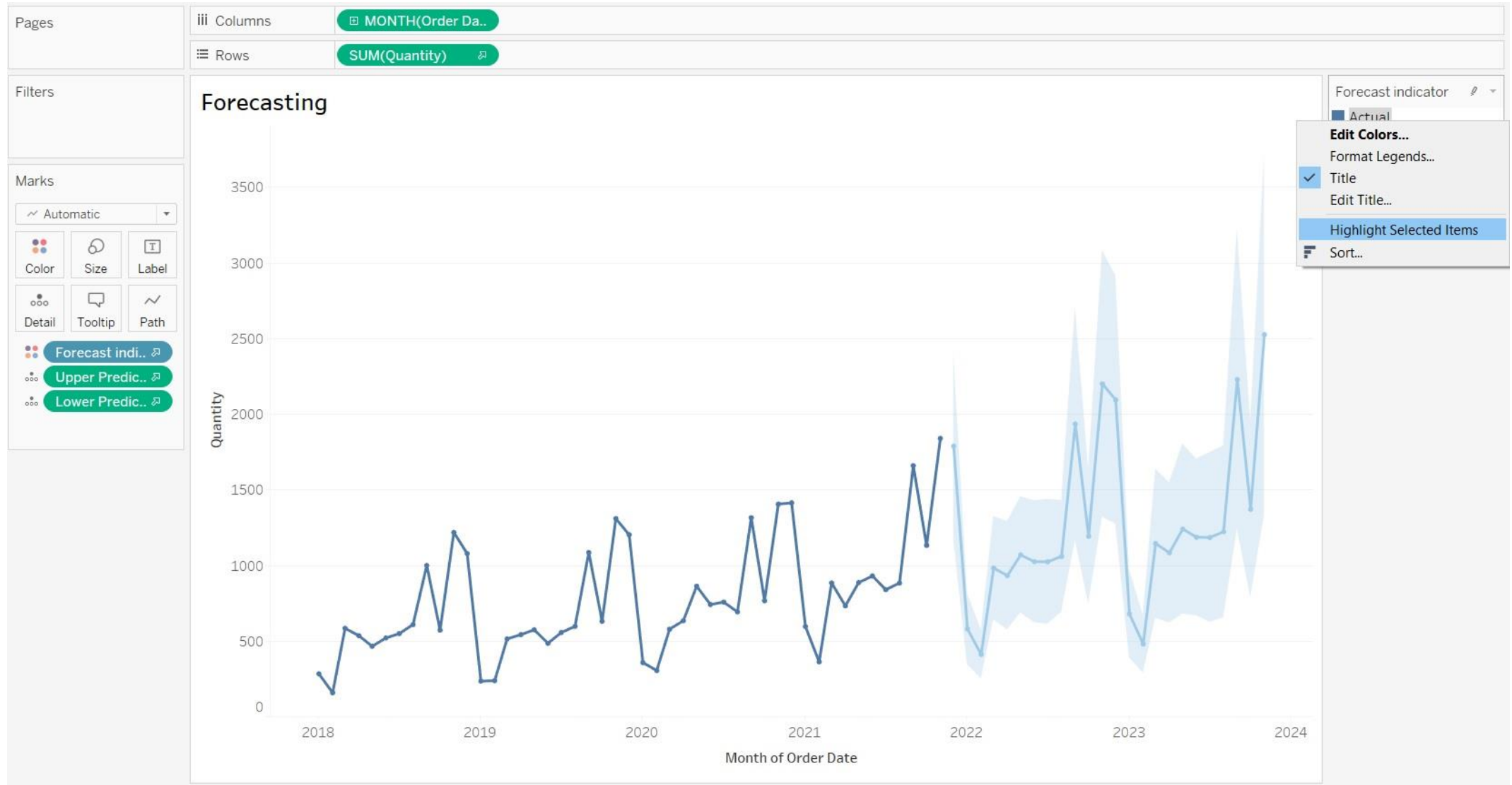
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STEP 22: Click on **Actual** in Forecast indicator Color legend



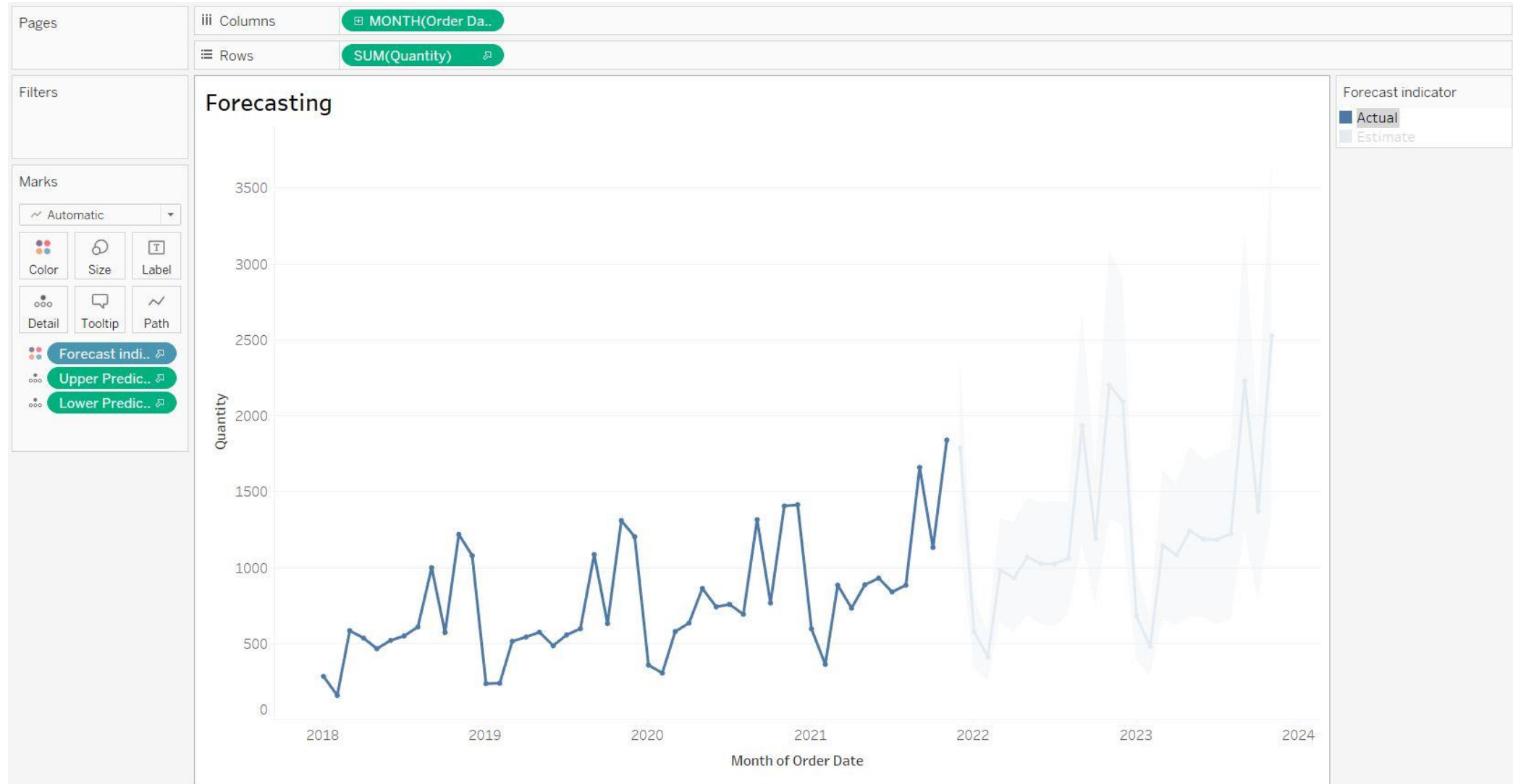
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STEP 23: Right-click on **Actual**, Select **Highlight Selected Items**



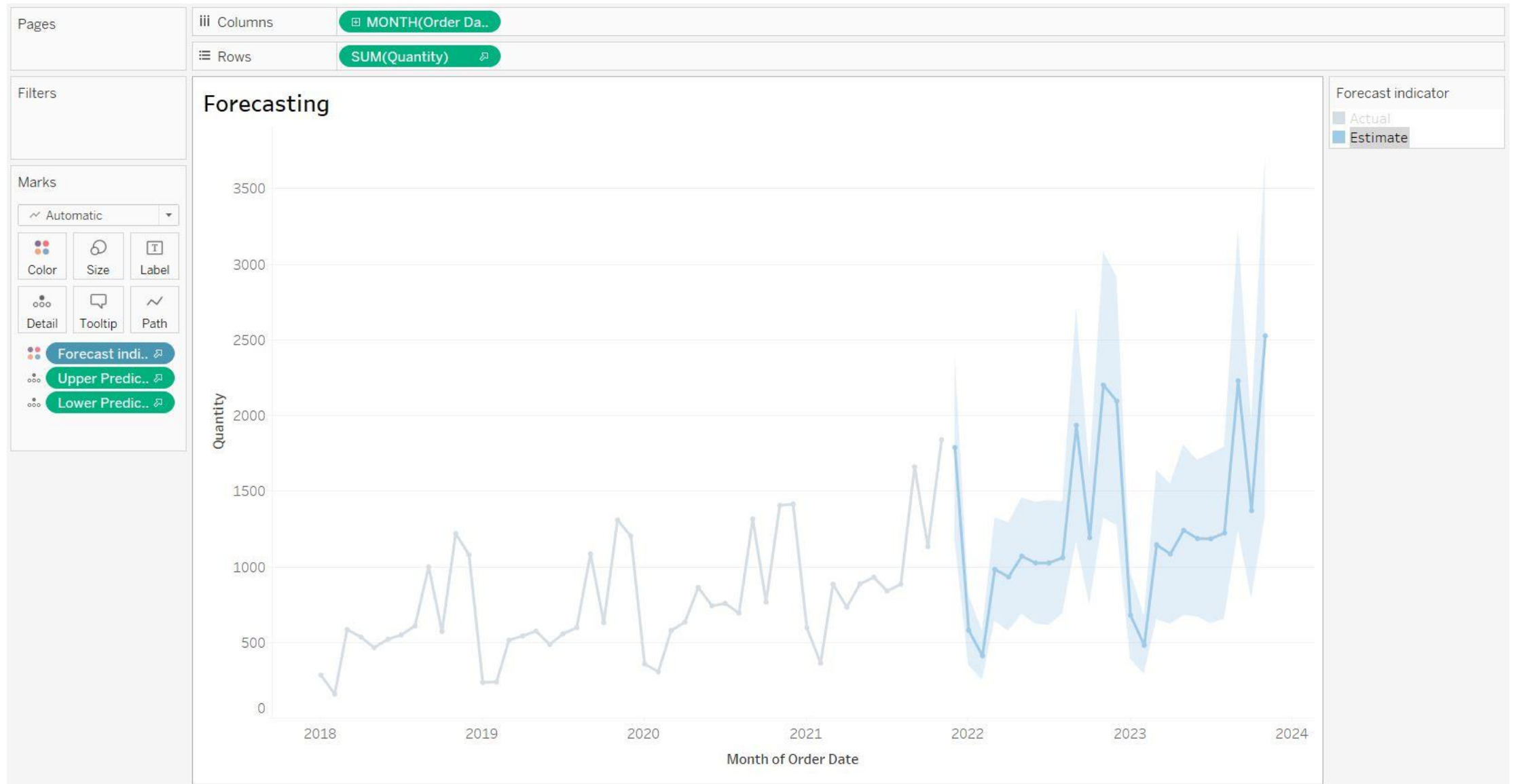
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STEP 24: Now when we click on **Actual** only that actual portion of line chart is highlighted



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STEP 25: Now when we click on **Estimate** only that forecast portion of line chart is highlighted



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STEP 26: If required we can **de-select** the **Show prediction intervals** option
The visual will now not show the prediction intervals

