

# **Climate Science Proviso**

2019-20 Survey Report | Data Appendix

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# Table of Contents

| Overview   |
|--|
| Elementary Grades Surveys  |
| Table 1: Thinking about your professional learning session, how would you rate it for thefollowing?4   |
| Table 2: As a result of participating in this Professional Learning Experience, I have broadened/deepened my existing knowledge of:                                  |
| Table 3: How frequently do you implement the below instructional practices in your science orSTEM teaching?6   |
| Table 4: Participating in this Professional Learning Experience prepared me with the necessaryskills to try something new or different in my professional practice6  |
| Table 5: How frequently do you engage in the instructional practices in science and STEMteaching below?7   |
| Table 6: How confident are you about teaching the Next Generation Science Standards (NGSS)climate science-related topics at your current level?7                     |
| Middle Grades Surveys  |
| Table 7: Thinking about your professional learning session, how would you rate it for thefollowing?7   |
| Table 8: As a result of participating in this Professional Learning Experience, I have broadened/deepened my existing knowledge of:                                  |
| Table 9: How frequently do you implement the below instructional practices in your science orSTEM teaching?9   |
| Table 10: Participating in this Professional Learning Experience prepared me with the necessary skills to try something new or different in my professional practice |
| Table 11: How frequently do you engage in the instructional practices in science and STEMteaching below?10   |
| Table 12: How confident are you about teaching the Next Generation Science Standards (NGSS) climate science-related topics at your current level?                    |
| High School Grades Surveys 11  |
| Table 13: Thinking about your professional learning session, how would you rate it for the following?  |
| Table 14: As a result of participating in this Professional Learning Experience, I have broadened/deepened my existing knowledge of:                                 |





| Table 15: How frequently do you implement the below instructional practices in your scienceor STEM teaching?13  |
|---|
| Table 16: Participating in this Professional Learning Experience prepared me with thenecessary skills to try something new or different in my professional practice |
| Table 17: How frequently do you engage in the instructional practices in science and STEMteaching below?14  |
| Table 18: How confident are you about teaching the Next Generation Science Standards(NGSS) climate science-related topics at your current level?14                  |





# Overview

This data appendix includes Climate Science Survey responses that have been disaggregated by the school-level of professional development participants. It is divided into three sections, sharing responses for educators serving students in the elementary grades (K-5), middle grades (6-8), and high school grades (9-12).

#### **Elementary Grades Surveys**

Table 1: Thinking about your professional learning session, how would you rate it for the following?

|   |   | Very<br>Good | Good | Fair | Poor | Very Poor | Does Not<br>Apply |
|---|---|--------------|------|------|------|-----------|-------------------|
| Meeting the stated  | # | 820          | 265  | 34   | 2    | 0         | 1                 |
| learning objectives of the session.                                     | % | 73%          | 24%  | 3%   | 0%   | 0%        | 0%                |
| Use of engaging and   | # | 802          | 257  | 55   | 7    | 1         | 0                 |
| useful activities to facilitate your learning.                          | % | 71%          | 23%  | 5%   | 1%   | 0%        | 0%                |
| Introducing you to useful<br>resources such as<br>curriculum materials, | # | 798          | 266  | 50   | 7    | 0         | 1                 |
| research articles, and practice information.                            | % | 71%          | 24%  | 4%   | 1%   | 0%        | 0%                |
| Providing timely, relevant information that                             | # | 777          | 277  | 60   | 6    | 1         | 1                 |
| you will be able to apply in your work setting.                         | % | 69%          | 25%  | 5%   | 1%   | 0%        | 0%                |
| Engaging you in discussion with other                                   | # | 801          | 257  | 51   | 11   | 2         | 0                 |
| participants in ways to<br>facilitate your learning.                    | % | 71%          | 23%  | 5%   | 1%   | 0%        | 0%                |
| Providing sufficient time<br>for you to process the<br>information      | # | 733          | 297  | 66   | 19   | 7         | 0                 |
| collaboratively with colleagues.  | % | 65%          | 26%  | 6%   | 2%   | 1%        | 0%                |



Table 2: As a result of participating in this Professional Learning Experience, I have broadened/deepened my existing knowledge of:

|   |   | Strongly<br>Agree | Agree | Disagree | Strongly<br>Disagree | Not<br>Addressed |
|---|---|-------------------|-------|----------|----------------------|------------------|
| Three-dimensional   | # | 599               | 488   | 19       | 1                    | 15               |
| learning and teaching.  | % | 53%               | 43%   | 2%       | 0%                   | 1%               |
| Research-based  | # | 655               | 430   | 21       | 0                    | 16               |
| instructional practices.  | % | 58%               | 38%   | 2%       | 0%                   | 1%               |
| Instructional practices<br>to make learning<br>experiences more<br>inclusive for diverse            | # | 577               | 407   | 50       | 6                    | 82               |
| student populations<br>(e.g., special education,<br>highly capable, migrant,<br>students of color). | % | 51%               | 36%   | 4%       | 1%                   | 7%               |
| Instructional practices<br>to make learning<br>experiences more                                     | # | 523               | 409   | 64       | 9                    | 117              |
| inclusive for English<br>language learners.   | % | 47%               | 36%   | 6%       | 1%                   | 10%              |
| Instructional practices<br>to make learning<br>experiences more                                     | # | 463               | 399   | 79       | 9                    | 172              |
| inclusive for students<br>with disabilities.  | % | 41%               | 36%   | 7%       | 1%                   | 15%              |
| A range of assessment<br>and/or resources across<br>the educational system                          | # | 512               | 446   | 58       | 6                    | 100              |
| such as state, local,<br>and/or classroom<br>assessments.   | % | 46%               | 40%   | 5%       | 1%                   | 9%               |
| How to share the sessions' information with others (teachers,                                       | # | 518               | 464   | 53       | 3                    | 84               |
| administrators,<br>parents).  | % | 46%               | 41%   | 5%       | 0%                   | 7%               |



Table 3: How frequently do you implement the below instructional practices in your science or STEM teaching?

|   |   | All of the<br>time | Most of the<br>time | Sometimes | Never or<br>hardly ever | Not<br>applicable |
|---|---|--------------------|---------------------|-----------|-------------------------|-------------------|
| Provide opportunities                                 | # | 159                | 487                 | 359       | 23                      | 34                |
| for students use data to inform their thinking.       | % | 14%                | 43%                 | 32%       | 2%                      | 3%                |
| Test the ability of students to apply key             | # | 125                | 428                 | 417       | 54                      | 38                |
| science ideas to new situations.                      | % | 11%                | 38%                 | 37%       | 5%                      | 3%                |
| Engage in conversations around science findings       | # | 221                | 431                 | 332       | 44                      | 30                |
| or engineering<br>solutions.                          | % | 20%                | 38%                 | 30%       | 4%                      | 3%                |
| Engage student in                                     | # | 135                | 396                 | 418       | 64                      | 39                |
| science-related computational thinking.               | % | 12%                | 35%                 | 37%       | 6%                      | 3%                |
| Ask students to explain<br>their partial              | # | 319                | 442                 | 246       | 29                      | 25                |
| understandings and<br>potentially incorrect<br>ideas. | % | 28%                | 39%                 | 22%       | 3%                      | 2%                |
| Have students make explanations and revise            | # | 243                | 443                 | 312       | 34                      | 26                |
| them in response to new evidence.                     | % | 22%                | 39%                 | 28%       | 3%                      | 2%                |

Table 4: Participating in this Professional Learning Experience prepared me with the necessary skills to try something new or different in my professional practice

|   | Strongly Agree Agree |     | Disagree | Strongly Disagree | Not Addressed |
|---|----------------------|-----|----------|-------------------|---------------|
| # | 687 415              |     | 19       | 1                 | 1122          |
| % | 61%                  | 37% | 2%       | 0%                | 100%          |



Table 5: How frequently do you engage in the instructional practices in science and STEM teaching below?

|   |   | All of the<br>time | Most of the<br>time | Sometimes | Never or<br>hardly ever | Not<br>applicable |
|---|---|--------------------|---------------------|-----------|-------------------------|-------------------|
| I plan for multiple ways                    | # | 306                | 462                 | 247       | 24                      | 26                |
| for my students to access learning.         | % | 27%                | 41%                 | 22%       | 2%                      | 2%                |
| l encourage students to consider possible   | # | 245                | 478                 | 276       | 33                      | 29                |
| barriers to<br>implementing a<br>solution.  | % | 22%                | 43%                 | 25%       | 3%                      | 3%                |
| I survey students about their interests and | # | 198                | 346                 | 380       | 102                     | 33                |
| experiences relevant to science ideas.      | % | 18%                | 31%                 | 34%       | 9%                      | 3%                |

Table 6: How confident are you about teaching the Next Generation Science Standards (NGSS) climate science-related topics at your current level?

|   | Very Confident | Confident | Somewhat Confident | Not Confident |
|---|----------------|-----------|--------------------|---------------|
| # | 149            | 491       | 368                | 61            |
| % | 13%            | 44%       | 33%                | 5%            |

### Middle School Grades Surveys

Table 7: Thinking about your professional learning session, how would you rate it for the following:

|   |   | Very<br>Good | Good | Fair | Poor | Very Poor | Does Not<br>Apply |
|---|---|--------------|------|------|------|-----------|-------------------|
| Meeting the stated                                | # | 182          | 69   | 3    | 0    | 0         | 0                 |
| learning objectives of the session.               | % | 72%          | 27%  | 1%   | 0%   | 0%        | 0%                |
| Use of engaging and                               | # | 176          | 67   | 11   | 0    | 0         | 0                 |
| useful activities to<br>facilitate your learning. | % | 69%          | 26%  | 4%   | 0%   | 0%        | 0%                |



|  |   | Very<br>Good | Good | Fair | Poor | Very Poor | Does Not<br>Apply |
|--|---|--------------|------|------|------|-----------|-------------------|
| Introducing you to useful resources such as                              | # | 166          | 75   | 13   | 0    | 0         | 0                 |
| curriculum materials,<br>research articles, and<br>practice information. | % | 65%          | 30%  | 5%   | 0%   | 0%        | 0%                |
| Providing timely, relevant information that                              | # | 170          | 78   | 6    | 0    | 0         | 0                 |
| you will be able to apply in your work setting.                          | % | 67%          | 31%  | 2%   | 0%   | 0%        | 0%                |
| Engaging you in<br>discussion with other                                 | # | 186          | 59   | 9    | 0    | 0         | 0                 |
| participants in ways to facilitate your learning.                        | % | 73%          | 23%  | 4%   | 0%   | 0%        | 0%                |
| Providing sufficient time<br>for you to process the<br>information       | # | 163          | 82   | 8    | 1    | 0         | 0                 |
| collaboratively with colleagues.   | % | 64%          | 32%  | 3%   | 0%   | 0%        | 0%                |
| Motivating you to<br>recommend these types                               | # | 158          | 78   | 16   | 1    | 0         | 1                 |
| of sessions to your work colleagues.                                     | % | 62%          | 31%  | 6%   | 0%   | 0%        | 0%                |

Table 8: As a result of participating in this Professional Learning Experience, I have broadened/deepened my existing knowledge of:

|  |   | Strongly<br>Agree | Agree | Disagree | Strongly<br>Disagree | Not<br>Addressed |
|--|---|-------------------|-------|----------|----------------------|------------------|
| Three-dimensional  | # | 113               | 126   | 4        | 1                    | 11               |
| learning and teaching.   | % | 44%               | 50%   | 2%       | 0%                   | 4%               |
| Research-based   | # | 134               | 117   | 1        | 0                    | 2                |
| instructional practices.   | % | 53%               | 46%   | 0%       | 0%                   | 1%               |
| Instructional practices to<br>make learning<br>experiences more<br>inclusive for diverse | # | 123               | 100   | 10       | 0                    | 21               |



|   |   | Strongly<br>Agree | Agree | Disagree | Strongly<br>Disagree | Not<br>Addressed |
|---|---|-------------------|-------|----------|----------------------|------------------|
| student populations<br>(e.g., special education,<br>highly capable, migrant,<br>students of color). | % | 48%               | 39%   | 4%       | 0%                   | 8%               |
| Instructional practices to make learning  | # | 102               | 102   | 16       | 0                    | 34               |
| experiences more<br>inclusive for English<br>language learners.                                     | % | 40%               | 40%   | 6%       | 0%                   | 13%              |
| Instructional practices to<br>make learning<br>experiences more                                     | # | 91                | 110   | 17       | 1                    | 35               |
| inclusive for students with disabilities.   | % | 36%               | 43%   | 7%       | 0%                   | 14%              |
| A range of assessment<br>and/or resources across<br>the educational system                          | # | 89                | 112   | 17       | 0                    | 36               |
| such as state, local,<br>and/or classroom<br>assessments.   | % | 35%               | 44%   | 7%       | 0%                   | 14%              |
| How to share the sessions' information  | # | 98                | 114   | 15       | 1                    | 26               |
| with others (teachers, administrators, parents).  | % | 39%               | 45%   | 6%       | 0%                   | 10%              |

Table 9: How frequently do you implement the below instructional practices in your science or STEM teaching?

|   |   | All of the<br>time | Most of the<br>time | Sometimes | Never or<br>hardly ever | Not<br>applicable |
|---|---|--------------------|---------------------|-----------|-------------------------|-------------------|
| Provide opportunities for   | # | 75                 | 114                 | 48        | 4                       | 5                 |
| students use data to inform their thinking.   | % | 30%                | 45%                 | 19%       | 2%                      | 2%                |
| Test the ability of<br>students to apply key<br>science ideas to new<br>situations. | # | 52                 | 125                 | 56        | 7                       | 6                 |
|   | % | 20%                | 49%                 | 22%       | 3%                      | 2%                |
| Engage in conversations<br>around science findings<br>or engineering solutions.     | # | 67                 | 120                 | 47        | 6                       | 6                 |
|   | % | 26%                | 47%                 | 19%       | 2%                      | 2%                |



|   |   | All of the<br>time | Most of the<br>time | Sometimes | Never or<br>hardly ever | Not<br>applicable |
|---|---|--------------------|---------------------|-----------|-------------------------|-------------------|
| Engage student in                                     | # | 32                 | 100                 | 96        | 9                       | 8                 |
| science-related computational thinking.               | % | 13%                | 39%                 | 38%       | 4%                      | 3%                |
| Ask students to explain their partial                 | # | 112                | 106                 | 21        | 3                       | 4                 |
| understandings and<br>potentially incorrect<br>ideas. | % | 44%                | 42%                 | 8%        | 1%                      | 2%                |
| Have students make explanations and revise            | # | 91                 | 108                 | 40        | 3                       | 4                 |
| them in response to new evidence.                     | % | 36%                | 43%                 | 16%       | 1%                      | 2%                |

Table 10: Participating in this Professional Learning Experience prepared me with the necessary skills to try something new or different in my professional practice

|   | Strongly Agree Agree |     | Disagree | Strongly Disagree | Not Addressed |  |
|---|----------------------|-----|----------|-------------------|---------------|--|
| % | 154                  | 99  | 1        | 0                 | 254           |  |
| # | 61%                  | 39% | 0%       | 0%                | 100%          |  |

Table 11: How frequently do you engage in the instructional practices in science and STEM teaching below?

|  |   | All of the<br>time | Most of the<br>time | Sometimes | Never or<br>hardly ever | Not<br>applicable |
|--|---|--------------------|---------------------|-----------|-------------------------|-------------------|
| I plan for multiple ways for my students to  | # | 82                 | 139                 | 16        | 4                       | 4                 |
| access learning.   | % | 32%                | 55%                 | 6%        | 2%                      | 2%                |
| I encourage students to<br>consider possible<br>barriers to<br>implementing a<br>solution. | # | 54                 | 128                 | 50        | 7                       | 4                 |
|  | % | 21%                | 50%                 | 20%       | 3%                      | 2%                |
| I survey students about their interests and  | # | 34                 | 113                 | 74        | 16                      | 6                 |
| experiences relevant to science ideas.   | % | 13%                | 44%                 | 29%       | 6%                      | 2%                |



Table 12: How confident are you about teaching the Next Generation Science Standards (NGSS) climate science-related topics at your current level?

|   | Very Confident | Confident | Somewhat Confident | Not Confident |
|---|----------------|-----------|--------------------|---------------|
| # | 60             | 126       | 54                 | 8             |
| % | 5%             | 11%       | 5%                 | 1%            |

## High School Grades Surveys

Table 13: Thinking about your professional learning session, how would you rate it for the following?

|   |   | Very<br>Good | Good | Fair | Poor | Very Poor | Does Not<br>Apply |
|---|---|--------------|------|------|------|-----------|-------------------|
| Meeting the stated<br>learning objectives of the  | # | 82           | 36   | 1    | 0    | 1         | 0                 |
| session.  | % | 68%          | 30%  | 1%   | 0%   | 1%        | 0%                |
| Use of engaging and useful activities to  | # | 83           | 33   | 3    | 1    | 0         | 0                 |
| facilitate your learning.   | % | 69%          | 28%  | 3%   | 1%   | 0%        | 0%                |
| Introducing you to useful<br>resources such as<br>curriculum materials,                                   | # | 71           | 37   | 11   | 0    | 0         | 1                 |
| research articles, and practice information.  | % | 59%          | 31%  | 9%   | 0%   | 0%        | 1%                |
| Providing timely, relevant information that   | # | 73           | 41   | 5    | 1    | 0         | 0                 |
| you will be able to apply in your work setting.   | % | 61%          | 34%  | 4%   | 1%   | 0%        | 0%                |
| Engaging you in<br>discussion with other  | # | 84           | 30   | 6    | 0    | 0         | 0                 |
| participants in ways to facilitate your learning.   | % | 70%          | 25%  | 5%   | 0%   | 0%        | 0%                |
| Providing sufficient time<br>for you to process the<br>information<br>collaboratively with<br>colleagues. | # | 64           | 46   | 10   | 0    | 0         | 0                 |
|   | % | 53%          | 38%  | 8%   | 0%   | 0%        | 0%                |



|   |   | Very<br>Good | Good | Fair | Poor | Very Poor | Does Not<br>Apply |
|---|---|--------------|------|------|------|-----------|-------------------|
| Motivating you to recommend these types | # | 70           | 41   | 7    | 0    | 1         | 1                 |
| of sessions to your work colleagues.    | % | 58%          | 34%  | 6%   | 0%   | 1%        | 1%                |

Table 14: As a result of participating in this Professional Learning Experience, I have broadened/deepened my existing knowledge of:

|   |   | Strongly<br>Agree | Agree | Disagree | Strongly<br>Disagree | Not<br>Addressed |
|---|---|-------------------|-------|----------|----------------------|------------------|
| Three-dimensional   | # | 50                | 54    | 3        | 1                    | 12               |
| learning and teaching.  | % | 42%               | 45%   | 3%       | 1%                   | 10%              |
| Research-based  | # | 60                | 52    | 0        | 1                    | 7                |
| instructional practices.  | % | 50%               | 43%   | 0%       | 1%                   | 6%               |
| Instructional practices<br>to make learning<br>experiences more<br>inclusive for diverse            | # | 43                | 57    | 2        | 1                    | 17               |
| student populations<br>(e.g., special education,<br>highly capable, migrant,<br>students of color). | % | 36%               | 48%   | 2%       | 1%                   | 14%              |
| Instructional practices<br>to make learning<br>experiences more                                     | # | 36                | 51    | 3        | 2                    | 28               |
| inclusive for English<br>language learners.   | % | 30%               | 43%   | 3%       | 2%                   | 23%              |
| Instructional practices<br>to make learning<br>experiences more                                     | # | 28                | 54    | 5        | 2                    | 31               |
| inclusive for students<br>with disabilities.  | % | 23%               | 45%   | 4%       | 2%                   | 26%              |
| A range of assessment<br>and/or resources<br>across the educational                                 | # | 39                | 49    | 4        | 1                    | 27               |
| system such as state,<br>local, and/or classroom<br>assessments.                                    | % | 33%               | 41%   | 3%       | 1%                   | 23%              |



|  |   | Strongly<br>Agree | Agree | Disagree | Strongly<br>Disagree | Not<br>Addressed |
|--|---|-------------------|-------|----------|----------------------|------------------|
| How to share the sessions' information                 | # | 41                | 55    | 7        | 1                    | 16               |
| with others (teachers,<br>administrators,<br>parents). | % | 34%               | 46%   | 6%       | 1%                   | 13%              |

Table 15: How frequently do you implement the below instructional practices in your science or STEM teaching?

|  |   | All of the<br>time | Most of the<br>time | Sometimes | Never or<br>hardly ever | Not<br>applicable |
|--|---|--------------------|---------------------|-----------|-------------------------|-------------------|
| Provide opportunities for students use data to                 | # | 15                 | 66                  | 34        | 1                       | 3                 |
| inform their thinking.   | % | 13%                | 55%                 | 28%       | 1%                      | 3%                |
| Test the ability of students to apply key                      | # | 22                 | 56                  | 35        | 2                       | 4                 |
| science ideas to new situations.                               | % | 18%                | 47%                 | 29%       | 2%                      | 3%                |
| Engage in conversations around                                 | # | 22                 | 53                  | 37        | 4                       | 3                 |
| science findings or engineering solutions.                     | % | 18%                | 44%                 | 31%       | 3%                      | 3%                |
| Engage student in  | # | 17                 | 50                  | 44        | 4                       | 3                 |
| science-related computational thinking.                        | % | 14%                | 42%                 | 37%       | 3%                      | 3%                |
| Ask students to explain<br>their partial<br>understandings and | # | 37                 | 57                  | 20        | 2                       | 3                 |
| potentially incorrect<br>ideas.                                | % | 31%                | 48%                 | 17%       | 2%                      | 3%                |
| Have students make explanations and revise                     | # | 26                 | 63                  | 25        | 2                       | 3                 |
| them in response to new evidence.                              | % | 22%                | 53%                 | 21%       | 2%                      | 3%                |



Table 16: Participating in this Professional Learning Experience prepared me with the necessary skills to try something new or different in my professional practice

|   | Strongly Agree | Agree | Disagree | Strongly Disagree | Not Addressed |  |
|---|----------------|-------|----------|-------------------|---------------|--|
| # | 79 40          |       | 1        | 0 120             |               |  |
| % | 66%            | 33%   | 1%       | 0%                | 100%          |  |

Table 17: How frequently do you engage in the instructional practices in science and STEM teaching below?

|   |   | All of the<br>time | Most of the<br>time | Sometimes | Never or<br>hardly ever | Not<br>applicable |
|---|---|--------------------|---------------------|-----------|-------------------------|-------------------|
| I plan for multiple ways                    | # | 44                 | 60                  | 10        | 1                       | 3                 |
| for my students to access learning.         | % | 37%                | 50%                 | 8%        | 1%                      | 3%                |
| l encourage students to consider possible   | # | 19                 | 60                  | 35        | 1                       | 3                 |
| barriers to<br>implementing a<br>solution.  | % | 16%                | 50%                 | 29%       | 1%                      | 3%                |
| I survey students about their interests and | # | 19                 | 37                  | 53        | 5                       | 4                 |
| experiences relevant to science ideas.      | % | 16%                | 31%                 | 44%       | 4%                      | 3%                |

Table 18: How confident are you about teaching the Next Generation Science Standards (NGSS) climate science-related topics at your current level?

|   | Very Confident | Confident | Somewhat Confident | Not Confident |
|---|----------------|-----------|--------------------|---------------|
| # | 22             | 62        | 22                 | 10            |
| % | 18%            | 52%       | 18%                | 8%            |

