



GERARD J. MANGONE
Climate Change
Science & Policy
Hub

FIVE YEAR STRATEGIC PLAN (2023-2027)

MARCH 2023

AT A GLANCE

The Gerard J. Mangone Climate Change Science and Policy Hub five-year strategic plan (2023-2027) is organized around three core values and three goals. Two objectives within each goal will shape our efforts. Values will inform actions across all three goals and will be integrated across the Hub’s activities. Within each

goal, the Hub will pursue three phases of effort: a first phase of priority actions for the next one to two years, a second phase in years three and four, and long-term actions in phase three for which the Hub will build capacity before engaging.



THE HUB

Climate change is one of the greatest challenges of our time. It affects every person on the planet and will have widespread and long-lasting consequences. Responding to climate change will require a convergence of ideas, approaches, knowledge systems, and technologies from widely diverse fields and perspectives to stimulate innovation and discovery. New models of education and training are needed to inform the next generation of climate leaders – both those working directly on climate and those whose lives will be shaped by a changing climate.

More than 150 faculty members at the University of Delaware identify as working on teaching, scholarship, or service related to climate change, and many more staff and students work on climate-related issues through institutes, centers, and projects on campus, in the community, and around the world. Climate expertise, knowledge, and experiences are dispersed across units ranging from agriculture to climatology, engineering, finance, health, and policy. The Gerard J. Mangone Climate Change Science and Policy Hub was founded in 2021, with support from the Unidel Foundation and the Mangone family, to foster greater cross-University collaboration and to elevate the state of the University as a leader in climate change scholarship, teaching, and service.

The Hub is led by two directors from different disciplines to promote cross-disciplinary collaboration and engagement. In its current structure (see Appendix for an organization chart), the Hub functions as a true hub in a hub-and-spoke model. The Hub connects UD faculty, staff, students, and alums with communities working with the Hub and engages across many disciplines and fields of knowledge. The Hub is the smallest portion of the climate change enterprise at the University of Delaware, but it serves a critical function in connecting dispersed efforts and providing a central point of contact for internal and external stakeholders. **Climate change is a whole-of-University and whole-of-society issue, and the Hub reflects that.**

MANY WAYS TO ENGAGE

We collaborate with people and groups on and off-campus who engage with any dimension of climate change (see the box on our holistic view of climate p4). Here are some suggestions on how to connect, but we also welcome your proposals on how we could work together. If the strategic plan sparks ideas, please tell us!

UD AFFILIATES

- Join our mailing list to receive news and share news items to promote
- Join, host, or propose a skill-building workshop or webinar
- Present at the annual Climate Education or Climate Research Symposia
- Join the Hub Council and/or a topical working group (see Appendix)
- Join our network, mentor students, or engage in career panels, job fairs and internship matching (alumni welcome!)

STUDENTS

- Join the Climate Scholars (undergraduates) or Climate Fellows (graduates) or our mailing list (anyone)
- Take a climate-related course; become a Hub intern; pursue an external internship (more information on website)
- Attend events, workshops, and symposia, or sign up for a community volunteer event

EXTERNAL PARTNERS

- Join our Hub Partners board; join our mailing list; tell us about events and opportunities
- Host a climate intern, propose a community engagement event, or propose a project

THE PLAN

There are many scholarly, policy, educational, outreach, and related activities that the Hub could pursue to engage climate change. This plan is an effort to identify targeted areas within that wide field of possibility where the Hub can contribute most powerfully and by building on existing strengths at the University and in the region. **The plan is organized around three core values and three main goals, with two primary objectives under each goal.** In this document, each objective is illustrated with a few sample actions that the Hub could pursue, rather than an exhaustive list. Separate planning documents will include more detailed action lists and metrics the Hub will use to evaluate progress.

Hub activities are envisioned in three phases. Phase 1 includes priority actions for the first one to two years; Phase 2 activities build on that foundation in years three and four; and Phase 3 includes larger-scale or longer-term actions that will require an increase in Hub capacity. These longer-term goals are noted here to inform capacity-building efforts in phases 1 and 2.

VALUES

All the goals, objectives, and activities of the Hub are informed by and intended to promote the values of **Joy and Creativity; Diversity, Equity, and Inclusion; and Climate Justice.** Climate change scholars, practitioners, community members, and educators recognize that climate change solutions – whether to mitigate, adapt, or process loss and find hope – require creativity to develop innovative solutions; diversity in the people, perspectives, and knowledge systems involved; and a central focus on climate justice to create a more equitable and just future for all to thrive.

JOY & CREATIVITY

Working on or learning about the climate crisis can be emotionally draining, strain mental health, and lead to burn out. This is harmful to the well-being of students, colleagues, and partners. Climate anxiety and grief reduce the range of futures that seem possible, limiting the innovation and sustained efforts needed for climate solutions. Creativity is an important research and professional skill that can be fostered. Joy has gained increasing recognition as an important tool in social and environmental movements, especially for people from underrepresented groups, as in the growing movement of Black Joy. The Hub will therefore work to foster hope, play, joy, and creativity in our activities, communities, and physical spaces. We seek to develop communities where all members can be creative and joyfully express their authentic selves. Climate change is a crisis, and not every moment of work or study will be joyful, but some activities can inspire hope, and interactions with other people can be joyful. This atmosphere can support our community and their long-term efforts for climate innovations. Supporting creativity, joy, and mental health will nurture members as both humans and climate leaders.

WHY JOY?

“By leaning into joy and connection, we can find and sustain the energy we need to do what needs to be done” – *Rosner, COP 27 Reflection 2022 Seven Generation*

“Joy can strengthen our resolve, help us unlock creativity, and bolster our resilience” – *Grist Fixer, 2022*

“Tackling environmental injustice is heavy stuff. The goal is to make our environment safe for living so that we all may flourish. But why can’t we prioritize laughter, joy, and rejuvenation along the way?”
– *The Solutions Project, Climate Justice*

A HOLISTIC VISION OF CLIMATE CHANGE

If you are wondering whether your approach to engaging with climate change fits within the Hub, we assure you that it does. We collaborate with people and groups who engage with any dimension of climate change:

Those who seek to understand how and why the climate is changing; to model past, present, or future climate changes or their consequences; to understand how a changing climate affects individuals, communities, societies, non-human species and ecosystems, the built environment, and social or economic institutions; to mitigate the future effects of climate change or adapt to them, whether through technology, policy, behavior, culture, or other innovations; to evaluate the effectiveness, efficiency, ethics, or desirability of climate actions (or lack thereof); to recognize the loss and damage that is already occurring and will continue to escalate and to create mechanisms to process grief and anxiety; to communicate effectively and break down political barriers to build more holistic and just solutions; to integrate alternative knowledge systems and views in climate efforts; to explore the role of the arts, humanities, and heritage in reflecting and shaping social values in a changing climate; and many more dimensions.

The Hub welcomes collaborations with scholars, practitioners (including UD staff, government agencies, non-government organizations, private sector businesses, and community members), students, alumni, and other schools. The intent is to include all and thereby enrich the work of all.

DIVERSITY, EQUITY, & INCLUSION

Climate change as a field of scholarship, education, and practice suffers from a lack of diversity in the people involved and the knowledge systems engaged. Recent scholarship documents the need for more diverse representation in climate-related degree programs, research efforts, and practitioner organizations; for more inclusive modes of education, scholarship, and decision-making; and for improved educational pipelines and career paths. The Hub will explicitly pursue avenues to increase diversity of the people, knowledge systems, disciplines, and perspectives involved in Hub activities and in climate initiatives across the University and the region.



Credit: Stefan Muller, 2021 Demonstration, CC2.0

CLIMATE JUSTICE

Climate change will affect the entire planet, but its effects will not be felt equally, and the way those harms – and efforts to address climate change – are distributed is shaped by social policies, norms, institutions, and histories. The effects of climate change can compound injustices and inequities. Frontline communities often face challenges due to colonialism, racism, disinvestment, legacy pollution, and other sources of environmental degradation. Climate justice involves recognition that addressing climate change also involves acknowledging and addressing legacies and enduring systems of injustice. The Hub will center justice as a core tenet in its activities and networks.

GOALS

TRAIN CLIMATE LEADERS

We want to train current and future climate leaders at all levels: faculty and staff, graduate and undergraduate students, and alumni. We use the term 'climate leader' broadly, to include not only those in official positions of leadership in directly climate-related careers but anyone who speaks or acts as a champion for climate action. Education – both formal course training and informal learning through experiences, workshops, networks, and independent inquiry – is central to the University mission and therefore central to the Climate Hub mission. The University already offers climate-relevant courses and opportunities in many disciplines and academic programs. For these efforts, the role of the Hub is therefore to assist in coordinating, packaging, and advertising. The Hub will also lead growth in the creation of climate-related courses and experiences, including formal degree programs and experiential opportunities. Our goal is to encourage people from every unit on campus to be climate-aware, to increase capacity as change agents while countering climate-anxiety, and to develop the skills to be a leader in their area of expertise even if that is not directly related to climate change.

OBJECTIVE A – EXPAND AND IMPROVE STUDENT EDUCATIONAL OPPORTUNITIES, BOTH FORMAL AND INFORMAL

Every student at the University of Delaware, regardless of major, should have the opportunity to learn about how climate change relates to their area of study. The Hub will support development of new degrees and certifications to attract students and grow courses and programs to support continuing education of professionals; and integration of climate change into existing courses and modules. These efforts will continue UD's tradition of excellence in education. Examples of actions include:

Phase 1:

- Support course development, improvement, and integration of climate into existing courses, with an emphasis on programs underrepresented in climate change (e.g., psychology, nursing, business). Support may take many forms, such as grants, resources, workshops, seminars, and an annual Climate Education Symposium.
- Collaborate with initiatives across campus to integrate a climate change component (e.g., the Ratcliffe Eco-Entrepreneurship Fellowship and Horn Entrepreneurship Design Sprint; Pitch 90).
- Coordinate efforts to develop climate-related graduate and undergraduate degree programs, certificates, and alternative credentialing mechanisms (e.g., badges and micro-credentials).

Phase 2:

- Expand graduate research enhancement grants to support climate-related student-led scholarship.
- Expand the Climate Scholars enrichment program and incorporate community engagement and practitioner-relevant capstone projects; incorporate climate justice into course or project components.
- Facilitate connections between faculty and students to promote climate-related research (e.g., through the UD Delaware Research and Work Study or interdisciplinary postdoctoral programs).



UD Climate Scholars - 2022

- Host workshops on the role of creativity, visioning, joy, and collaborative networks in science.
- Provide resources, workshops, and other support to educators on how to support student mental health while learning about climate change (through collaborations with the Center for Teaching Evaluation and Learning and other partners).
- Coordinate internship opportunities with partners and UD alumni in the climate sector to facilitate career pathways.

Phase 3:

- Modify UD undergraduate general education requirements to incorporate climate change so all students have a baseline awareness; add new majors and climate-relevant degree programs.
- Advocate for faculty hires in key areas to enable broader offerings.
- Work with regional high schools, colleges, and two-year institutions to develop climate offerings, recruitment pipelines, articulation agreements, and other mechanisms to increase recruitment, with particular emphasis on underrepresented groups.
- Align UD climate offerings with professional climate certificates and credential programs (e.g., the Association of Climate Change Officers certificate process).

OBJECTIVE B – PROVIDE SKILL-BUILDING OPPORTUNITIES

Education is a lifelong endeavor that often occurs outside the classroom. The Hub will therefore work to provide skill-building opportunities for faculty, staff, students, practitioners, partners, and other stakeholders. Examples of how the Hub might pursue this objective:

Phase 1:

- Arrange trainings for faculty and students on professional skills (e.g., climate communication and media engagement, climate education, creativity as research skill, government engagement, incorporating diverse knowledge systems).
- Raise awareness of climate-relevant trainings, fellowships, grants, and other opportunities.

Phase 2:

- Expand training opportunities and foster networks to provide advanced offerings.
- Create opportunities for students to build professional skills while supporting faculty efforts (e.g., to recruit policy students to translate research into policy briefs for state legislators, journalism students to write articles about emerging areas of climate research or climate activities on campus).
- Facilitate discussions around open data and open access publications.

Phase 3:

- Collaborate with faculty and off-campus partners to offer climate change training opportunities for professionals; This could involve training on specific skills needed by partners (e.g., needs identified by Delaware state government agencies) or training on climate skills more broadly (e.g., offerings to support emerging roles identified by the American Society of Adaptation Professionals or American Society of Floodplain Managers).
- Create a student mentoring network with alumni in climate careers.
- Connect with employers seeking climate expertise to better understand the skill sets they are seeking and communicate these needs to departments, degree programs, and students.

BUILD INTERDISCIPLINARY NETWORKS

Climate change will affect almost every aspect of human life, so the University's approach to climate change should be equally all-encompassing. The University of Delaware has a strong commitment to interdisciplinary scholarship and education, but institutional barriers remain on campus and throughout academia. The Hub will seek to remove or overcome these challenges. The Hub will also build networks and serve as an entry point for community, regional, national, and international partners to engage UD. These networks will integrate diverse people, disciplines, perspectives, and organizations.

OBJECTIVE A – PROMOTE CLIMATE CHANGE ENGAGEMENT AS A WHOLE-UNIVERSITY ENDEAVOR

The Hub has a role supporting climate-relevant activities in every unit at the University, including those traditionally under-represented in climate endeavors (e.g., arts, health, business). Examples of how the Hub might advance this objective:

Phase 1:

- Facilitate collaboration by building mechanisms for communication (listservs, slack groups, websites, etc.); Organize topical working groups; Host interdisciplinary panels and a bi-annual (alternate years) Climate Change Research Symposium.
- Seek or create opportunities for collaboration with units traditionally under-represented in climate efforts (e.g., host a climate art exhibit or a climate-related creative writing competition).
- Engage with and support climate justice and environmental justice initiatives on campus (e.g., DENIN working group).
- Strengthen community through social events; Incorporate joy and creativity (e.g., collaborate with EcoGaming and Environmental Humanities initiatives to discuss climate fiction books, climate games, zine creation workshops).

Phase 2:

- Analyze strengths and gaps in UD faculty and staff to identify areas for priority investment and recruitment, with particular attention to representation and diversity of personnel, disciplines, and knowledge systems.
- Facilitate interdisciplinary co-advising and co-teaching of interdisciplinary courses.
- Further increase the diversity of Hub Council and Partners boards (see Appendix for organization chart); pursue methods to better include and integrate knowledge systems and perspectives.
- Support campus partners and their efforts to expand their climate initiatives (e.g., Center for Environmental Monitoring and Analysis).

Phase 3:

- Engage community partners through arts, humanities, and culture (e.g., climate art competitions), with particular attention to the diverse heritages in our region.
- Host a "Hub of Hubs" event to bring together climate hub-type organizations from other universities to discuss lessons learned and the role of convening organizations in climate change.

OBJECTIVE B – FACILITATE ENGAGEMENT BETWEEN ON- AND OFF-CAMPUS PARTNERS

Phase 1:

- Create Hub Partners group to connect with off-campus partners (see Appendix for organization).
- Expand the capacity of UD faculty and staff to engage with legislators, government agencies, community leaders, and other partners (see also training objective B).
- Facilitate student internships and other initiatives to build partner capacity, as requested and where there is mutual benefit.

Phase 2:

- Sustained Climate Scholars community engagement initiatives, practitioner-relevant projects, and internship placements for both undergraduate and graduate students.
- Collaborate with existing UD community engagement programs to provide training for Climate Scholars and other interested students, with particular emphasis on climate communication and climate justice.

Phase 3:

- Collaborate with partners to support Delaware Climate Action Plans and the development of a vision for Delaware climate adaptation.
- Facilitate larger efforts to translate UD climate scholarship into practice (e.g., develop sustained relationships with congressional staff and members at state and national levels).

POSITION UD AS A CLIMATE LEADER

The University of Delaware has extensive expertise on climate change, sustainability, and related topics – in its scholarship, teaching, service, and engagement. The university could gain greater recognition for its efforts and continue to grow as a leader in climate change education, scholarship, and service. The Climate Hub has a major role to play in disseminating the work being done – to our academic peers, to practitioners, and to the public. We also have a role to play in translating research for practitioners and communities in the state of Delaware, across the country, and around the world. For the University to become a leader in climate change, it is also important for the University to “walk the walk”: UD must demonstrate internal commitment to reduce our carbon footprint, increase our sustainability, and become a test bed for solutions and a model of best practices and innovation.

OBJECTIVE A –

AMPLIFY CLIMATE WORK ACROSS THE UNIVERSITY

An important step in promoting further climate work at UD is to take stock of what is already being done and to amplify and elevate this work by building connections, promoting and publicizing that work, and providing additional resources and opportunities. Examples of how the Hub might pursue:

Phase 1:

- Disseminate information about on-going climate change work at UD to peer institutions, academic and practitioner networks, and partners through newsletters; social media; faculty, staff and partner profiles; and other opportunities.
- Promote faculty, student, staff and partner communication (e.g., supporting a Three-Minute Thesis competition for graduate students in coordination with Pitch 90 and Spark Symposium).
- Identify opportunities for Hub affiliates to further elevate their work (e.g., fellowships, grants).

Phase 2:

- Host a bi-annual Climate Conference (in alternate years from the UD symposium) on an emerging topic.
- Expand efforts to elevate UD work (e.g., pursue funding to support graphical or video abstract creation and workshops).
- Support engagement in national and international initiatives (e.g., participation in National Climate Assessment, Intergovernmental Panel on Climate Change, or other national and international fora).
- Facilitate discussions around open data and open access publications.

Phase 3:

- Encourage UD participation in the international climate community (e.g., pursue observer status for faculty and students to attend the United Nations

Framework Convention on Climate Change Conference of Parties).

- Continue to support climate work in traditionally less visible disciplines and units.
- Continue to pursue avenues to translate UD scholarship and teaching into projects and products that benefit Delaware and the region.

**OBJECTIVE B –
WALK THE WALK: SUPPORT UD EFFORTS TO
DEMONSTRATE LONG-TERM COMMITMENT TO
CLIMATE ACTION**

To build the reputation of UD as a leader in climate change, it will be crucial to expand on existing climate action at UD in order to model best practices for mitigation, adaptation, and climate leadership. Efforts may be modeled after those of peer institutions around the world, but to lead, UD will need to go even further. The Hub will support efforts to decrease UD's contribution to global warming through carbon emission reductions, greater sustainability in campus practices and culture, increased social and environmental responsibility in financial investments, and efforts to address and redress historical and ongoing injustices. These efforts will be pursued in coordination with the UD Office of Sustainability and other partners.

Phase 1:

- Evaluate the climate impact of Hub operations and pursue sustainable practices internally.
- Develop standards for the Hub regarding funding transparency and mission-appropriate sources.

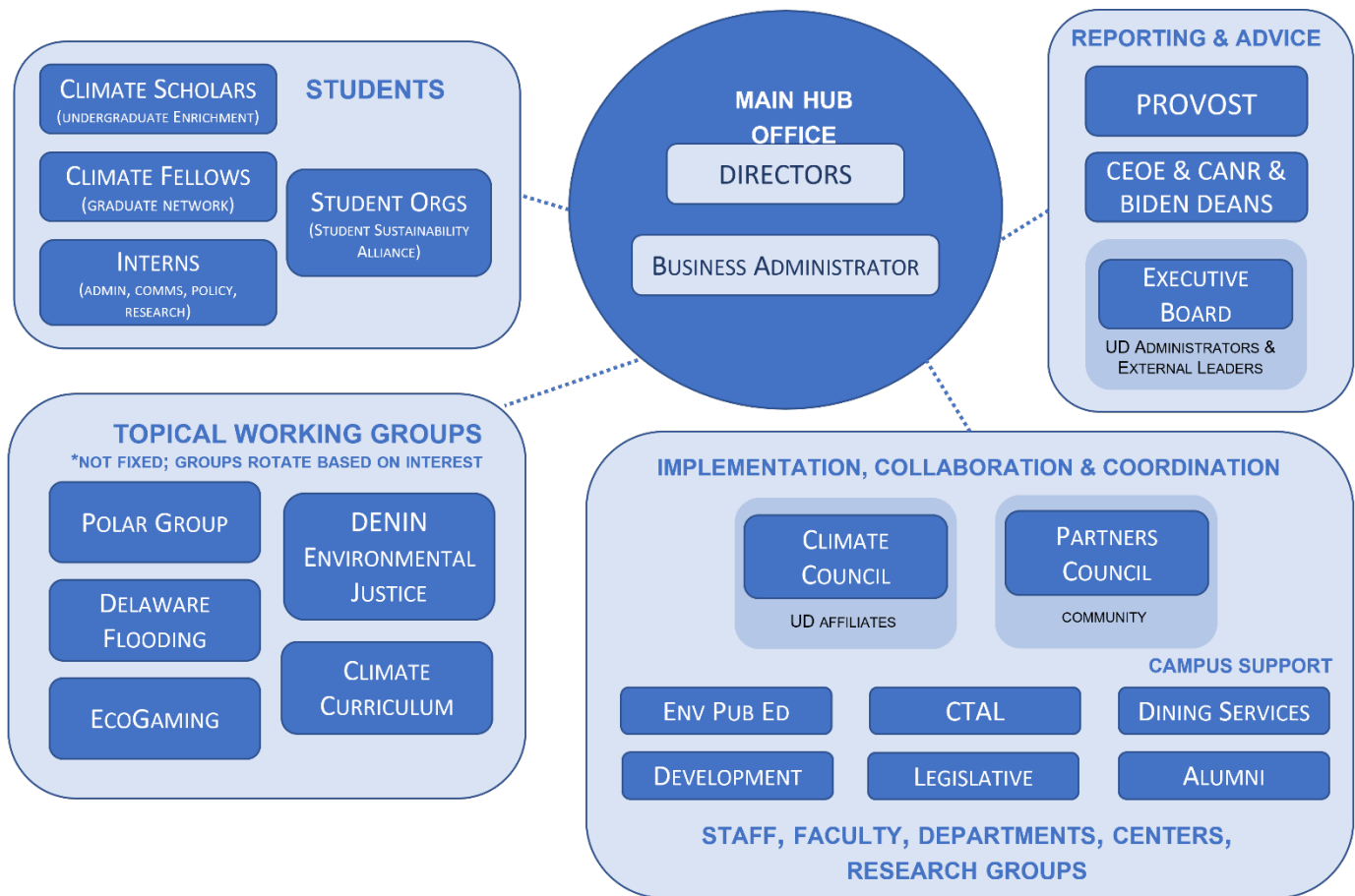
Phase 2:

- Assist the Office of Sustainability to assess and reduce UD's carbon footprint (e.g., through sustainable buildings, activities, grounds, operations, and culture).

Phase 3:

- Continue to pursue ambitious projects to reduce UD's carbon footprint and to improve campus sustainability (e.g., to reduce water use and increase water re-use, electrification of UD fleet vehicles).
- Facilitate campus-wide conversations regarding socially and environmentally responsible financial investments and funding transparency.

APPENDIX A – HUB ORGANIZATION



APPENDIX B – STRATEGIC PLANNING PROCESS & PARTNERS

The Hub serves a variety of stakeholders, and the strategic plan should represent their priorities. The creation of this 5 Year Strategic Plan therefore involved several stages for input and feedback from campus and community stakeholders.

2022

October	Draft plan (version 1) presented to Climate Council (UD internal stakeholders) and Partners (external advisory group) to provide feedback
November	Solicited feedback from UD leadership; discussed revisions with Council
December	Released draft plan (version 2) on the Hub website for open comment by UD and community Held listening sessions with UD students, faculty, and staff Solicited comments from additional stakeholders identified by Directors and advisory groups

2023

February	Presented draft plan (version 3) to Climate Council
March	Release final plan
Fall	Release complementary planning documents with actions and metrics

2025

Spring	Review progress towards the Values and Goals of the Strategic Plan and course-correct as needed
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HUB MAIN OFFICE

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CLIMATE COUNCIL

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***Membership in the Climate Council and Partners Advisory Group changes routinely. Thanks to the partners named here for supporting this five-year planning process and for giving generously of your time, ideas, and energy.**