

STEM Hub Assessment Rubric Oregon Coast STEM Hub

Attached are the results for the 2017 Oregon Coast STEM Hub Assessment by Oregon Department of Education and Chief Education Office staff. This assessment process was set up to ensure that each STEM Hub is making continual progress and monitoring growth on statewide and regionally-specific indicators developed by hub leaders, state staff, and the STEM Investment Council. A number of inputs and “pieces of evidence” were used to support the assessment process, including partner surveys, ODE STEM team observations, a narrative questionnaire from STEM Hub leaders, partnership plans and other supporting documents.

Below is the rating system using in this Continuous Improvement Process assessment:

Rating	Meaning
Thriving	Demonstrates consistent actions, practices, and processes that show evidence of contributing to impact on meeting regional needs.
Functioning	Shows evidence and information that processes and productivity have potential for long-term benefit to learners and communities served.
Developing	Evidence and information suggest a shared understanding of STEM hub expectations, theories of change, priorities, and processes is forming among Hub leadership and partners.
Requires Intervention	Evidence and information require a detailed timeline for specific actions and scaffolded supports/resources to ensure Hub progress. Failure to complete required actions may result in discontinuation of funds at the discretion of the ODE/CEdO

STEM Hub Indicators of effectiveness	STEM Hub Rating	Reviewers Rating
<p>1. Diverse Representation: The STEM Hub’s governance bodies (Hub Boards, Hub Steering Committees/Councils; Work Groups, Innovation Teams, Task Forces; Ad Hoc Committees, etc.) are inclusive of leaders from different sectors, and represent the diversity of cultures/demographics within the region.</p>	<p>T F D RI</p>	<p>T F D RI</p>
<p>Hub Evidence and Comments: As part of ensuring all relevant cross-sector partners are at the table, the Oregon Coast STEM Hub (OCSH) recently created an OCSH governance framework which consists of the following elements:</p> <ul style="list-style-type: none"> ● STEM Hub Partners: The OCSH Partners are comprised of 59 cross-sector partners. The Partners support the mission of the STEM Hub and provide input to the Leadership Council. ● The Leadership Council for the Oregon Coast STEM Hub provides strategic direction, networking, advice, support, and oversight for OCSH activities. The Leadership Council supports OCSH backbone staff. The Leadership Council consists of not less than nine or more than 18 formal or informal leaders representing organizations of K-12 education, industry and business, higher education, community organizations, workforce or economic development agencies, early learning, regional achievement collaboratives, elected government, and tribal leaders. Our current Leadership Council constituency can be viewed at this link . ● The Executive Team is a comprised of four members of the Leadership Council. The Executive Team supports the OCSH Executive Director in implementing the work outlined by the Leadership Council, provides guidance and feedback in regards to any new business, maintains open communication with the full Leadership Council, provides input in planning agendas for the Leadership Council meetings, and facilitates the evaluation process for the Executive Director. ● Backbone Staff include a full time Director and part-time Communications Coordinator, Professional Development Facilitator, Programming Coordinator, North Coast Coordinator, South Coast Coordinator, Lincoln County School District Liaison, and Fiscal Agent. For the OCSH, backbone s ● taff support the following: governance and operations, communications, sustainability, networking, data support, equity, and program alignment. The fiscal agent for the OCSH is the Lincoln County School District. ● Work Groups turn strategic planning into specific strategies. Work Groups may be standing or ad hoc, depending on need. There will be a minimum of three standing work groups. Standing Work Groups will gather around key elements of the steering committee's broader plan and engage in a continuous process of planning and doing, grounded in constant feedback around what is or is not working. 		

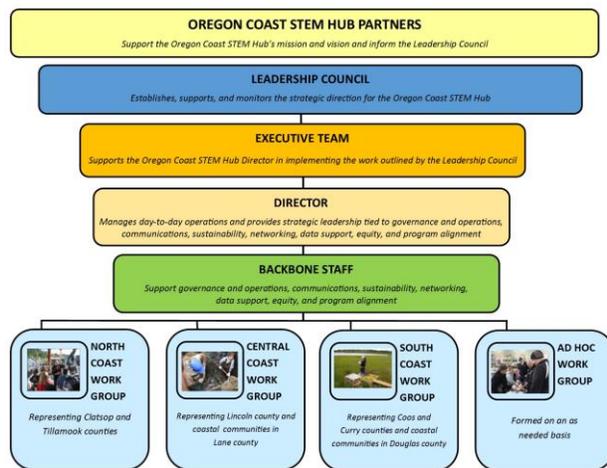


Diagram of the Oregon Coast STEM Hub Structure:

As part of the process of developing our governance, we paid special attention to the composition of our Leadership Council and future Work Groups and have strategically identified specific sectors for inclusion. Part of ensuring the right people are at the table is to make sure that you extend invitations purposefully.

The Leadership Council shall consist of not less than nine or more than 18 people. Using an equity lens and considering geographic representation when identifying potential members, the Leadership Council shall consist of leaders or formal or informal influencers within communities representing, but not limited to, the following:

- School Districts
- Industry/Business
- Higher Education
- Community Organizations (non-profits, out of school organizations, etc.)
- Government Organizations
- Workforce or Economic Development
- Early Learning
- Regional Achievement Collaboratives
- Elected Government
- Diversity Leaders
- Tribal Leaders

Our Leadership Council is strategically recruiting new Leadership Council Members in the sectors listed in green above. Those sectors listed in blue above are currently represented by at least one Leadership Council Member. Since 2013, our Leadership Council composition has fluctuated as Leadership Council Members have come and gone. Prior to the development of a governance framework, new Leadership Council Members were selected randomly via personal invitation.

A Nominations Committee, comprised of the Leadership Council Chair and two to three other Leadership Council Members, will work with the OCSH Director to post and fill vacancies. As vacancies arise, they will be announced to Partners and nominations will be accepted from STEM Hub Partners, the Leadership Council, Work Groups and members of coastal communities. Self-nominations are acceptable. Prospective Council Members will be asked to submit a statement of interest to the Chair of the Leadership Council. The Leadership Council votes on new members.

In the fall of 2017, we will be mobilizing regional Work Groups. There will be a minimum of three, and more likely five, standing Work Groups. These Work Groups will be derived from current partners and those who expressed an interest in participating in a Work Group during spring 2017 Community Meetings. The standing Work Groups for the OCSH shall be regional to ensure equity in geographic representation and we are currently considering creating Work Groups

in Clatsop, Tillamook, Lincoln/coastal Lane, Coos/coastal Douglas, and Curry counties.

The size and composition of each Work Group is determined by its duties and responsibilities as outlined by the Leadership Council.

Work Groups shall consist of representatives within some, but not necessarily all, of the following communities:

- School Districts
- Industry/Business
- Higher Education
- Community Organizations (non-profits, out of school organizations, etc.)
- Government Organizations
- Workforce or Economic Development
- Early Learning
- Regional Achievement Collaboratives
- Diversity Representatives
- Tribal Representatives

ODE/CEdO Evidence and Comments:

The work to define a governance structure that meets the needs of a broad and diverse region and to explicitly define who should be at the table in order to ensure multiple and diverse perspectives in leadership and decision making is commendable. The new governance framework appears to have help diversify representation in the Hub’s governance bodies as members are not chosen randomly but rather with strategic purpose from specific sectors. While not all seats are filled, there is a clear plan for building relationships and an equitable, transparent process for filling empty seats. Moreover, potential workgroups provide capacity for engaging diverse communities in Hub priorities. Evidence of the cultural and demographic makeup of leadership is not provided explicitly; is it reflective of the region? If not, how is the Hub working to ensure the voice of underrepresented communities at the table? Oregon Coast Hub has been heavy in education sector representation and the focus on bringing industry/workforce partners to the table will provide new opportunities and perspective in the coming biennium.

2. **Participatory Governance & Collaborative**

Leadership: The STEM Hub’s governance bodies consist of active and contributing members who guide the decisions, actions, structures, and strategic investments of the Hub. Partners take a shared approach to core backbone functions and have clear and appropriate roles in implementing strategies and activities to achieve the partnership’s priorities.

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Hub Evidence and Comments:

There are a number of ways we develop capacity for leadership among Hub partners and work to ensure equity.

One way we build capacity and leadership amongst partners is to embrace a “Train the Trainer” model for educator learning. Backbone staff train other educators to lead programs, trainings, and activities in their regions. An example of this are the Family Engineering Events for schools. The OCSH has provided Family Engineering training sessions at five host elementary schools up and down the coast. At each event, we invite elementary teachers from all schools in the region to attend a training session at the host school where they can learn how to facilitate a Family Engineering event at their own school. After the training session, we run a Family Engineering Event at the host school for students and their families and educators get a chance to see what this looks like. At our last Family Engineering Event in Brookings we had over 150 participants at the Event. Teachers who participated in the training are then able to host a Family Engineering event at their own elementary school. Teachers are able to check out Family Engineering kits from one of the OCSH’s regional trailers.



Another way we address equity is by providing equity of opportunity. Before the Oregon Coast STEM Hub (OCSH) was created, coastal teachers often had to travel over the coast mountain range for professional development. The OCSH has implemented a model of offering programs and activities, whenever possible, in the north, central, and southern regions along the coast. We are now looking at expanding this model to include five regional areas - Clatsop, Tillamook, Lincoln/Lane, Douglas/Coos, and Curry counties- to increase equitable access in Tillamook and Curry counties, specifically. With more teachers in these areas able to readily access professional development, we increase the opportunity to build capacity in these regions.

We’ve also continued to cultivate relations supporting our growing Latino population along the Coast. We are working with the Lower Columbia River Hispanic Council (LCRHC) to recruit middle school Latino youth into two Oregon State University Center for outreach in Science and Engineering for Youth (COSEY) camps to be held in Astoria and Seaside. When we connected with Jorge Gutierrez, Director for the council, he mentioned that last year several of his families mentioned hearing about the camp, but the camps were already full by the time they became aware of the opportunity. This year we are providing a two-week priority registration window for youth involved in the LCRHC and in the Tillamook Juntos programs.

This year, we worked with Oregon Department of Education’s Equity Unit to offer Culturally Responsive Practice in STEM up and down the coastline. After the training, participants had the option to join a collegial book study on Culturally Responsive Teaching and The Brain: Promoting Authentic Engagement and Rigor Among Culturally and Linguistically Diverse Students by

Zaretta Hammond. The purpose of the book study was to collaboratively support work with Culturally Responsive Teaching in STEM, and to encourage dialogue among colleagues from along the entire Oregon Coast. At the end of this book study, we hope some participants will take on leadership roles and lead their own book study in their school, district, or organization.

Finally, we have become a leader in utilizing ZOOM as an online platform for engaging people in our rural communities along the coast. We utilize ZOOM for many of our educator professional development programs - NSTA’s Picture Perfect Science, Culturally Responsive Teaching and the Brain Book Study, and the 2017 Great American Solar Eclipse for Elementary Educators - to name a few.

ODE/CEdO Evidence and Comments:

The Hub’s train the trainer model has leveraged Hub partner and staff expertise, while providing a mechanism for scaling impact and ensuring sustainability. The Hub has identified innovative ways to bring rural educators together for meaningful professional development and has built systems to ensure equitable access to PD opportunities and Hub resources. Direct services have helped fill identified needs and created relationships and the Hub has been responsive to system needs. There is a strong commitment to attending to equity in terms of culturally responsive pedagogy. As leadership diversifies to include additional sectors, it will be important to identify ways new partners can engage that are mutually beneficial. As the new/full leadership team is seated and new workgroups start, is there a way to engage the diverse group in similar high quality professional development focused on leading for equity, collective impact, participatory leadership, etc?

3. **Sustainability & Capacity:** The STEM Hub infrastructure provides the conditions to access and leverage human, financial, and physical resources in order to provide new and improved STEM opportunities; plans exists to strengthen and sustain this infrastructure.

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Hub Evidence and Comments:

One of the roles of the backbone organization is to mobilize funding to support its activities. From the EPIC summary report created from numbers provided last fall, in the last biennium, the Hub has leveraged more than \$362,000 in funds, including \$125,000 in state funding grants, \$36,000 in other grants, \$115,000 in direct partner support, \$32,000 in in-kind donations, and \$54,000 worth of volunteer time. EPIC reported leveraging funds as a strength of the Oregon Coast STEM Hub (OCSH).

The OCSH recently updated these numbers to include \$956,163 in state funds, \$182,469 in other grants, \$155,684 in direct partner support, \$74,750 in in-kind support, and \$79,457 in volunteer time.

All of the above said, funding stability continues to be a major concern for the OCSH.

ODE/CEdO Evidence and Comments:

Oregon Coast STEM Hub has leveraged diverse funding and resources to support Hub programming and backbone functions. Oregon State and specifically Sea Grant has provided significant financial, human, and physical capital as well as institutional leadership from a number of large partners and are key players in championing the vision, mission, role, and impact of the Hub. While securing funding has been a strength of the Hub, building systems and structures that ensure equitable support and access to Hub resources and supports has been a need. Providing the ‘spokes in the wheel’ in order to de-silo the Hub has been an important step in representing a region of your size, with distinct regional identities. The recent work to engage communities up and down the coast is important to building strong relationships and support for new governance structures and priorities. Additionally, this infrastructure should provide increased capacity to both identify opportunities and needs, as well as mobilize when opportunities arise. We recognize uncertainty about neighboring NWRESD influences and the Hub’s ability to meaningfully partner in northern regions. We encourage conversation between executive leadership in order to identify opportunities for complementary services and strategies, as well as identification of specific questions/tensions. Oregon Solutions is available for any needed facilitation. Additionally, we encourage your continued partnership and relationship building with northern counties as you work to listen to their needs, connect their work to new partnership and funding opportunities, and engage them as leaders for the entire coast as it has resulted in important relationships that will continue to grow.

4. **Partner Engagement:** The STEM Hub engages partners and community in meaningful ways to develop shared understanding of the Hub's mission, vision, and goals and find mutual value in partnership.

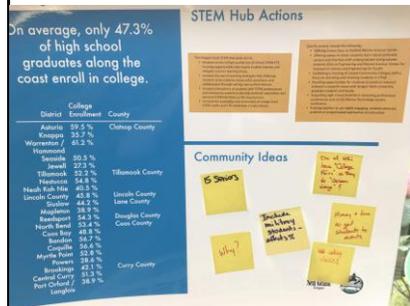
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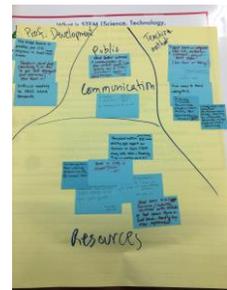
Hub Evidence and Comments:

In 2014, we conducted an initial set of Community Meetings which formed the basis of our Partnership Plan. We have just completed a second round of five Community Meetings held in Astoria, Tillamook, Newport, Coos Bay, and Port Orford. The goals for Community Meetings were to:

- familiarize community members with why STEM is important.
- describe what the Oregon Coast STEM Hub has been doing.
- identify assets and challenges around STEM that are specific to regions.
- generate action ideas to further the Oregon Coast STEM Hub (OCSH) goals in regions.
 - build relationships and identify who wants to be part of regional STEM work groups.



At the Community Meetings, we provided pertinent data sets for participants to respond to, let people know what the OCSH has been doing in response to the data, and solicited ideas from Community Members. Ideas from each Community Meeting were synthesized by the group, and these “Big



Ideas” will be used to inform our future directions. Please note that the work the OCSH has been doing in response to the data has been aligned under the Chief Education Office’s STEM Education Plan [-link](#) .

As part of our governance work, we will be forming regional Work Groups. We feel these are crucial in addressing regional needs, especially in addressing disparities for underserved populations.

With such a large constituency and geographic range, partners will vary in the value they place on the Hub partnership in their work. Those who value the Hub’s partnership are those who have stepped up and engaged with the Hub. An example of a partner placing high value on the Hub’s partnership in their work is the Columbia River Maritime Museum (CRMM). Below, please find a December 9th, 2016 letter from Kelly McKenzie at the CRMM.

Stacia,

It was a pleasure touching base with you and Josh this morning. I’m excited for the prospect of attending more STEM Hub Events and continuing my professional development through workshops, book clubs, and ongoing educator trainings.

In the past 6 months, I have attended four Oregon Coast Stem Hub Workshops. As a result of attending these workshops I have made numerous connections on behalf of the Columbia River Maritime Museum.

At the *Ocean Investigation and Scientific Discovery* Workshop in Newport, OR I met with Katie Watkins Brandt. Katie has agreed to be a keynote speaker for the Columbia River Maritime Museum’s *Past to Present Lecture Series*. We’re really looking forward to having her talk about exploration research vessels and the design process behind creating a state of the art scientific research vessel.

At the *Solar Energy Inquiry and Engineering* Workshop in Yachats, OR I met with Parker Mullins, Program Manager at Bonneville Environmental Foundation. At this particular workshop, attendees received more than \$200 worth of solar supplies. These supplies will be used by CRMM’s ROV Club next week; they will be creating solar powered boats and cars! Parker has also joined forces with the Columbia River Maritime Museum and will be a part of our Grain Festival in the spring 2017. He will be creating solar powered buoys with children from Clatsop County at CRMM.

Last month I attended a *Bring Engineering to Life* Workshop at Warrenton Grade School. At this workshop, educators learned how to actively engage children and parents through hosting a family engineering night. As a result of this workshop, the Columbia River Maritime Museum will be hosting a Family Engineering Week at the end of December. Families will gain an understanding of science, technology, engineering, and mathematics. Developed with support from the National Science Foundation and modeled after the Family Science and Family Math programs, Family Engineering promotes 21st Century skills of inquiry, creativity, teamwork, and collaborative problem solving. Families will discover the many career opportunities in engineering and will participate in more than 20 different hands-on activities and crafts.

Last week I had the opportunity to attend a STEM Hub workshop at the Barbey Maritime Center revolving around *Culturally Responsive Practices* through STEM Education. This workshop helped me develop a beginning foundational base of culturally and linguistically responsive teaching practices. I have since joined a hybrid online/in-person collegial book study on: *Culturally Responsive Teaching and The Brain Promoting Authentic Engagement and Rigor Among Culturally and Linguistically Diverse Students* by Zaretta Hammond. I’m looking forward to becoming a more culturally responsive educator.

I have attached my workshop notes to this email for you to use as you wish. Looking forward to attending the **Introduction to ROV Workshop** and the **SeaGlide Educator Workshop** in January 2017!

Warmly,

Kelly McKenzie

Field Educator o

Columbia River Maritime Museum

There are those who may place low value on the Hub's partnership in their work. These may be partners who are unaware of or are just learning about the Hub's existence; it takes time for people to develop market awareness of relatively new entities. There may be partners, like the Tillamook school district, who are incredibly self-sufficient and grounded in STEM-work within their communities and don't view themselves as needing a STEM Hub, but have lots to offer, including best practices that the OCSH could adopt and implement elsewhere. There are also sectors we need to do a better job reaching out to. These include businesses and tribal groups.

From Oregon State University's Center for Research on Lifelong STEM Learning survey results from fall of 2016, overwhelmingly, respondents shared that student programming and teacher professional development opportunities have grown significantly due to the Oregon Coast STEM Hub. They also found that the Oregon Coast STEM Hub's Connectedness score of 4.1 was on par with the statewide average of 4.2; this number reflects a healthy community whose members trust and depend on one another. Given the OCSH's spanning geography, it is impressive, and noteworthy, to have a connectedness score on par with other, smaller Hubs.

ODE/CEdO Evidence and Comments:

OCSH is clearly committed to listening and engaging with communities up and down the Coast. Identification of regional needs, identities, resources, and goals have informed system building, specifically a three region leadership structure. Partners feel connected to the work of the Hub. Communications and large events have helped build recognition of the Hub and brought increased capacity around STEM education and programming to the region. Again, as the Hub restructures their governance structure and identifies priority goals/focuses for the coming biennium, bringing new sectors to the table will increase opportunity to meet needs of and partner with more schools and districts. For example, districts with strong STEM culture and capacity around STEM education may have interest in connecting educators with industry externships or students with career learning opportunities. Perhaps there is opportunity to engage STEM education leaders in brainstorming and planning that leads to innovative industry connections (or other identified goals). One wondering is current status of connection to other regional initiatives (CTE, EL, WIB, etc.), they have been identified as key sector representation in new leadership structure, but we do not have a clear picture of the current state of connections.



5. **Data-led Continuous Improvement:** STEM Hub partners identify, analyze, and utilize regional data to identify and address disparities in opportunity, access, and achievement---particularly for historically underserved and underrepresented populations—AND engage in ongoing, continuous improvement cycles to implement programs and strategies to address these needs.

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Hub Evidence and Comments:

Given that two of our strategic initiatives are student engagement and teacher professional development in STEM, we collect a lot of summative assessment data regarding the effectiveness of our programs in these area. See [-link](#) for Student Programming Data. See [-link](#) for Teacher Professional Development Data. We also use formative assessment surveys (student, teacher, principal, administrator, partner) and are working on developing consistent, meaningful survey instruments and using these tools on a predictable cycle (i.e. in the fall, every other year). We use all of these data to determine our audience’s overall satisfaction with our work and to inform future direction.

We also use statewide data to gauge our success and to inform our direction. See [-link](#) to view the data we collect. We used some of these data [-link](#) in a series of five Community Meetings up and down the Coast. We shared pertinent data sets, let Community Partners know what the OCSH is doing in response to the data, and solicited feedback from Community Members and partners. We just completed our last meeting in Tillamook on May 15. Our plan is to compile the feedback we received at all five Community Meetings, to see what recommended actions bubbled to the top along the coastline and by region, and to use these actions as we mobilize regional Work Groups in fall of 2017.

Recognizing that collecting and analyzing data in meaningful ways is challenging work, we have repeatedly met with OSU’s Center for Lifelong Learning In STEM to solicit their help and to pay for their evaluation services. Although they agreed to allocate time to work with us, they have ultimately been unavailable. This is an area with which we need help.

However, evaluators are expensive and we are still wrangling with finding a evaluator familiar with Collective Impact and available to work with us on meaningful data collection, data analysis, and measures of success.

ODE/CEdO Evidence and Comments:

The Hub appears to have a great deal of regional demographic data, especially connected to education gaps and needs. A wondering is how workforce/economic data has been collected and used in identifying potential connections to industry partners and/or supporting development of career pathways. OCSH has consistently demonstrated evaluative input about programming impact and improvement. Is data analysis and program improvement usually done by Hub staff, or is this a function that can be shared with leadership and workgroups in order to build capacity for strategic decision making? Additionally, have baselines of identified metrics aligned to Hub

priorities/goals been identified and communicated across the region? Finally, in some cases data led narrative has painted a bleak landscape rather than hopeful and opportunistic. Asset mapping in connection to needs analysis may help in inspiring partners to engage with Hub vision/mission, support priority strategies, and work towards collective impact.

<p>6. Program/Strategic Alignment: The STEM Hub’s programs and strategies are clearly aligned to achieving the goals of their partnership plan and are based on effective practices to produce positive outcomes for students, educators, and the community. Connections to statewide networks and initiatives deepen ability to impact communities.</p>	<p>T F D RI</p>	<p>T F D RI</p>
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Hub Evidence and Comments:
 One of the most exciting activities we have helped champion are Student Challenges in STEM. We support the Oregon Coast Renewable Energy Competition at OSU’s Hatfield Marine Science Center. On Tuesday, February 28, 2017, elementary, middle, and high school students along the Oregon coast loaded up their posters and student-built devices and headed to Oregon State University’s (OSU) Hatfield Marine Science Center to participate in the annual Oregon Coast Renewable Energy Challenge. View this video [-link](#) for an overview of the competition. This year, 220 students from Waldport, Newport, Toledo, Lincoln City, Tillamook and Knappa participated, bringing 75 wind, wave, and solar energy devices to display, test and be evaluated by engineering judges. For weeks prior to the competition, students researched renewable energy, learned about existing and emerging technologies, then worked in teams to design and build their own working devices. Students had to work in teams to research issues surrounding renewable energy, then design, construct, test, and refine their devices. Students then had the opportunity to convey to a panel of engineering judges their design process, challenges faced, and how they worked to overcome them.

The event engages many partners; twenty volunteers from OSU, Oregon Sea Grant, the National Oceanographic and Atmospheric Administration (NOAA), and Central Lincoln PUD helped to run the competition, evaluating student designs and testing devices in a large wind tunnel, wave tank, or under high wattage lights to determine power output.

The OCSH was awarded a Siletz Tribal Charitable Fund grant to support the top wind teams from each age category in traveling to the National KidWind Challenge in Anaheim, California on May 24-25, 2017.

The OCSH also supports the Oregon’s Regional Marine Advanced Technology Education (MATE) Remotely Operated Vehicle Competition. View this video for an overview of this year’s amazing competition. <https://vimeo.com/217077949/2fcacf6133> . The annual ROV competition has grown over the years from just eleven teams participating to over thirty

teams this year. On April 29th at the pool at the Lincoln City Community Center, more than 200 students from elementary school through college demonstrated devices they built for the competition, which aims to prepare students for technical careers.

Teams hailed from Astoria, Warrenton, Tillamook, Lincoln City, Newport, Toledo, Eddyville, Waldport, Florence, Bandon, Albany, Aloha, Tigard, Beaverton and The Dalles.

The competition, which was coordinated by [Oregon Sea Grant](#) and sponsored by the [Oregon Coast STEM Hub](#), was divided into four categories based on skill and grade level. Only two of the categories, Ranger and Explorer, allowed students to advance to the 16th annual [international competition](#), which will be held from June 23-25 in Long Beach, Calif., and will feature the top 60 teams from around the globe, including ones from Canada, the United Kingdom, the Middle East, and Russia.



“The Finnovators” were in the Ranger level, which requires students to perform all tasks without looking in the pool and instead rely only on the sensors and cameras on their robot. Although they are not required to compete in the regional competition, two Explorer-level teams from Linn-Benton Community College (LBCC) and Clatsop Community College (CCC) attended the regional event to demonstrate their robots. They, along with another Explorer team from Oregon State University, are working on fulfilling requirements to qualify for the international competition.

The competition involves numerous Community Partners in supporting students in STEM. As the competition has grown, the OCSH has emerged as a leader in educator professional development in robotics and in the build and design of ROVs.

Finally, the OCSH is emerging as a champion of science/Project-Based Learning (PBL) education at the preK-5 level. Just a few of our initiatives in this area include the following:

- Launching an online Early Learning in STEM educator professional development training program
- Offering four sessions of Picture Perfect Science in coordination with the authors and using an online platform
- Serving as the lead STEM Hub on a Math and Science Partnership grant supporting the development of a cadre of science facilitators trained to support other teachers in implementing the Next Generation Science Standards
- Receiving support from the Gray Family Foundation and the Oregon Community Foundation to support elementary teachers in Project-Based Learning

We have also connected the work of the OCSH to the goals of the Chief Education Office’s STEM Education Plan [-link](#) . Our Core Strategic Initiatives are listed below:

1. Professional Development: Providing Professional Development (PD) for educators in effective instructional practices focusing on STEM integration and Project Based Learning (PBL);

2. STEM Experiences for Learners: Supporting STEM experiences for preK-20 learners by providing connections to STEM professionals in the classroom and in the field, equipment and resources for carrying out STEM-related activities, and opportunities to showcase learner-created designs and STEM projects;

3. Networking: Creating a STEM network of resources, programs, and professionals to support STEM for preK-20 learners, including a website which will serve as a clearinghouse or conduit for connecting business and community resources with educators, parents and students.

One of the findings from Oregon State University’s Center for Research on Lifelong STEM Learning fall of 2016 survey was that, in general, the respondents (n=19, 7 backbone staff, 12 partners) from the Oregon Coast STEM Hub indicate a lack of agreement about the foci of the Hub, as illustrated by the high number of mid-range scores. Ultimately, these responses imply that the respondents do not understand in which areas the Hub is and is not focusing its efforts. The one area of agreement was in improving K-12 STEM education. *The OCSH is interested in having a conversation around this as the finding is potentially a product of the way the questions was framed rather than a valid finding.*

Since fall of 2016 we have continued to do significant work in this area. We have aligned our work under the Chief Education Office’s STEM Education Plan and have outlined what the OCSH is doing in response to pertinent data sets. We have engaged Community Members in this process through a series of five Community Meetings held up and down the coastline in April and May of 2017 and at a meeting the OCSH initiated and hosted in May of 2017 for the four coastal Community Colleges in Oregon.

ODE/CEdO Evidence and Comments:

There is strategic alignment between programming, events, and partnerships and the goals identified in the OCSH partnership plan. Priorities are definitely focused on improving educator capacity and learner opportunities and the Hub’s train the trainer model and resource check out program both support networking of educators to high quality PD, resources, and each other. The Hub takes a problem solving approach to overcome barriers to connecting across rural and distant locations, including use of Zoom and regional leadership structures. As programs and strategies are implemented and analyzed for what works and what changes would lead to improved success, the ability of the Hub and its leadership to adapt and connect to new opportunities will grow as the Hub relationships grow. For example, by building strong connections with the RAC, South Coast connection to the work increased quickly and now new opportunities to connect existing work in the region and to leverage south coast strengths exist. A wondering is how priority areas will also shift over time. OCSH has engaged in statewide PD to support Solar Eclipse programming and has also been a most gracious host and logistical support for Spring Convening planning.

<p>7. Progress: The STEM Hub demonstrates movement from baseline to targets within their region-specific goals and metrics, as outlined in their partnership plan.</p>	<p>T F D RI</p>	<p>T F D RI</p>
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Hub Evidence and Comments:

All narrative questions used as evidence

ODE/CEdO Evidence and Comments:

Hub leadership has directly impacted relationship building and systems building throughout the region. Change is approached systematically, with transparency, clear communication, data collection, and documentation. Data collection is robust; however, there is a need and desire for support in analyzing impact and progress towards long term goals. The Hub sees value in external evaluation as both an accountability measure and sense-making opportunity. Programmatic data, community listening sessions, governance framework development, leveraged funds, high quality, scaled and new events, and new and improved relationships all point towards progress and impact on identified goals and improved metrics. We look forward to supporting you to find evaluative supports to help tell your Hub's story and impact to identify opportunities for continued improvement.

