

# Outdoor Learning Weather Considerations

## San Mateo County

Resources developed by San Mateo County Office of Education's (SMCOE)  
[Environmental Literacy and Sustainability Initiative \(ELSI\)](#) • Last updated November 2020

In schools, there are two different learning spaces to choose from: the outdoors and the indoors. Learning indoors is the status quo, and used most frequently on a daily basis. Outdoor learning encompasses a wide variety of educational opportunities such as lessons focused around learning from the outdoors (nature studies), or lessons taught within the outdoors (this can be any subject area). In many cases lessons that are traditionally taught indoors could easily be taught in an outdoor setting. Learning from and within the outdoors has many health and academic benefits, and is a recommended learning environment, in particular during COVID-19. However, in order to ensure a positive learning experience for students, teachers and sites must be equipped with the proper infrastructure and supplies. Additionally, outdoor conditions must be taken into account such as wind, rain, temperature, precipitation, air quality, etc. Generally, the climate in San Mateo County is temperate, making outdoor learning ideal for much of the year. The tables below outline historical and future weather patterns with an analysis of the number of days that outdoor learning could be done safely in San Mateo County. <sup>1</sup>



### Outdoor Learning Weather Conditions Criteria

	Good Conditions	Moderate Conditions	Poor Conditions
Wind	Wind speeds below 15mph	Wind above 15mph but below 25mph	Wind exceeds 25mph and are sustained for at least 30 minutes, or are gusty from low to high speeds <sup>2</sup>
Temperature	Temperatures between 50°F and 85°F <sup>3</sup>	Temperatures between 40-50 °F or between 85 - 90°F	Temperatures of 90+°F with no shade. Temperature of 40°F and below <sup>4</sup>
Precipitation and storms	No Thunder and lightning and/or precipitation	No Thunder and lightning some precipitation	Thunder and lightning and/or heavy precipitation <sup>5</sup>
<a href="#">Air Quality</a> <sup>6</sup>	Good Air Quality Index (AQI) rating between 0 - 50	Moderate AQI rating between 51 - 100	Unhealthy - Hazardous AQI rating between 101 - 500

<sup>1</sup> [Image](#)

<sup>2</sup> Source for wind: [Child Care Weather Watch](#)

<sup>3</sup> Source for temperature: [Outdoor Learning Center](#)

<sup>4</sup> Source for poor temperature conditions: [Paulding County School District](#)


<sup>5</sup> Source for generally poor weather in lower temperatures: [New York Times](#)

<sup>6</sup> Source for Air Quality Index Ratings for school activities: [San Mateo County Office of Education](#)

## SMC Outdoor Learning Weather - *Historical Data and Future Projections*

**Quick Overview:** This analysis uses the fiscal year and includes all 365 days; not the traditional 180 instructional days of a school calendar. The fiscal year cycle incorporates both summer and weekend programs during which outdoor classrooms can be used.

Fiscal year <i>July 1 - June 30</i>	Past <sup>7</sup>					Present	Future <sup>8</sup>			
	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020	2020-2021	2021-2022	2022-2023	2023-2024	2024-2025
Good Condition Days	289	270	275	281	290	279	278	276	276	272
Moderate Condition Days	56	77	58	61	62	64	65	66	67	69
Poor Condition Days	21	18	32	23	14	22	22	23	23	24



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For more information about Outdoor Learning, visit our [webpage](#) and contact [elsi@smcoe.org](mailto:elsi@smcoe.org)

<sup>7</sup> Source for Past and Current Data: [Time and Date](#)

<sup>8</sup> Future data synthesized from [Cal-Adapt](#)

## Seasonal Appendix of SMC Outdoor Learning Weather

This is a more detailed breakdown of the past chart. The following charts show the history and the future San Mateo County outdoor learning weather during different parts of the year.

The following formula was used to calculate the future weather: average of 2015-2020 x 1.0184 ^ years after 2020

Mar 1 - May 31	Past <sup>9</sup>					Present	Future <sup>10</sup>			
	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Good Condition Days	-	63	65	75	76	66	55	55	53	53
Moderate Condition Days	-	20	23	13	12	26	17	17	18	18
Poor Condition Days	-	9	4	4	4	0	5	5	6	6

June 1 - July 31	Past <sup>9</sup>					Present	Future <sup>10</sup>			
	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Good Condition Days	50	35	36	28	49	48	41	40	40	40
Moderate Condition Days	11	23	21	28	8	11	17	18	18	18
Poor Condition Days	0	3	4	5	4	2	3	3	3	3

Aug 1 - Nov 30	Past <sup>9</sup>					Present	Future <sup>10</sup>			
	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Good Condition Days	105	101	96	94	100	98	99	98	98	98
Moderate Condition Days	10	18	17	17	14	4	13	14	14	14
Poor Condition Days	7	3	9	11	8	20	10	10	10	10

<sup>9</sup> Source for Past and Current Data: [Time and Date](#)

<sup>10</sup> Future data synthesized from [Cal-Adapt](#)

Dec 1 - Feb 29	Past <sup>9</sup>					Present	Future <sup>10</sup>			
	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020	2020-2021	2021-2022	2022-2023	2023-2024	2024-2025
Good Condition Days	78	73	82	72	84	78	77	77	77	77
Moderate Condition Days	12	12	8	17	3	10	11	11	11	11
Poor Condition Days	1	6	1	2	4	3	3	3	3	3