

The Cascadia Region Earthquake Science Center Project Management Plan

A robust and well-defined system of leadership, governance, communication, and evaluation is required for CRESCENT to achieve its ambitious goals of advancing fundamental research on earthquake hazards science, contributing to the diversification and preparation of our future geoscience workforce, and translating research to practice and policy through community engagement. See the CRESCENT Strategic Plan for an overview of our goals.¹

The following Project Management Plan presents an overview of the systems designed to provide internal and external oversight, manage efficient operations, facilitate productive connections with relevant stakeholders (including knowledge dissemination to communities), and evaluate Major Activities (MAs) to ensure CRESCENT is meeting its objectives and adapting strategies as needed based on participant and stakeholder feedback and formative assessment.²

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Leadership and Governance

The leadership and governance structure is designed to promote and facilitate the successful integration of research, workforce development, and community outreach activities in ways that maximize efficiencies and resources and keep all the teams working across the many partner institutions informed and engaged. Director Melgar, in partnership with Assistant Director Elizabeth, is the point person for administrative oversight of the project, including reporting to NSF Program Officers.

¹ Melgar, D., Thomas, A. M., Sahakian, V. J., Meigs, A. J., Share, P. E., Tobin, H. J., Melbourne, T. I., & Elizabeth, J. (2024). The Cascadia Region Earthquake Science Center Strategic Plan 2023-2027 (1.0). CRESCENT Open Documents Library. [h\[ps://doi.org/10.5281/zenodo.11212220\]](https://doi.org/10.5281/zenodo.11212220)

² CRESCENT’s Major Activities are:

- MA 1 Community Models
- MA 2 CRESCENT Meeting
- MA 3 Topical Workshops
- MA 4 Cyberinfrastructure
- MA 5 Seed Grants
- MA 6 High School STEM
- MA 7 Undergraduate
- MA 8 Graduate and Postdocs
- MA 9 Technical Short Courses
- MA 10 Partnerships and Applications



CRESCENT is led by an Executive Committee (Ex-Comm), chaired by Director Melgar. Members include Co-PIs Melbourne, Share, Thomas, and Tobin, center pillar leads Sahakian and Meigs, Lydia Staisch, representing USGS, and Assistant Director Elizabeth in an ex officio capacity.³

This committee is charged with ensuring the overall success of the center and coordinating leadership across committees. Direction and decisions are made via a consensus-building approach among members, with input from the External Advisory Board (EAB), external evaluator, committee leads, and center staff as needed. This committee provides overall project oversight, manages the allocation of resources, and engages with the EAB.

The Ex-Comm committee activities include:

- Meet weekly to discuss center business and oversight.
- Convene ad-hoc committees as necessary (e.g., meeting planning).
- Discuss resource allocation and fiscal management.
- Review progress of each of the three pillar committees.
- Develop, with input from the committees, the seed grants solicitation. Review recommendations of review panel and make funding decisions.
- Discuss development strategy and opportunities.

The External Advisory Board (EAB) consists of members that reflect the CRESCENT community including academics, government agency scientists or officials, and the public and private sector from Oregon, Washington, California, and Canada. The EAB supports the success of the project's in-reach (i.e., communication and integration across Major Activities MAs), outreach (i.e., flow of communication to and from the broader community, attracting participants), and evaluation of educational activities.

The board has three functions: 1) review the goals and progress of CRESCENT; 2) provide guidance and recommendations to center leadership on opportunities and challenges; and 3) build and expand the CRESCENT network by identifying and facilitating partnerships with new stakeholders and serving as ambassadors to wider networks. The board convenes twice per year, once via videoconference and once at the CRESCENT meeting and is involved in specific outreach and community-building activities as appropriate. At these meetings, the board advises the project leadership team, who presents the CRESCENT annual report on research milestones, educational activities, project evaluation data, and community outreach achievements.

Board members are selected for expertise and leadership across the center's three focus areas of earthquake hazards research, education, and community partnerships. Current members of the EAB are: Wendy Bohon (California Geological Survey), Veronica Cedillos (GeoHazards International), Tim Dawson (California Geological Survey and current chair of the Statewide California Earthquake Center Board of Directors), Tiegan Hobbs (Geological Survey of

³ See <https://cascadiaquakes.org/about-crescent/#people>

Canada), Albert Kottke (PG&E), Martin Lawrence (BC Hydro - Consultant), Ed Nissen (University of Victoria), Michael Oskin (UC Davis), and Aaron Velasco (University of Texas).⁴

External Evaluator: Dr. Michael Coe of Cedar Lake Research Group, LLC serves as the external evaluator for the collection, analysis, reporting, and use of assessment data, feedback and recommendations from participants, along with overall progress toward key goals. Data collection generates formative information to assist with project management and improvement, as well as findings that will contribute to a summative review of project outcomes. To tailor the evaluation of research to CRESCENT's specific goals and activities, while minimizing the research burden on participants, brief surveys and interview protocols will use both structured and open-ended questions. All data collection procedures will be approved before use by the UO Institutional Review Board for the protection of human subjects in research. The external evaluator is part of the project leadership team and can participate in center events. Evaluation findings are routinely used for project management, shared with the relevant committee, and available to CRESCENT Senior Personnel and the EAB. The evaluation strategies for each MA are detailed below.

Pillar Committees and Working Groups

Reporting to the Ex-Comm are 3 committees which reflect the three pillars of the center: 1) Science Planning, 2) Geoscience Education and Inclusion, and 3) Partnerships and Applications. These committees oversee the implementation and assessment of their major activities and connect regularly to enable sharing and integration of communication, activities, and discoveries.

Science Planning (SP): Chaired by Co-PI Tobin and vice-chair Tina Dura, this committee is charged with overseeing and coordinating the 5 working groups (WGs) and 4 special interest groups (SIGs) responsible for overseeing the activities of community models/WGs (MA₁), organizing the topical workshops (MA₃), and managing the cyberinfrastructure resources (MA₄).

The Science Planning committee (SP) is composed of the leaders of each working group plus additional scientists with command of the center's research and goals. SP monitors the progress of each WG/SIGs, ensuring alignment with overarching center goals, and facilitating resource allocation. The SP committee regularly discusses updates and findings generated by the working groups to evaluate their effectiveness and adherence to timelines and project deliverables.

SP serves as a liaison between WGs and Ex-Comm, providing an integrated summary of collective advancements, challenges, and recommendations. The research and discoveries generated by the WGs and SIGs will integrate closely with the efforts of the GEI committee. SP may advise the GEI committee in terms of potential topics to address in the technical short courses, curriculum for undergraduate research programs, and the like.

⁴ See <https://cascadiaquakes.org/about-crescent/#people>

The SP committee activities include:

- Convene regular online meetings (every 2-4 weeks).
- Track that milestones in the project deliverables spreadsheet are being met.
- Oversee development of the community models.
- Facilitate inter-WG collaboration and communication.
- Contribute to the CRESCENT meeting agenda and planning.
- Provide input to developing content and topics for virtual Town Halls.
- With the assistance of the center staff organize topical workshops.
- Oversee cyberinfrastructure/developer resources and task them as needed in pursuit of community model goals.
- Propose language and science targets to the Ex-Comm for the seed grants solicitation.
- Collaborate with GEI committee in leading and developing technical short courses.

Reporting to the SP committee are five working groups. Each WG is charged with making sure the science deliverables associated with the community models are being met and to contribute to the organization of topical workshops and assist in identifying leads for the technical short courses.

The Working Group committee activities include:

- Each WG selects a lead, or co-leads, tasked with organizing regular meetings (at a minimum once per month), facilitating collaboration, maintaining agendas, preparing meeting minutes and reporting to SP.
- Each WG coordinates and openly discusses the research in pursuit of the community models between the multiple researchers, postdocs, and students involved.
- Each WG can solicit participation and membership from scientists not named in the center senior personnel list.
- Each WG may hold open meetings, in close coordination with P&A Program Manager, to discuss its progress and solicit feedback and input from the broader community.
- Each WG will, as needed, assist SP with planning topical workshops.
- Each WG will, as needed, assist the SP and GEI committee with identifying people to lead technical short courses and create curricular content.

Geoscience Education and Inclusion (GEI): Chaired by senior personnel Meigs, this group coordinates and oversees the high school STEM pathways (MA6), undergraduate research programs (MA7), graduate fellowship and postdoctoral mentoring activities (MA8), and technical short courses (MA9). The GEI Program Manager serves in an ex-officio capacity.

The GEI committee is entrusted with overseeing the educational and training activities of the center. Recognizing that a highly skilled and diverse workforce is integral to the science center's success and social responsibility, the committee continuously evaluates the efficacy and reach of all educational programs and training initiatives. This includes reviewing curricula, assessing participant feedback, and ensuring that the programs align with current educational standards

and best practices. Through these activities, the GEI committee aims to cultivate a learning environment that is both cutting-edge and inclusive, setting the foundation for the science center to excel in its mission and values.

The GEI committee activities include:

- Convene regular online meetings (every month).
- Contribute to the CRESCENT meeting agenda and planning.
- Solicit cyberinfrastructure resources from SP as needed in support of technical short courses.
- Collaborate with SP in planning of technical short courses.
- Provide input to developing content and topics for virtual Town Halls.
- Generate curriculum and training activities for research mentors and mentees. Propose language and science targets to Ex-Comm for the seed grants solicitation.
- Oversee the planning and execution of the high school STEM pathways program.
- Oversee the planning and execution of the year-long undergraduate twinning internship.
- Oversee the planning and execution of the Cores to Code summer course.
- Evaluate and make funding decisions on applications from graduate students and postdocs for travel fellowships to professional development events.

The Partnerships and Applications (P&A): Chaired by senior personnel Sahakian, this team interfaces with all major activities by communicating about available resources and infrastructure, training opportunities, and hosting events with diverse stakeholders (i.e., researchers, local and regional governments, community groups, etc.) (MA10). The P&A Program Manager serves in an ex-officio capacity.⁵

The P&A committee serves as the interface between the center and the broader community, tasked with the vital role of translating scientific research into meaningful societal outcomes. This includes coordinating educational outreach, public forums, and collaborative projects that leverage the center's expertise to address community-specific challenges. Furthermore, the committee is responsible for establishing and nurturing partnerships with various community stakeholders—ranging from local government agencies and non-profit organizations to educational institutions and businesses—to create a network of shared resources and opportunities. Additionally, the committee is charged with reporting on how the center science strategy can be adjusted to be more responsive to the community's needs. Through these activities, the P&A committee aims to ensure that the science center's work is both accessible and beneficial to the community, thereby fulfilling a broader social responsibility.

The P&A committee activities include:

- Convene regular online meetings (every month).
- Contribute to the CRESCENT meeting agenda and planning.

⁵ See <https://cascadiaquakes.org/partnerships-and-applications-committee/#leadership>

- Solicit cyberinfrastructure resources from SP as needed in support of any collaboration activity.
- Propose language and science targets to Ex-Comm for the seed grants solicitation.
- Actively seek partnership building opportunities with any and all organizations involved in earthquake hazards research, planning, or response.
- Design multimedia content for outreach activities.
- Provide input to developing content and topics for virtual Town Halls.
- Collaborate with partners such as the Cascadia Lifelines Program to host regular webinars for practitioners.
- Support WG leads in organizing regular meetings with partner communities.
- Plan and execute yearly meetings between community collaborators and center scientists.

Two additional major activities (MA2: CRESCENT Meeting; MA5: Seed Grants) will be coordinated by the Assistant Director with oversight from the Executive Committee.

Operational Management and Coordination

The integration of research, workforce development, and community outreach across multiple institutions is managed through functional systems of shared data and resources, consistent reporting and meeting schedules, and internal and external communication strategies that keep all CRESCENT partners engaged and informed. A dedicated SharePoint site serves as the primary means of organizing and managing documents and data. Personnel connect on a regular basis through e-mail, meetings (online or in person), and the dedicated Slack workspace. The CRESCENT website hosts center products, posts center news, links to social media, and promotes the center activities.

The Ex-Comm is in regular communication via existing channels (i.e., e-mail, Slack, etc.) and meets regularly to review and assess progress of committees, discuss and strategize new opportunities, and review budgets and resource allocation. Ex-Comm meetings include representatives from each of the 3 pillar committees to discuss activities, review progress, and facilitate any necessary programmatic or research changes required based on evaluation and feedback. Brief budget reviews at these meetings maintain transparent, equitable, and efficient resource allocation.

Committees communicate internally using project management platforms Slack, Asana and SharePoint (deferring to preferred practice for each group). The Science Planning WGs are the largest and most complex, as they include researchers from multiple institutions; as such, each WG has 1-2 leads responsible for oversight and operations.

Center Meeting: CRESCENT will host a meeting with all senior key personnel and the EAB to present major achievements, solicit feedback and input from participants, and share resources with stakeholders. This meeting will be held in person in years 1, 3, and 5. In addition to sharing

the accomplishments and progress of the team members in conducting the center’s major activities, this meeting will provide a forum for all the undergraduate students, graduate fellows, and postdocs funded by the center to present their work, stakeholders to co-present on efforts to translate research to policy, and will facilitate networking opportunities. The Science Planning lead will coordinate providing status updates on the WGs to the community during this event.

Resource Allocation & Fiscal Management: Given the complex administrative coordination needed to manage center operations, the majority of the budget is managed at the University of Oregon. The Assistant Director works closely with UO’s Sponsored Projects Services to negotiate and execute subaward agreements with the institutions already engaged as collaborators, as well as new agreements funded through the center via seed grants and educational programs. Administrators at UO bring extensive experience in managing complex multi-institution awards and are well-positioned to support the Assistant Director and Ex-Comm in managing the complex contracts and financial planning required to operate CRESCENT.

Publications and Conference Presentations: CRESCENT spurs significant research activities at partner institutions, as well as those funded through the seed grants program. This research is disseminated through the CRESCENT meeting (MA2), topical workshops (MA3), and through peer-reviewed publications and presentations at major scientific conferences. The center will promote a culture where graduate students, post docs, and early career faculty are encouraged to take a leadership role in publications. Products generated by the community model WGs are disseminated through publications and conference proceedings, as well as being shared directly with community members via the CRESCENT website. Researchers are asked to recognize CRESCENT support in their publications, presentations and product releases. The Ex-Comm works closely with the center committees to prepare an annual report, and to share products via the website, at the CRESCENT meeting, and via the newsletter/town halls.

Ex-Comm has established procedures for registering publications and dissertations. CRESCENT has an open documents library on Zenodo where we mint DOIs for internal publications and other releases. The Assistant Director sends regular reminders to CRESCENT researchers to follow this guidance.⁶

Communications Strategy: As noted above, internal communications among CRESCENT personnel will utilize project collaboration tools like Slack, Asana, and SharePoint, in addition to regular meetings, e-mail, etc. The external communications strategy is designed to amplify the reach and impact of the center, connect stakeholders with center resources, attract trainees for educational activities, solicit applications for the seed grants program, disseminate findings, and share resources for community organizations translating research to practice and policy.

The Assistant Director oversees all externally focused communications efforts, including creating and maintaining content for the CRESCENT website, producing a quarterly newsletter,

⁶ See <https://cascadiaquakes.org/faq/>

managing stakeholder communications and social media engagement, as well as convening and hosting community stakeholder events. The Assistant Director, P&A Program Manager, and GEI Program Manager meet weekly to discuss, create and update messaging and content relevant to the activities and programs that they coordinate.

Center Website and Social Media: A central CRESCENT website serves as the primary communications hub and is maintained by center staff. It provides an overview of the core center and partner institutions, outlines the center goals and activities, and is a platform for sharing resources with stakeholders. CRESCENT’s online presence is augmented by social media engagement on platforms including Bluesky, LinkedIn, Facebook, Instagram, and YouTube. Social media posts are used to promote and celebrate center achievements, and attract participants to workshops, fellowships, and other activities.

CRESCENT Newsletter: A quarterly CRESCENT newsletter, prepared by the P&A Program Manager is shared with center personnel, collaborators, and external subscribers to the CRESCENT mailing list. This newsletter promotes opportunities for researchers (e.g., seed grants programs, topical workshops) and trainees (e.g., technical short courses, fellowship programs), shares highlights of center successes, and disseminates information relevant to community partners. .

Town Halls: Virtual convenings of center personnel and invited guests are offered three times a year and are designed to keep participants up to date with key research developments, center impacts, and partner activities. These meetings are an opportunity to build community and maintain connections across the widespread institutions that make up CRESCENT. Topics and content are developed and coordinated by the P&A Program Manager, GEI Program Manager, and Assistant Director, with input from Ex-Comm and other relevant committees, WGs and SIGs.

Code of Conduct: The [Code of Conduct](#) published on the CRESCENT website sets out goals and expectations for respectful, inclusive, and equitable practices in meetings, communication, conduct, and collaboration across all center activities. This document is reviewed annually by CRESCENT Leadership and all participants engaging in center activities are required to acknowledge and agree to the terms outlined.⁷

Conflict Resolution and Risk Mitigation: Should a conflict arise, the Ex-Comm will review the concern and attempt to identify a solution by consensus. Given the long and productive history of collaboration among the PIs and senior investigators, we anticipate that all, or nearly all, issues will be resolved using consensus decision making.

In the unexpected event that a consensus for action to resolve a challenge is not possible, the Ex-Comm will consult with the EAB and ultimately vote, with a majority vote needed for a

⁷ https://cascadiaquakes.org/wp-content/uploads/2024/08/code_of_conduct.pdf

decision to be finalized. If an issue comes to a vote, members of the Ex-Comm and EAB are expected to make informed decisions that ensure the integrity of CRESCENT. Individuals are expected to recuse themselves if their personal interests or relationships may compromise their ability to make objective decisions on behalf of the advisory board.

In the unlikely event that a conflict arises among the Ex-Comm, the Center Director will consult with members of the EAB, or an impartial senior administrator from a participating institution (e.g., VP for Research), for advice, feedback, or arbitration.

In an instance in which a senior personnel member changes institution, their effort and financial resources would most likely be transferred to that individual's new institution (unless the former institution has issues with the transfer or the new institution is not eligible for transfer of NSF funding). Should a project member become unable to continue in their role, the Ex-Comm would evaluate the most efficient path forward to either replace that individual or assign their responsibilities to an existing member of the team. Feedback and guidance from the EAB would be sought to identify solutions that best mitigate risk and maintain continuity in center operations should we encounter this type of unexpected event.

Administration and Evaluation of Major Activities

MA1: Community Model Development, Working Groups (WG), and Special Interest Groups (SIG)

Administration: Co-PI Tobin, as chair of the Science Planning committee, oversees and manages the WGs responsible for community model development, as well as the four SIGs. Each WG and SIG is led by a senior investigator(s), who responds to a clear charge, and produces an expected set of deliverables on a specific timeline. The WG leads oversee and supervise graduate students and postdoctoral scholars funded to complete the research and activities to generate each WG's deliverables. WG leads collaborate closely with the SP chair to identify and secure services and computing resources from the team of developers.

The SIGs operate in a comparable manner to WGs but have more limited budgets and smaller teams to pursue emerging topics in earthquake hazards that are related to, but not necessarily directly within, the science goals of the center. The SIG leads inform and ensure the Science Planning committee is aware of and thinking strategically about other research partnerships and opportunities.

Each WG/SIG can add new members to its leadership as needed. WG members are expected to be directly involved in fulfillment of the WGs deliverables. To propose a new person to add to its structure, the current WG members will discuss the reasons and benefits for adding the new member and take a vote. With a favorable vote, the WG lead will discuss the addition with the Science Planning committee and collect necessary feedback. If a significant cause of concern is identified in this process, the WG lead, at their discretion, can go back to the WG membership

and inform them of said concern, discuss it, and call for a vote once more. A simple majority vote is sufficient, and we encourage consensus building in all decision making.

Once the new member addition is finalized, the WG lead will reach out to the new member to confirm they accept the charge, and inform the Science Planning Lead and the center assistant director so that an up-to date roster of membership can be kept and the new member is integrated into project workflows and communications.

Evaluation: The major outcomes of MA₁ are the creation and dissemination of the deliverables for each WG and SIG. The Science Planning Lead is responsible for tracking the progress and completion of the deliverables and works with the P&A Program Manager to disseminate these resources effectively to community members and partners. Graduate student dissertations and peer-reviewed publications are one indicator of the success of this activity.

MA₂: CRESCENT Meeting

Administration: The Ex-Comm, in partnership with the committees, will convene a planning committee to design the agenda and schedule for these meetings. In year 1, the meeting focused primarily on WG planning with two keynote speakers to motivate the work. In subsequent years, at least 2-3 additional program personnel and/or stakeholders will be recruited to serve on the planning committee to offer external perspectives on the agenda, such as identifying session themes and inviting keynote speakers. The Assistant Director, with support from the Center Coordinator, are responsible for the coordination of all meeting logistics, including event planning, travel, and registration. Event promotion (prior to the workshops to promote, and during and after to amplify, impact and circulate resources) is part of the center communication strategy. The meeting materials will be available following the event on the CRESCENT website.

Evaluation: Key evaluation measures include meeting attendance (overall and for specific sessions), as well as feedback from participants. A brief post-meeting survey will inform planning and hosting of subsequent meetings and will collect additional structured feedback and recommendations on project activities and management. In addition to questions related to overall satisfaction with the event (e.g., logistics, programming) and recommendations for future meetings, the survey will ask participants to identify their primary learning outcomes, as well as new research, education, or community partnerships established through the event.

MA₃: Topical Workshops

Administration: Each of the 5 WGs under the Science Planning committee will lead 1-2 topical workshops over the course of the project. Additional topical workshops will be used to advance the research of the SIGs. Each workshop will be led by 2-5 senior investigators who will design the agenda and schedule for these events, including identifying and inviting speakers and key participants. As with MA₂, the Assistant Director will be responsible for the coordination of all

logistics. Event promotion is part of the center’s communication strategy and resources from the workshops are made available on the CRESCENT website.

Evaluation: Key evaluation measures include workshop attendance, as well as feedback from participants. A brief post-workshop survey, prepared and analyzed by the External Evaluator in coordination with the Assistant Director and the workshop planning committee, will provide feedback on the program and recommendations for future events. In addition to survey questions similar to the post-event survey for MA2, participants will be asked to identify major lessons learned. Each workshop will be required to generate a short, written summary that details the goals and main findings of the workshop and its impacts on strategic planning for the WG or SIG activities. Resources and deliverables will be shared with participants via the CRESCENT website.

MA4: Cyberinfrastructure Support

Administration: CRESCENT’s cyberinfrastructure comprises a small developer team and cloud-based storage and computing. As Chief Technical Officer (CTO), Co-PI Thomas supervises the developers and serves as liaison between WGs/SIGs and the developer team to prioritize and assign projects that support hosting, visualization, and dissemination of community models as well as software for CRESCENT research and outreach. The CTO, developers, and invited partners (e.g., EarthScope) hold a weekly development meeting to review priorities and dependencies; each developer also meets weekly 1:1 with the CTO to track project progress. The CTO meets biweekly with the Director, Assistant Director, and Science Planning Lead to ensure close coordination across center operations.

All computing resources are hosted on Amazon Web Services (AWS) in a shared CRESCENT workspace for computing and storage used to host and disseminate community models. All software is publicly available in the CRESCENT GitHub organization. When additional high-performance computing (HPC) resources are needed, the cognizant WG/SIG lead or project PI leads the access request (e.g., via NSF ACCESS, institutional clusters, or other providers). The CTO and developers support these requests by preparing technical requirements and sizing estimates, draft architectures and configuration templates, data movement considerations, and security/compliance notes; after an allocation is awarded, they assist with onboarding and integration. Budgeting and stewardship of external HPC allocations remain with the requesting WG/SIG. The cyberinfrastructure team jointly monitors AWS usage to keep spending within the annual compute and storage budget and coordinates technical integrations and maintenance with EarthScope and other partners.

Developers manage repositories and releases (public repositories in the CRESCENT GitHub organization, permissions/security settings, regular commits with documented changes) and communicate progress to the CTO, staff, SPC, and the community. They also provide limited support to scientists contributing code and technical/educational support for short courses.

For each project, the CTO assigns a developer and, with the relevant WG/SIG lead, designates a software point person. Using an established process for intake, development, pre-release checks, and rollout, the developer manages the project in close coordination with the CTO, researcher(s), CRESCENT staff, and leadership.

Evaluation: Cyberinfrastructure work is evaluated primarily on software releases and conformance to agreed design specifications. Progress and readiness are reviewed in weekly development meetings; a release is accepted when the agreed specification is met, with any recommended future improvements documented and scheduled for later follow-up as time permits. Releases are versioned and documented in the CRESCENT GitHub organization and, when appropriate (for major version releases), archived with DOIs. In parallel, the team conducts qualitative checks on reliability, security, usability, and cost reasonableness—ensuring user-facing services remain stable, issues are addressed promptly, and AWS usage aligns with planned budgets. The cyberinfrastructure team provides monthly updates to SP committee, solicits feedback from WG/SIG leads and users, and incorporates that feedback into subsequent iterations.

MA5: Seed Grants Program

Administration: The Assistant Director will be responsible for the administration and management of the seed grants program. The Ex-Comm, with feedback from the Science Planning, GEI, and P&A committees, will design the request for proposals (RFP) to focus on emergent priorities. The program will be announced and promoted on the CRESCENT website and newsletter, as well as at technical short courses and topical workshops. With guidance from the Ex-Comm, the Assistant Director will identify and recruit 10-15 external scientists to serve as a review panel (with honorariums provided). Proposals will be submitted through an online platform (e.g., Smartsheet) to streamline record keeping and sharing of materials with review committee members. The review committee will read and score proposal submissions based on a rubric established at the time of RFP development and will meet virtually to discuss the proposals. The panel will make funding recommendations to the Ex-Comm, who will make final award decisions. The Assistant Director will prepare and execute the awards and coordinate the final reporting process.

Evaluation: The Assistant Director will monitor and report the number of submissions and awards annually.—Each grant recipient will be required to submit a final report and present a lightning talk at a CRESCENT event. The report will be distributed via an online platform, allowing the Assistant Director to easily quantify the major outcomes of the awards (i.e., number of publications, presentations, students trained, grant proposals in preparation/submitted, etc.).⁸

MA6: High-school STEM pathways

⁸ See <https://cascadiaquakes.org/2024/07/16/2024-seed-grant-awards/>

Administration: The GEI Program Manager coordinates the activities for the high-school STEM pathways program, managing the outreach and communications to advertise and attract participants via the CRESCENT website, social media, newsletter, etc. Among our activities, central is partnering with Riverways to exchange culture and geoscience with tribal high schools.

Evaluation: Evaluation is based on surveys with participating students designed and organized by the Riverways program. Survey results are sent to the GEI Program Manager for review. The GEI Program Manager and the High School STEM program leader meet to discuss the survey results and how to improve the program for future iterations.

MA7: Undergraduate Research

Administration: Personnel from EarthScope Consortium collaborated with the GEI Program Manager on program design and initial launch. Thereafter, the GEI Program Manager is responsible for the administrative management of undergraduate research programs (Twinning research program and Cores to Code summer school). As such, they manage outreach and communications to advertise and attract participants for these opportunities via the CRESCENT website, social media, newsletter, etc., as well as manage outreach to potential mentors. The GEI Program Manager works with leads for each program to develop an application, convene a review committee, and coordinate the application selection process. The GEI Program Manager works closely with the Assistant Director and Center Coordinator to manage the financial and travel logistics for each of the education programs.

Evaluation of Cores to Code: A post-program student survey, prepared and analyzed by the External Evaluator in coordination with the GEI Program Manager provides feedback on the program and recommendations for future iterations.

Evaluation of Twinning: A post-program student survey, prepared and analyzed by the External Evaluator in coordination with the GEI Program Manager provides feedback on the program to support an ongoing, iterative design research process that is used to refine the Twinning program each year. Twinning Mentors are invited to a GEI Committee meeting after the program for an open discussion on the program.

MA8: Graduate and Postdoctoral Professional Development Fellowships and Mentoring Activities

Administration: Parallel to MA6 and MA7, the GEI Program Manager coordinates the outreach and recruitment, application review, and selection of applicants for travel fellowships to attend professional development activities. Selection is made following review by representatives from the GEI committee. The postdoctoral fellows and graduate students funded through MA1 are supervised by the senior investigator at their home institution (member of a WG or SIG) but are part of a broader cohort of CRESCENT scholars facilitated by group trainings and networking

opportunities at CRESCENT meetings, as well as presentations at scientific meetings and conferences.

Evaluation: The GEI Program Manager will follow up with fellowship recipients to gather feedback on the impact of the professional development fellowship, particularly how the travel stipend supported their academic or career advancement. This feedback will help assess the effectiveness of the fellowship and mentoring activities in fostering professional growth and inform future program enhancements.

MA9: Technical Short Courses

Administration: Researchers from Science Planning and the community are identified to lead different technical short courses (MA9). These leads design the agenda and schedule for these short courses, including identifying and inviting keynote speakers. A Cyberinfrastructure developer provides support to the leads during planning and implementation of the short course. The GEI Program Manager assists the leads in preparing content in an inclusive way using modern pedagogical best practices. The GEI Program Manager and Center Coordinator are responsible for the coordination of all the meeting logistics. The GEI Program Manager coordinates the outreach and recruitment, application review, and selection process of applicants. Course materials will be available on the center website.

Evaluation: Participant surveys designed and analyzed by the External Evaluator are used to assess both pre-workshop activities, such as webinars or online overviews, and the more extensive in-person technical short courses. These surveys gather structured feedback on the quality, relevance, and usefulness of the content, format, and delivery, as well as participants' recommendations for improving the workshops and their applicability in academic or professional contexts.

For all GEI Major Activities (MA 6-9), to the extent feasible, long-term follow-up interviews will also be used to assess their career trajectories and the extent to which their CRESCENT experiences contributed to their career development. The GEI Program Manager maintains a database of CRESCENT students.

MA10: Partnerships and Applications

Administration: The P&A Program Manager, with guidance from the PAC, is responsible for managing consistent partner engagement through the communications strategy (see page 7 above) and the coordination of the annual P&A workshop. The P&A Program Manager connects with the external partners serving on the EAB and committees to ensure that these individuals are well-integrated within the center and helps to identify new partners to help serve on the planning committees for CRESCENT meetings and other workshops. The P&A Program Manager helps to resolve any challenges or concerns arising from partners serving in these positions. In addition, the P&A Program Manager works with the Center Coordinator to coordinate travel and

event logistics for in-person activities across the Cascadia region designed to connect practitioners and community stakeholders with discoveries, new knowledge, and best practices identified through center efforts.

Evaluation: Evaluation measures include event attendance and post-event surveys soliciting feedback on the center’s partner engagement strategies, communications, and inter-agency coordination efforts.

For more information, contact us at cascadiaquakes@uoregon.edu.