

## Session 2: Making Riesling in a Changing Climate

*“Wine grapes are extremely sensitive to climate and this is much of what makes wine so exquisite. But it also means wine grapes are extremely sensitive to climate change.”*

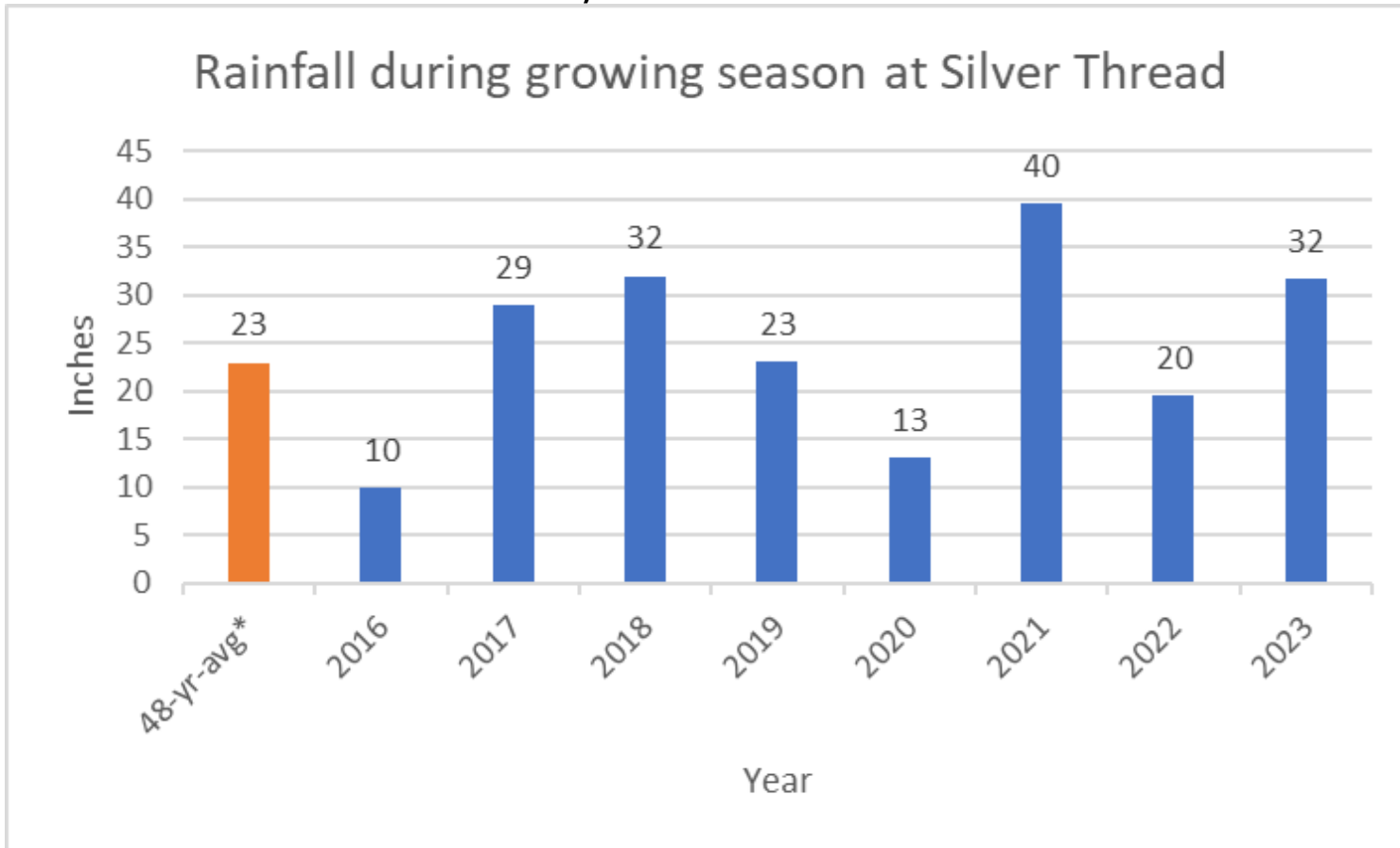
Elizabeth M. Wolkovich, plant phenologist, University of British Columbia

Wine Enthusiast article: [“Climate Change is Rapidly Altering Wine as We Know It”](#), May 8, 2023



Flooding at Doyle Fournier Vineyard, August 14, 2018

# Rainfall is up in the past decade, but variable



*Hand-watering vines in 2016*

\* Measured at Geneva, NY Agricultural Experiment Station  
Growing season is the time period from bud break to final harvest

# Extreme Events

**2012:** Warmest year ever and earliest bud break on record

**2016:** Driest year ever

**2018:** single largest rainfall ever (10"), cloudiest and most humid ripening period

**2020:** latest bud break on record

**2023:** first spring frost

**Past 10 years:** 7 of the 10 warmest years on record, humid nights above 60 degrees during ripening period have increased from 2 to more than 6 on average



*Excessive rain in 2021 led to rot in tight-clustered varieties like Riesling.*



*May 2023 frost significantly reduced crop size in some varieties.*

### Climate Adaptation: Resilient Farming

1.) Mindset: Vineyard as  
Ecosystem



2.) Regenerative Farming:  
Cover Crop & Compost



3.) Bio-intensive Disease  
Control: Strengthen the Plant



### Climate Adaptation: Versatile Winemaking

1.) Blending to make a home for all grapes



2.) Planting locally-adaptive varieties



3.) Sorting and picking in tries to keep Riesling quality high



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### Climate Adaptation: Reducing Carbon Footprint

1.) Solar Energy

2.) Lightweight glass + natural cork

3.) EV Chargers





## Dry Riesling 2022

**Aroma Intensity:** \_\_\_ low \_\_\_ medium \_\_\_ high

### **Aromas/Flavors:**

\_\_\_ citrus \_\_\_ tree fruit \_\_\_ stone fruit \_\_\_ tropical fruit

\_\_\_ flowers \_\_\_ herbs \_\_\_ vegetal \_\_\_ stony/steely

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\_\_\_ biscuit \_\_\_ vanilla \_\_\_ yeast \_\_\_ cream

\_\_\_ butter \_\_\_ coconut \_\_\_ smoke/toast \_\_\_ cedar/oak

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\_\_\_ nuts \_\_\_ marmalade \_\_\_ nutmeg/ginger \_\_\_ petrol

\_\_\_ earth \_\_\_ mushroom \_\_\_ tea \_\_\_ honey

### **Structure**

**Flavor Intensity:** \_\_\_ low \_\_\_ medium \_\_\_ high

**Body:** \_\_\_ light \_\_\_ medium \_\_\_ full

**Acidity:** \_\_\_ low \_\_\_ medium \_\_\_ high

**Alcohol:** \_\_\_ low \_\_\_ medium \_\_\_ high

**Residual Sugar:** \_\_\_ dry \_\_\_ off-dry/semi-dry \_\_\_ sweet

### **Length/Finish**

\_\_\_ short \_\_\_ medium \_\_\_ long

## Riesling Gridley Bluff Point Vineyard 2021

**Aroma Intensity:** \_\_\_ low \_\_\_ medium \_\_\_ high

### **Aromas/Flavors:**

\_\_\_ citrus \_\_\_ tree fruit \_\_\_ stone fruit \_\_\_ tropical fruit

\_\_\_ flowers \_\_\_ herbs \_\_\_ vegetal \_\_\_ stony/steely

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**Glossary of Terms:** *Oxford Companion to Wine third ed.; Robinson J.; 2006*

**Climate**—the long-term weather pattern of an area, and an extremely important variable in the wine-making equation

**Climate change and wine**—Growing grapes for wine is a climatically sensitive endeavor, with narrow geographical zones providing the best production and quality characteristics. Therefore, the inherent uniqueness that wine region climates provide places the industry at greater risk from climate change than more broadly grown agricultural crops.

**Vintage Variation**—changes in weather during the year that influence the character of the wines produced

**Weather**—The weather in a specific growing season is the most important influence on the characteristics of a particular vintage year. Weather is probably the single-most exasperatingly unpredictable variable in the viticultural equation, as in most other farming activities.

*From Global Center on Adaptation (gca.org):*

**Climate Adaptation**-- taking action to prepare for and adjust to the current and projected impacts of climate change

**Climate Resilience** in general is the ability to recover from, or to mitigate vulnerability to, climate-related shocks such as floods and droughts