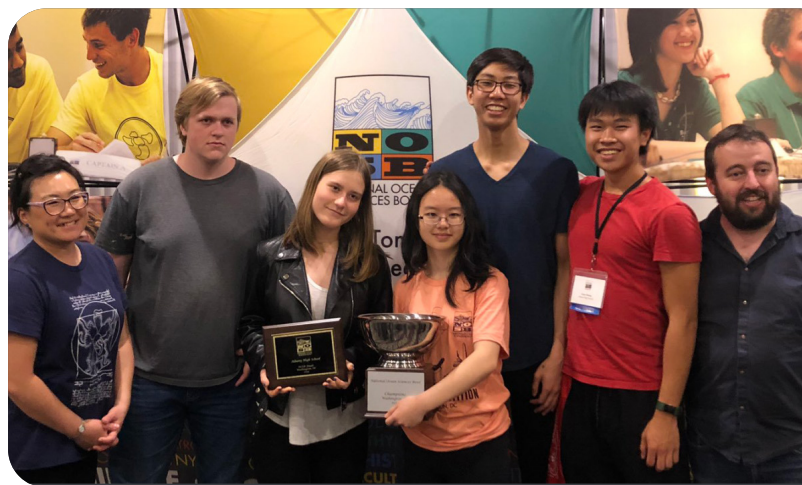
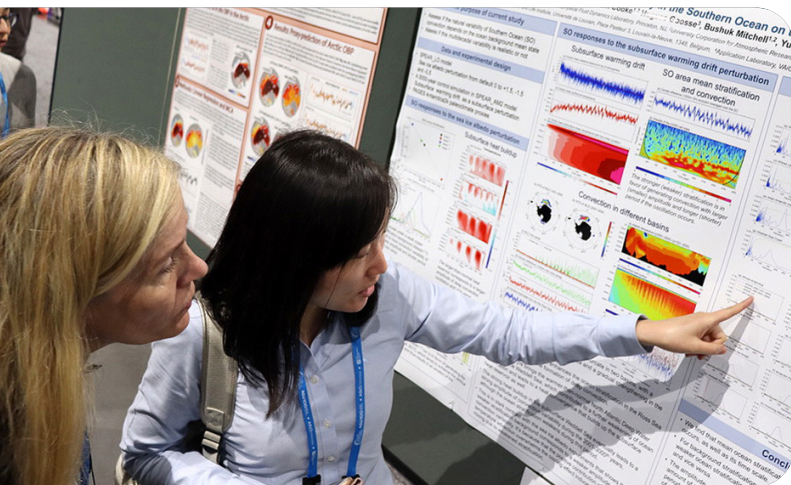


2024-2028 UCP Strategic Plan



UCAR Community Programs:
*Serving the Earth System
Science community*





Foreword

by **Bill Kuo, UCP Director**

UCAR Community Programs (UCP) takes immense pride in delivering exceptional programs and services to the Earth System Science (ESS) community. Our unwavering commitment to pioneering innovation, coupled with our dedication to enhancing existing services, underscores our strategic approach. In response to the pivotal external review of UCP in 2022, this strategic plan has been meticulously crafted as a direct response to the invaluable feedback provided by the Independent Review Committee. The plan is designed to strengthen and focus our diverse initiatives in support of the ESS community.

While each of UCP's programs administers unique and critical services with their own strategic direction, it is necessary to establish a unified vision, which leverages the vast UCP expertise and talent to drive broad impacts. This strategic plan serves as the cohesive blueprint for our programs to progress collectively, reinforcing existing capacities internally, and creating a united vision for better serving our community.

The UCP Strategic Plan is a comprehensive roadmap to foster enhanced collaborations across UCP and an environment where staff are encouraged to engage in collaborative efforts and develop skills beyond their home programs while deepening partnerships with the community and other stakeholders. UCP, as a whole, will pursue synergies that leverage capabilities and resources across all staff to maximize our value to the ESS community. The plan outlines the strategy to develop leadership in critical areas of ESS through innovative incubator projects with high risks and high rewards while maximizing scientific impact through efficient and effective business operations via a modernized management structure with a shared services model. This strategic plan serves as a transformative tool for UCP, building upon the success of individual programs and structures, and positioning us as a united entity greater than the sum of its parts.

Along with providing a guiding mission and vision, the UCP Strategic Plan contains our goals and the nuanced purposes underlying each goal. This plan offers a purposeful trajectory for UCP. This meticulously conceived plan has been built by the collective voice of UCP and will function as our guiding compass, enabling us to grow our excellence in a deliberate and meaningful manner for the ESS community.

Ying-Hwa "Bill" Kuo
Director, UCAR Community Programs



About UCP

Our work

UCAR Community Programs (UCP) represent a comprehensive array of support and services aimed at advancing the global ESS community. Activities in UCP include everything from training weather forecasters, firefighters, and emergency managers to data delivery, scientist services, scientist exchange, and novel observational systems. We develop internship programs and educational resources, foster community science engagement, provide real-time data and software analysis tools, and manage projects and staffing for scientific programs across the country and around the world. Additionally, UCP works in collaboration with federal and international institutions on satellite design, management, and data utilization to refine water, weather, and climate models.

Community is at the core of UCP, and UCP brings value to the Earth System Science community by addressing needs as they arise and evolve. The community trusts UCP as a neutral convener of science, and the individual programs have developed internationally recognized brands that attract funders from across the Earth System Science enterprise. These programs can work together to bring multidisciplinary solutions for the community.

UCP is not a federally funded research and development center (FFRDC) and is able to quickly adapt and respond as an entity. This flexibility allows UCP to work with a greater pool of sponsors, and could be leveraged by NSF NCAR in research to operations activities to extend NSF NCAR’s activities further. Collaborations with UCAR member institutions are strengthening the projects and demonstrating the value of UCP as a resource.

The community benefits from the sponsored programs administered by UCP because of the expertise and the UCAR infrastructure in place to provide support. Many of the programs work in applied research and operational solutions. The impacts of these activities reap benefits well beyond the sponsor agencies because of the capacity UCP has for amplifying results.

We are an agile, community-focused organization that uses our autonomy and support to advance the sector and address grand societal challenges.

Our community

UCP is an active participant in the ESS Enterprise, a diverse community contributing to understanding our planet that spans sectors around the globe, including public, private, and nonprofit organizations, institutions, and society. At UCP, we pride ourselves on being an organization that is able to quickly adapt and meet the evolving needs of the ESS community. See Figure 1 for a representation of some of the groups UCP serves.

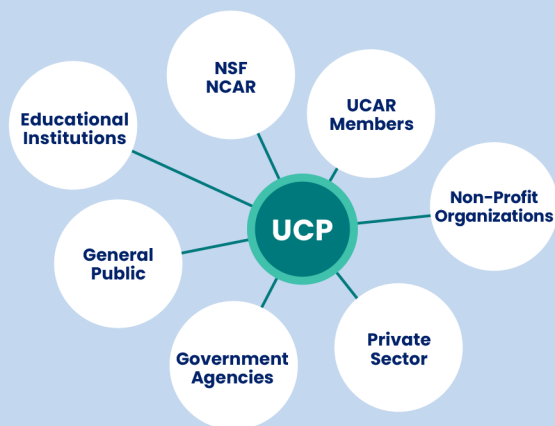


Figure 1. Some of the many Earth System Science community groups served by UCP.

Our organizational structure

UCP consists of distinct centers: the Earth Observation and Data Center, the Education and Training Center, the Scientific Partnerships and Services Center, and the Center for Ocean Leadership. Within these centers, which serve as thematic frameworks for UCP’s future direction, are unique, independently funded programs providing a range of products and services. There are natural synergies both within and across centers that have the potential for leveraging.

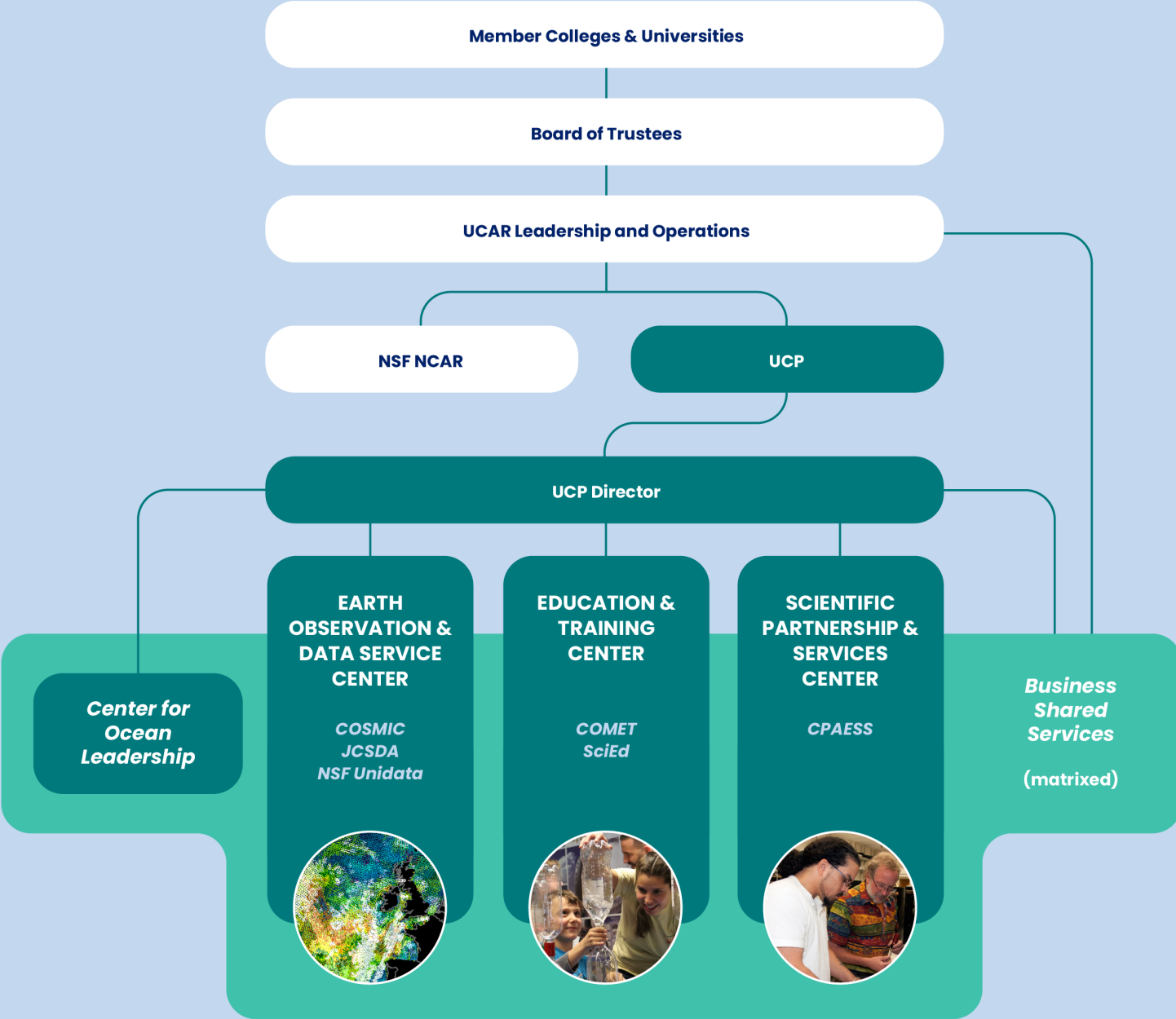


Figure 2. UCP organizational diagram, emphasizing our center-based structure.



Foundation

for the planning process

The UCP Strategic Plan is grounded in UCAR Community Programs' focus to be a trusted resource to the scientific community and broader public, empowering the next generation of scientists and decision-makers, and supporting our staff and collaborators. The development of this Strategic Plan aimed to include employee voices, as well as partners within UCAR, NSF NCAR, universities, sponsors, and other relevant external voices to ensure a broad and diverse range of perspectives that informed a plan ensuring UCP's relevance and excellence.

In addition to providing a reflection of who we are and what we do, this Strategic Plan shares our cohesive direction for the future and what we expect to achieve in the next five years. This plan builds upon the current excellence, support, and resources UCP provides to the ESS community and propels us into the next level of potential and impact.

Through our Mission, Vision, and Goals, UCP aims to celebrate the world-class science that is executed in and enabled through each of our Programs by valuing their unique identity, abilities, and strategic priorities. Meanwhile, we leverage and enhance our strengths as a coordinated UCP. The entirety of this Strategic Plan is meant to serve the inclusive wider community with whom we partner and collaborate, ranging from students and educators to sponsors and peer organizations.

PILLARS:

Create a UCP shared vision

Center the entire community in the process – internal/ external stakeholders, front-line staff, and leaders

Describe the future potential of UCP (aspirational, inclusive, future-focused, and at a UCP-wide lens)

Include the concepts of enhancing/supporting programs and their strategic plans

Reinforce, strengthen, and enhance the important value or identity of programs

Share who our community is – show the breadth of who UCP serves, emphasize the why of this plan

Reiterate future potential based on all the pillars – staff, community, and programs

Process



Through each phase of the planning process, the UCP strategic planning team employed a comprehensive and inclusive approach to gathering insight across hierarchies, career stages, identities, and affiliations. In addition to seeking contributions from all levels of UCP staff, the planning team also engaged partners within UCAR and NSF NCAR, UCAR member institutions, sponsors, and external partners to ensure that UCP continues to be relevant now and into the future.

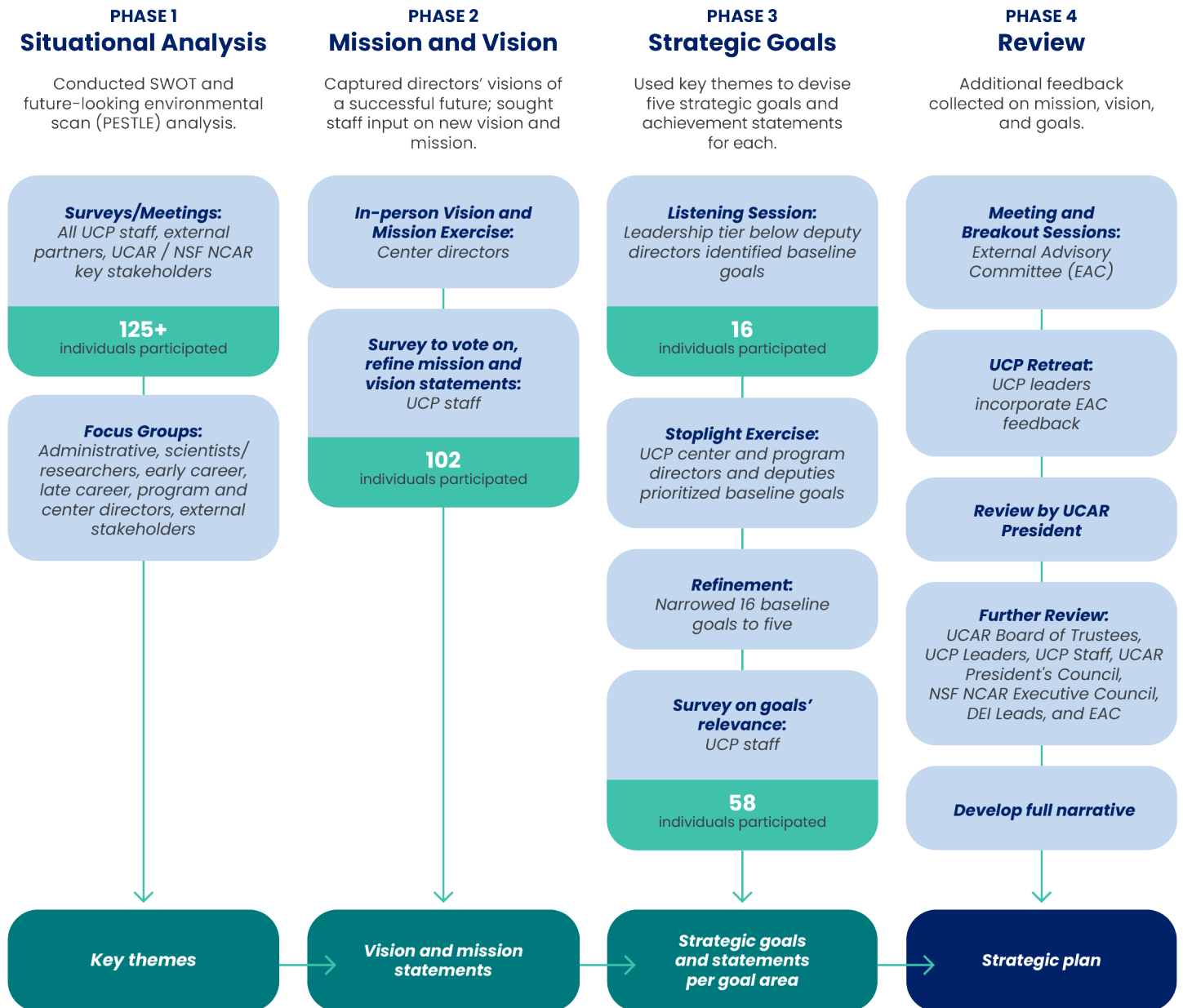


Figure 3. Phases in the generation of the UCP strategic plan. Multiple stakeholders were involved in all steps of the process.



A Center of Excellence in research, education, and services that advance Earth System Science for the benefit of society.

Vision

Mission

UCP conducts research and develops innovative data, tools, educational resources, and science services to empower the Earth System Science Community in addressing significant societal challenges.



Strategic goals

These are the key strategic goals for UCP over the next five years. They are not listed in order of priority.



Lead critical areas of Earth System Science by catalyzing new ideas and innovation, leveraging the capability and talents across UCP, and partnering with NSF NCAR, universities, and the Earth System Science community



Broaden participation in Earth System Science by increasing opportunities with systematically marginalized communities and by building the capacity of academic institutions, including MSIs, community colleges, and non research-intensive institutions



Develop the next-generation workforce to support the Earth System Science enterprise



Advance Earth system predictability through research and the development of innovative Earth observing, modeling, and data assimilation capabilities



Modernize governance, organizational structure, and operations in support of UCP's mission

Strategic goals



GOAL

Lead critical areas of Earth System Science by catalyzing new ideas and innovation, leveraging the capability and talents across UCP, and partnering with NSF NCAR, universities, and the Earth System Science community

STRATEGIC OBJECTIVES

- Promote and support new innovative ideas, efforts, and high-risk, high-reward incubator projects across UCP
- Identify and pursue collaborative project opportunities with NSF NCAR and university partners, and the community
- Promote and share UCP's unique value and capabilities with the Earth System Science community



GOAL

Broaden participation in Earth System Science by increasing opportunities with systematically marginalized communities and by building the capacity of academic institutions, including MSIs, community colleges, and non research-intensive institutions

STRATEGIC OBJECTIVES

- Broaden participation across all ages, communities, and disciplines to enhance inclusive Earth System Science, incorporating diverse perspectives from systematically marginalized communities and improving accessibility and usability of UCP products and services
- Partner with informal and formal educational organizations, including K-12 and tertiary institutions, to increase opportunities with those from systematically marginalized backgrounds
- Partner with NSF NCAR to enhance the research and educational capacities of K-12 educational institutions, MSIs, community colleges, and non research-intensive institutions
- Strengthen the capacity and infrastructure of academic institutions, including K-12 educational institutions, MSIs, community colleges, and non research-intensive institutions, with a focus on inclusivity and expanding support for systematically marginalized communities

GOAL**Develop** the next-generation workforce to support the Earth System Science enterprise**STRATEGIC OBJECTIVES**

- Increase opportunities for early career professionals by expanding UCP partnerships with the Earth System Science enterprise
- Foster a diverse and inclusive workforce to effectively conduct, teach, and communicate Earth System Science
- Develop innovative education and training resources to support the future workforce in the Earth System Science enterprise
- Collaborate with the Earth System Science community to engage and retain students from diverse backgrounds in Earth System Science career pathways from an early age

GOAL**Advance** Earth system predictability through research and the development of innovative Earth observing, modeling, and data assimilation capabilities**STRATEGIC OBJECTIVES**

- Facilitate collaboration across UCP and NSF NCAR to advance the science and technical capability of Earth system predictability across scales
- Enhance climate change adaptation and resilience through advancements in predictive capabilities and products
- Convene the Earth System Science enterprise and promote transdisciplinary science solutions to accelerate Earth system predictability research to operations

GOAL**Modernize** governance, organizational structure, and operations in support of UCP's mission**STRATEGIC OBJECTIVES**

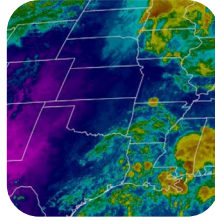
- Complete the development of the Center structure for effective UCP decision-making to better support future activities
- Modernize the indirect methodology to support the continued development of UCP
- Continuously improve processes to create efficiencies and enable UCP to respond with agility to challenges of science and society
- Leverage exemplary practices that promote staff excellence as well as efficient and effective operations
- Be the preferred partner for future community programs with high-quality service and excellent cost-efficiency



From vision to reality

- Create implementation strategy
- Identify leads for implementation of each strategic goal and development of success metrics
- Identify implementation activities for each goal
- Create 5-year implementation timeline
- Prioritize and resource actions
- Track progress and assess success measures

UCP by the numbers



965,316

Downloads of MetPy software from NSF Unidata in the last 5 years

90TB

Amount of data that is delivered daily to the NSF Unidata community via the Internet Data Distribution System

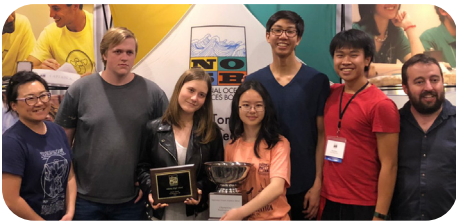


2M

Lines of supported open-source scientific software supported within JCSDA Community Research-to-Operations Center

312

Number of postdoc fellows hosted by CPAESS since 1991 through the NOAA Climate and Global Change and NASA Jack Eddy Fellowship programs



40,000

Approximate number of high schoolers have participated in the National Ocean Sciences Bowl since its inception 25 years ago

206TB

Total amount of data downloaded from COSMIC's CDAAC between January-September 2023



88

Current affiliates of the Center for Ocean Leadership, drawn from academic, non-profit, and commercial sectors

55,000

COMET MetEd users from 190 countries annually access the site's online resources, available in nine languages

2,468

Universities served by COMET around the world

261

NSF SOARS Protégés from systemically marginalized groups in STEM since the program began in 1996



5M

Users access educational resources on the SciEd website each year and 16,000 people annually participate in virtual and in person STEM education programs and community events

