



Science Teacher Training Grants

1. **Purpose:**

To develop a network and provide grants to educational service districts (ESDs), community-based organizations (CBOs), tribal-serving schools, and school districts. Specifically for science teacher training in the Washington State Science Learning Standards (WSSLS), founded on the Next Generation Science Standards, (NGSS), with a focus on climate science education.

2. **Description of services provided:**

OSPI ensures the provision of equity-focused, climate integrated, professional learning for science educators across Washington state. ESDs and CBOs collaborated to develop and deliver WSSLS/NGSS professional learning including climate science professional learning and courses for educators in Washington schools and districts, particularly those historically underserved by science education. Increased funding for the 2023 fiscal year, enabled direct grants to school and district projects as well as support for the inaugural Washington Climate Education Summit. The entire ClimeTime project was contractually supported by the Science and Math Institute at the University of Washington.

3. **Criteria for receiving services and/or grants:**

Priority was given to populations of students, schools, districts, and communities historically underserved by science education including but not limited to: Tribal Compact Schools, migrant students, schools with high free and reduced lunch populations, rural and remote schools, students in alternative learning environments, students of color, multi-lingual learner students, and students receiving special education services. Comprehensive schools and targeted comprehensive schools as identified by the Washington School Improvement Framework (WSIF) were also given priority.

Beneficiaries in the 2022-23 School Year:

Number of School Districts:	941
Number of Schools:	1,944
Number of Students:	317,000* (estimated)
Number of Educators:	7,455
Other:	684



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4. Are federal or other funds contingent on state funding?

No

5. State funding history:

Fiscal Year	Amount Funded	Actual Expenditures
2023	\$5,000,000	\$4,830,406
2022	\$3,000,000	\$2,734,112
2021	\$3,000,000	\$2,922,403
2020	\$3,000,000	\$2,957,305
2019	\$4,000,000	\$3,843,391

6. Number of beneficiaries (e.g., school districts, schools, students, educators, other) history:

Fiscal Year	Number of School Districts	Number of Schools	Number of Students	Number of Educators
2023	941	1,944	317,000	8,139
2022	852	2,847	177,300	4,361
2021	>200	2,021	284,500	7,476
2020	>200	1,742	244,900	6,830
2019	>200	0	0	7,500

7. Programmatic changes since inception (if any):

FY 2021: The proviso was amended to include Tribal Education Agencies as part of the community-based organizations section of the proviso language. The grant program has included three tribal-serving schools since this change.

FY 2023: Increased funding from \$3M to \$5M enabled grantees to have the ability to adequately staff programs and offer more diverse and accessible professional learning opportunities to educators. OSPI began a direct to schools grant program that funded innovative projects in science and climate science. The "ClimeTime" network, under the leadership of OSPI staff executed the inaugural Washington Climate Education Summit.

8. Program evaluation or evaluation of major findings:

Themes: Grantees in the ClimeTime network demonstrated a commitment to high quality professional learning in science and climate science in fiscal year 2022. Projects showed special attention to partnership, not only collaborating across ESDs and CBOs but with 13 tribal schools or governments, over 25 non-grantee community-based organizations,



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13 state and local governments, and 7 higher education departments. The collaborative nature of the network returned teacher and student feedback that was overwhelmingly positive and provided evidence of the need for more science and climate professional learning. Additionally, 2022 saw an increase in publicity of the ClimeTime program as it becomes a model for other states, *note that Washington was the first state to directly fund climate education at the K-12 level.*

Increased funding allowed for the growth and development of projects, many incorporating new ways to serve the state equitably and attend to educators who work with students most in need. The development of rich asynchronous courses continued as rural educators and those without funding for substitutes sought ways to engage without driving long distances or leaving the classroom. Social and emotional learning was attended to as adjudicated youth were able to interact with the outdoors and climate learning, and projects addressed the emotional aspects of climate anxiety by giving students voice and attending to action and a focus on climate solutions. Lessons and units were developed to support dual language programs and educators and students who speak Spanish. Integration with literacy, computer science, art, social justice, and the *Since Time Immemorial Curriculum*, was evident throughout projects across the state.

The ability to provide a grant program directly to districts and schools, enabled LEAs to develop projects that met the specific needs of their students and community. North Thurston created STEM field experience for ALL students enrolled in high school biology across their district, while Riverview School District embarked on the first year of a multi-stage science integration project for their elementary schools. Some students were able to get outside as at Mariner High School where students created genetic profiles of shiner perch and in the Mt Tahoma HS GTribe program where students who struggled early on in high school grew native plants and restored local waterway habitats around Tacoma. Technology supported climate science learning as well, students at Camas High School built computers and AI programs to track Puget Sound Orcas and elementary students in Kelso used VR to study natural disasters, a common consequence of climate change.

Highlighted Projects: This list represents new or expanded work. Throughout the network, over 100 professional learning events were held, many spanning multiple days that cannot all be listed here.

[The Washington Climate Education Summit](#) was an inaugural event hosted at the Museum of Flight that was spearheaded by OSPI staff and collaborated upon by all ClimeTime grantees. The Summit served just under 200 Washington state educators in the foundations of climate science integration across content areas in K-12 classrooms and was



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attended by Governor Jay Inslee. The presentations highlighted resources and supports derived from ClimeTime work with a focus on helping educators integrate climate learning into their classrooms.

ClimeTime Statewide Communications: The Communications Team at ESD 112 in conjunction with the ESD 112 Regional Science Coordinator and OSPI staff continued to elevate communications avenues to broaden the reach of ClimeTime. Highlights are two videos produced to share the work at tribal schools and the celebration of five years of ClimeTime funding:

[ClimeTime - Chief Leschi Schools Salmon Release](#)

[ClimeTime - Outdoor Education at Paschal Sherman Indian School](#)

[ClimeTime Turns Five!](#)

Our Climate is Changing, Why Aren't We? ESDs 105, 123, and 171 co-developed and facilitated a four-part virtual workshop series on how to introduce climate education to K-5 students using children's literature. This eastern Washington event effectively drew teachers and administrators in to integrating climate and literacy. [Presentation here.](#)

The "Climate Justice League" project, started more than three years ago as a partnership between EarthGen and ESD 112, the University of Washington's Climate Impact's group, and research scientist, it has now expanded to every region of Washington state. This project provides teachers with opportunities to discuss how to help students understand that a changing climate has real world impacts.

TEECH Justice: A cohort of teachers who participated in the Climate Justice League in a previous year collaborated to develop a web-based toolkit of resources for other educators interested in engaging with environmental and climate justice learning.

OpenSciEd: Building upon previous years of a middle school curriculum pilot, the ClimeTime ESD network continued serving middle schools using the open-access science curriculum known as OpenSciEd (OSE) in addition to completing a high school OSE science curriculum pilot. This open access curriculum is free to use and embeds climate science learning into authentically designed protocol for the NGSS.

Localizing a National Curriculum Working Group: Educators joined the planning team and a group of national curriculum unit developers from the Lawrence Hall of Science to integrate local and climate-based phenomena into existing curriculum.



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Computer Science Integration in the Science Classroom: This was a collaborative effort between the ESD 105 Regional Science Coordinator and Computer Science Coordinator. The goal was to address the computer science standards and highlight where computer science & computational thinking aligns with NGSS.

Successful Professional Learning Collaborations Continued Across the State:

- [The Institute for Systems Biology's "Teachers Inspiring Science Students"](#)
- [The Teaching for the Climate Collaborative's Teaching Outside](#)
- [STEM Seminars from](#) EarthGen in collaboration with ESDs
- [Adjudicated Youth Environmental Science Program](#)
- [Teacher Scientist Partnership \(TSP\) - Salmon Migration in Climate Change](#)
- [Climate Literacy Fellows](#)
- [Voices of Hope](#)
- [PEI's Solutions Oriented Learning Storylines](#)

9. **Major challenges faced by the program:**

Two major themes around challenge developed from the program in fiscal year 2023, that of increasing costs and concerns with staffing shortages. All grantees reported retention and no-show issues that stemmed from educators either having no ability to acquire a substitute teacher or "burnout" or feeling overwhelmed at work. Many grantees had educators sign up for professional learning opportunities but would experience large numbers of attrition in the days leading up to the event. Despite this, grantees were able to serve more educators and students than in any previous year. This exemplifies their commitment to find ways to support educators and students through diverse programming such as asynchronous courses, virtual, and hybrid experiences.

Rising prices across the state caused difficulties for grantees. Funding for staff to be able to afford their cost of living was affected as were day to day operations of all organizations. Venues increased prices, making it more difficult to find spaces for ClimeTime events and goods such as food, or materials for science lessons were more costly. This meant spending more per event than in previous years.

10. **Future opportunities:**

As the climate crisis continues and with the identification of education as a climate solution from the United Nations Sustainable Development Goals, there is high demand and a necessity to increase science and climate education in Washington's K-12 schools. OSPI continues to grow and strengthen the ClimeTime network while receiving



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frequent requests for funding from districts, schools, and community-based organizations that cannot currently be fulfilled. FY 22 saw more OSPI staff able to contribute services to the ClimeTime program due to the hiring of an Associate Director of Secondary Science and a Climate Science Curriculum Integration Consultant. There is an opportunity to fund more community-based organizations that serve diverse communities both in urban and rural locations as well as more tribal-serving schools. This is currently difficult with the decreased funding in fiscal year 2024.

The strength of the ClimeTime network supports the work of other OSPI programs and legislative initiatives, further increasing equitable science and meaningful learning opportunities for students. Four ClimeTime grantee organizations serve on the HB 2078 Outdoor Education advisory board along with three OSPI ClimeTime staff members. There is vast opportunity to bring ClimeTime educational resources and expertise to further bolster the state's nascent outdoor learning programs. The review of standards and the charge of the legislature to integrate climate science into state learning standards is a lever that can be utilized by the program to further support all educators receiving professional learning in science and climate science. This touch point could increase teacher engagement with climate science if thoughtfully planned.

ClimeTime projects continue to seek strategies to engage and support integration across subject areas, this work provides science learning access to the state's youngest students and prepares older students for career pathways that require critical thinking across disciplines and to join a workforce capable of solving the climate crisis. This integration can incorporate career and technical educators through professional learning, CTE equivalencies, and CTE specific resources. Building upon ClimeTime's success with elementary educators, further development of integration with ELA and math standards in connection with OSPI's current integration work would support best practices of elementary education and address climate learning.

11. **Statutory and/or budget language:**

\$3,000,000 of the general fund—state appropriation for fiscal year 2022 and \$5,000,000 of the general fund—state appropriation for fiscal year 2023 are provided solely for the office of the superintendent of public instruction to provide grants to school districts and educational service districts for science teacher training in the next generation science standards including training in the climate science standards. At a minimum, school districts shall ensure that teachers in one grade level in each elementary, middle, and high school participate in this science training. Of the amount appropriated \$1,000,000 is provided solely for community-based nonprofits including tribal education organizations to partner with public schools for next generation science standards.



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12. Other relevant information:

ClimeTime represents the first state legislature in the nation funding K–12 climate education. It is increasingly clear that other states want to learn from Washington while citizens of our state are pushing for more professional learning. Publicity and momentum for ClimeTime and climate science learning is evident in the following articles:

Reasons to be Cheerful: [In Washington, Students Learn About Climate Change Like Nowhere Else](#)

The New York Times: [Many States Omit Climate Education. These Teachers Are Trying to Slip It In.](#)

Public News Service: [WA First in Nation to Bring Climate-Change Education to Classrooms](#)

HeraldNet: [Amid smoke-filled summers, motivated teachers drive climate education](#)

13. Schools/districts receiving assistance:

[preliminaryfy23state-fundedprovisograntawardsupdated-42823.xlsx \(live.com\)](#)

14. Program Contact Information:

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