

**UCAR Diversity, Equity & Inclusion Strategic Plan**  
**December 2019**

**Our Pledge**

To all members of UCAR:

We aspire to the highest levels of excellence at UCAR/NCAR/UCP, (hereafter UCAR), and our dedication to science in service to society is inseparable from our commitment to diversity, equity and inclusion.

This plan to enhance diversity, equity and inclusion at UCAR reflects those aims, and it was made possible by you, the members of our community. It includes goals, strategies, commitments, new investments, and measures of accountability generated from your ideas and your thoughtful feedback. It also reflects the values that you shared with us: your passion for making UCAR a better place to work for everyone, your deep commitment to excellence in all that we do, and your dedication to furthering science for the betterment of life on Earth.

Our community has a long history of individuals and programs with a deep commitment to supporting diversity, equity, and inclusion. The SOARS program is now entering its 23rd year and is a shining example of best practices that effectively support young scientists and engineers during the early stages of their careers. Alongside this flagship program, many other members of our community have been working to create opportunities and professional development for underrepresented students, staff, and faculty across the UCAR member community and beyond. This plan builds on all those efforts, and it would not exist without your commitment and passion over decades.

We are proud to present this plan to the UCAR community, and with it, a pledge. This plan represents our renewed commitment to investing in a UCAR community that we can all be proud of: one that supports a wide diversity of individuals from all backgrounds and identities, creates a warm, welcoming, and inclusive culture where all of us can reach our highest potential, and works with communities across the globe to tackle some of the most pressing and complex scientific issues of our time. Together, we will develop and implement new ideas, assess our progress, listen to each other and have the courage to engage in difficult conversations, and continuously improve our ways of working to ensure that we are all empowered to support UCAR's mission.

This is your plan, developed by your voices. Many thanks to all of you for engaging in this important work with us, and for your consistent dedication to making UCAR the best it can possibly be.

Sincerely,

President's Council:

Neil Barker  
Carolyn Brinkworth  
Antonio Busalacchi  
Rachael Drummond  
Everette Joseph  
Bill Kuo

Patty Leslie  
Meg McClellan  
Scott McIntosh  
Scott Rayder  
Lory Wingate

“At UCAR and NCAR, our dedication to scientific and engineering excellence is inseparable from our commitment to diversity, equity, and inclusion.”

- UCAR President, Antonio Busalacchi

## Executive Summary

The UCAR and NCAR community is a diverse and vibrant community, composed of individuals with a wide array of backgrounds, identities, and perspectives. We recognize that in order to create an inclusive and welcoming environment that maximizes scientific, engineering, business, and education excellence, we must understand and value the myriad voices and perspectives of those in our community, and develop a culture of respect, inclusivity, and belonging that enables all of us to reach our full potential. As a result, we recognize that diversity, equity, and inclusion cannot be separated from the core mission of our organization, to conduct and support exceptional science, engineering, business practices, and education in service to society and for the betterment of life on Earth.

This document lays out UCAR’s commitment to increasing excellence through hiring and promoting a talented and diverse workforce, establishing an environment of equity and inclusion, and to integrating these principles into our research, management, administrative, and educational practices at UCAR and NCAR. It is the result of an 18-month-long collaborative process across our institution, and integrates the goals, priorities, and ideas of our staff and of our partners, grounded in the research literature. It is intended to be a living document, responsive to changing demographics, research, and good practices.

## UCAR’s DEI Vision

UCAR is an employer of choice for people from all backgrounds and identities, and integrates diverse perspectives through inclusive and equitable practices in all of our research and operations

## Guiding Principles - Excellence through Diversity, Equity, and Inclusion

**Diversity:** We commit to increasing diversity, which is expressed in myriad forms, including race and ethnicity, gender identity and expression, sexual orientation, socioeconomic status, language, culture, national origins, religious beliefs, age, disability status, veteran status, body shape and size, political perspective, and field of research at all levels and across all areas of the organization.

**Equity:** We commit to continuously reviewing our policies and practices to ensure that our employees and visitors are supported with what they individually need in order to be successful, ensuring equal opportunity for all people across differences in identity and background. We understand that equity does not mean giving everyone exactly the same support, and that some of our employees and visitors may need different support from others in order to maximize their success.

**Inclusion:** We commit to pursuing deliberate efforts to ensure that our organization is a place where differences are welcomed, where different perspectives are respectfully heard and

valued, and where every individual feels a sense of belonging and inclusion. We commit to working actively to challenge and respond to bias, harassment, and discrimination. We know that by building a critical mass of diverse groups at NCAR and UCAR and creating a vibrant culture of inclusiveness, we can more effectively work together to advance our collective goals.

## **Supporting Pillars**

UCAR's vision for diversity, equity and inclusion stand on four supporting pillars, which are reflected in the four goals outlined in this plan.

***Diversity Vision:*** UCAR's workforce reflects the demographics of the available talent pool, and UCAR actively increases the diversity of that pool through educational opportunities and research partnerships.

***Inclusion Vision:*** UCAR is a model of an inclusive workplace, with a workforce that values and promotes welcoming and inclusive practices, and policies that support all staff to reach their potential.

***Integration Vision:*** UCAR integrates diversity and inclusion into research and education, ensuring that the perspectives of, and partnerships with, traditionally underrepresented communities are woven into our work.

***Accountability Vision:*** UCAR's progress is measured and reported to the science community and the underrepresented communities we partner with, and all staff are held accountable for their role in supporting DEI.

## **Goals and Strategies**

### ***Goal 1: Attract, prepare, recruit, retain, and promote a diverse and inclusive workforce***

- a) Actively work to attract and recruit diverse and inclusive candidates for all open positions
- b) Integrate diversity, equity, and inclusion best practices into hiring, promotion, and salary decisions
- c) Invest in the development and support of employees at all levels to ensure opportunity and retention, and support the maximization of potential for all
- d) Support the preparation of diverse and inclusive students and postdoctoral researchers for careers in the Earth Sciences
- e) Support the wider community through visitor programs that welcome a wide diversity of researchers from a broad cross section of institutions to NCAR and UCAR
- f) Strive for Universal Design<sup>1</sup> in all our processes, and physical and online spaces
- g) Integrate culturally responsive practices into our management, administration, and education and outreach programs

**Goal 2: Foster a workplace culture that promotes inclusive excellence**

- a) Build an environment where everyone is actively engaged, empowered, informed, supported, and welcomed
- b) Ensure a safe and productive work environment free from exclusion, harassment, bias, and discrimination for all employees and visitors in all UCAR workplace locations
- c) Develop training and hold all employees accountable for fostering and maintaining a diverse, inclusive, and welcoming culture for all employees and visitors in all UCAR workplace locations
- d) Continually review existing policies and procedures to remove barriers to a more inclusive workplace
- e) Advocate for the well-being of employees of all identities, in all of our work environments

**Goal 3: Support and build research partnerships with underrepresented communities based on culturally responsive practices**

- a) Build on our existing collaborative research partnerships with underrepresented communities
- b) Foster and expand new mutually-beneficial collaborative research relationships with communities beyond the academic community
- c) Recognize and reward collaborative research practices as an integral part of the scientific endeavor

**Goal 4: Ensure ongoing institutional commitment and accountability**

- a) Embed the structure for diversity, equity, and inclusion across UCAR, and into the job descriptions and performance evaluations of all of our employees
- b) Hold all labs, departments, and programs accountable for meeting their diversity, equity, and inclusion goals, and establish a formal reporting process on their progress
- c) Measure progress towards the goals outlined in this strategic plan, and commit to continuous improvement
- d) Build relationships with communities in and beyond the Earth Sciences to share, adopt, and support good practices with and from the wider community

## Preface

To all who have contributed to this document, whether via the 2017 Workplace Culture Survey, a Next Steps Workshop, participation in the Diversity Action Summits, emailed feedback, or personal conversations, we extend our deepest gratitude. To all those who have worked on projects that have supported diversity, equity, and inclusion over NCAR's and UCAR's first six decades, your commitment and passion are an inspiration to us all. We thank you for your unerring dedication to this work, and look forward to continuing to partner with you for many more decades to come.

## Introduction

This document is the culmination of over two years of planning, and is based on collaborations across our organization with every entity, laboratory, program and department, with our internal and external advisory committees, and with individual staff members who have contributed their ideas, thoughts, and requests. All of this input has been grounded in the research literature to ensure that the steps outlined in this plan will drive UCAR and NCAR's progress towards a truly diverse, inclusive, welcoming, and equitable environment for all. It is intended to be a living document, responsive to changing demographics, research, and good practices. Subsequent versions will be made available on UCAR's ODEI [website](#), along with release notes describing changes that have been made.

In this document, you will find the context of D&I work at UCAR, the process that we followed to develop each of our goals, the goals, strategies and tactics that we will employ to achieve increased diversity and inclusion in our organization, and the metrics and benchmarks that we will use to measure our success. See the appendices for the method used to derive demographic goals, UCAR's current demographic breakdown overall and by job category and level, benchmarks for inclusion, and a list of acronyms used in this document.

## Context

UCAR's Office of Diversity, Equity and Inclusion (ODEI) was established, along with the positions of Chief Diversity, Equity & Inclusion Officer, and Diversity, Equity & Inclusion Specialist, in January 2017. This decision was taken by UCAR's President, Antonio Busalacchi, in acknowledgement that NCAR and UCAR needed a dedicated diversity and inclusion effort in order to make meaningful change across the organization. Diversity and inclusion were also highlighted by the National Science Foundation (NSF) as a major priority for NCAR and UCAR in feedback related to the 2016 NSF Site Visits, and by our Minority Serving Institution (MSI) UCAR Members in a Diversity, Education & Outreach survey sent to all Members in 2015. In 2019, ODEI added a third team member, a Diversity, Equity and Inclusion Coordinator. This position is term-based for two to three-year terms between the years when we run our Workplace Culture Survey on a four-year cadence.

Despite the relatively recent establishment of ODEI, diversity and inclusion have been championed by groups at NCAR and UCAR for decades. The SOARS program is recognized as the NSF's flagship internship program for underrepresented students in the geosciences, groups such as CISL's Education and Outreach team and RAL's GIS workshops have been partnering with Minority Serving Institutions (MSIs) for years, and efforts such as Rising Voices: Climate Resilience through Indigenous and Earth Sciences (hereafter "Rising Voices"), which

has established deep relationships between western scientists and indigenous scientists, students, and communities, are all indicative of the energy and commitment that many UCAR and NCAR staff have for this work. The establishment of ODEI builds on this rich legacy to ensure that D&I is integrated across our organization, and that our efforts support and build on each other to create a whole greater than the sum of its parts.

The benefits of a diverse, equitable, and inclusive workplace have been unequivocally established in the research literature.<sup>2</sup> This research shows that diverse and inclusive teams virtually always outperform homogeneous teams,<sup>3, 4, 5</sup> particularly when addressing complex problems such as the organizational goals of NCAR and UCAR. We also know that building diverse teams enables us to attract the very best staff and students,<sup>6</sup> and that integrating ideas and perspectives of people from different cultures and backgrounds make us more responsive to real-world problems faced by communities at the greatest risk from climate change and severe weather events. The bottom line is that it will be impossible for NCAR and UCAR to reach our full potential without integrating diversity, equity, and inclusion throughout every aspect and level of our work. More on the research behind the power of diversity and inclusion can be found in UCAR's [Case for Diversity](#), available on UCAR's ODEI website.

## **Process/Theory of Change**

The planning process for this strategic plan began in January 2017, with the establishment of ODEI at UCAR, and the recruitment of both internal and external advisory committees. UCAR's Internal D&I Advisory Committee is composed of about 20 individuals selected to be as representative of UCAR, NCAR, and UCP as possible. Members are drawn from most laboratories, departments, and programs (hereafter "L/D/P"), from all job families and levels, and from most demographic identities. This committee meets on a biweekly basis to review the progress of the strategic planning project, and to offer advice and suggestions regarding the input received from the wider community.

The External D&I Advisory Committee is made up of demographically and socially diverse experts in areas of diversity, equity, and inclusion from organizations within the field of Earth system science and the private sector. These seven individuals have provided input at various points in the planning process and continue to provide advice and recommendations for ways we can improve organizational diversity and culture.

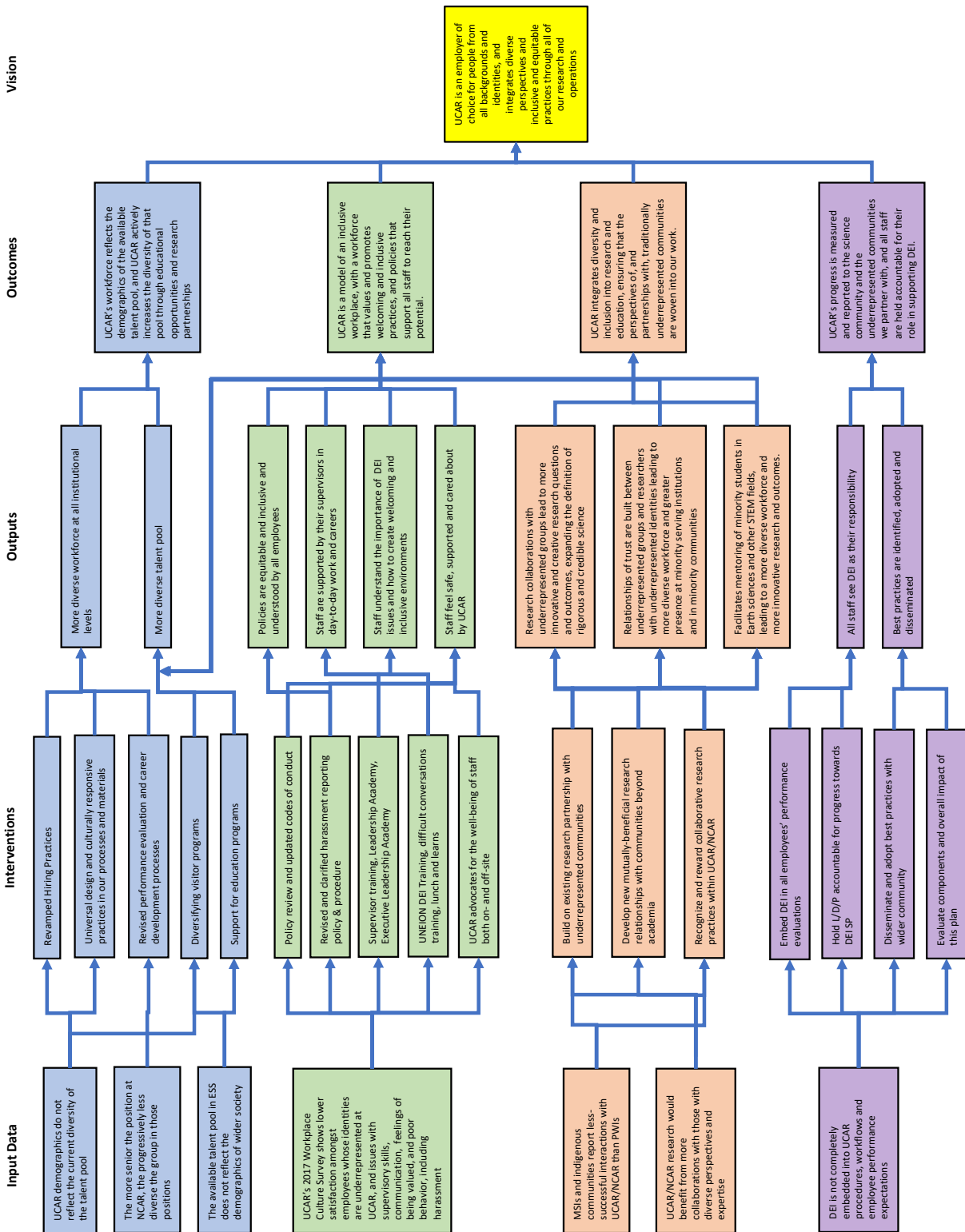
In addition to these committees, ODEI consulted with a number of organizations who have also been developing their D&I strategic plans to glean lessons learned, and conducted a review of the literature on good practices for both the process within the organization, and the necessary components of an effective D&I plan that leads to measurable change. Based on these sources,<sup>7, 8, 9</sup> ODEI settled on four major themes that research shows must be present in order to affect meaningful progress in D&I: demographic diversity; an inclusive and welcoming culture; integration of D&I with organizational mission and practice, and institutional commitment and accountability.<sup>10</sup> Our approach is further supported by recent research which highlights the benefits of applying critical mixed-methodological approaches and intersectional frameworks.<sup>11</sup>

The three entities that fall under UCAR management: UCAR, NCAR, and UCP, comprise a total of 27 L/D/P. Given the radically different missions, cultures, and demographic compositions of those L/D/P, planning for diversity and inclusion at the organization as a whole requires flexibility and nuance at the L/D/P level. There is no "one-size-fits-all" solution to building a more

diverse, inclusive and welcoming workplace across the board.<sup>12</sup> ODEI has therefore spent two years developing this plan, through data collection, collaboration with Human Resources, the Office of General Counsel, the UCAR Communications Team, the UCAR, NCAR and UCP Directorates and individual L/D/P, the co-creation of individualized L/D/P plans that address the challenges and opportunities unique to each group, and iterations with UCAR's Board of Trustees and the National Science Foundation.

In implementing this DEI strategic plan, ODEI is working across UCAR and NCAR to provide input on new initiatives, plans, and policies, such as the UCAR and NCAR Strategic Plans, and the upcoming UCAR Workforce Management Plan. The Workforce Management Plan, in particular, will be instrumental in shaping the organization to attract, recruit, support, and promote UCAR's future diverse and inclusive workforce. Many of the initiatives and actions in that plan will be heavily informed by this document and our office.

Logic Model: A zoomable version of this graphic is available on the UCAR ODEI website





### ***Goal 1: Attract, prepare, recruit, retain, and promote a diverse and inclusive workforce***

The planning process for Goal 1 has been primarily in collaboration with Human Resources, and the various education and outreach groups across the organization. This theme focuses on diversifying the demographics of NCAR and UCAR to reflect the available talent pool in each job family and level, and ensure that we are hiring the most qualified individuals into UCAR. Strategies include enhancing the pipeline, and bringing recruitment, hiring, and promotion procedures into line with research-based good practices.<sup>13</sup> In addition, a major theme from the 2017 Workplace Culture Survey (see Goal 2 for more details) was the need for more comprehensive career development, so this has been included as a strategy under Goal 1. UCAR's upcoming Workforce Management Plan will detail many of the concrete actions that are being taken to address diversity at UCAR, and will dovetail comprehensively with this DEI strategic plan.

The integration of culturally inclusive practices into our mentoring, education and outreach is a best practice for preparing and attracting a diverse future workforce that has been supported by the literature for decades.<sup>14</sup> Evidence shows that mentoring and pedagogy that is responsive to a student's cultural context not only supports their learning,<sup>15, 16, 17</sup> but empowers them to maintain their cultural integrity while also engaging in the scientific culture and learning the material.<sup>18, 19</sup> This is critical to avoid placing them in a position where they feel they have to choose between their heritage/identity and science/engineering. Equally, ensuring that our administrative and management practices are prepared to work with individuals from different cultural contexts are a critical piece of creating access for diverse students and community members into our institution.

UCAR's goals for the demographic diversity of the organization are based on demographic parity with the available applicant pools. These goals are derived for each STEM-related job category, based on statistics from the NSF's Report on Women, Minorities, and Persons with Disabilities in Science and Engineering, and from the U.S. Bureau of Labor Statistics. They are responsive to geographical location, to career stage, and to position type. Given the increasing diversity of graduating students, the goals will be revised bi-annually to reflect a changing applicant pool, to match the cadence of new releases of the NSF Report on Women, Minorities, and Persons with Disabilities. Further work will be done over the next few years to derive similar goals for non-STEM positions, and this document will be updated accordingly. For more details on how these targets have been derived, please see Appendix A.

### ***Goal 2: Foster a workplace culture that promotes inclusive excellence***<sup>20</sup>

NCAR and UCAR are composed of 27 different labs, departments, and programs, each with their own distinct culture and set of needs. While culture at the organization as a whole is important, we know that addressing and improving culture in a more localized way will be the most beneficial for seeing change. In order to better understand the needs and areas of growth at the organization, ODEI led the development and execution of an extensive workplace culture survey. After a competitive RFP process, The Spring Institute for Intercultural Learning and National Research Center were selected as the independent third-party vendors to develop, conduct, and analyze the anonymous survey. The survey instrument and the communication plan were created with input from ODEI and both the internal and external advisory committees to ensure that we were asking about the issues and concerns in our organization.

The survey was fielded from May 17 to June 9, 2017, with results and final reports shared with the organization in September of 2017. Each L/D/P received their own results alongside a comparison of the aggregated results from all L/D/P within their entity (UCAR vs NCAR vs UCP), and the overall organization. A follow-up Next Steps Workshop (NSW) was then conducted for each L/D/P, facilitated by the Spring Institute, and designed to reflect on the results and build a plan for the subsequent four years leading up to the next culture survey in 2021. These NSWs addressed both the L/D/P members' "dreams" for an ideal workplace, and the challenges identified in the culture survey to achieving that dream. Based on these conversations, each L/D/P created a Workplace Goals document and an Implementation Plan to document the aspects of their group culture they will address by the next survey, and the steps they will take to put that change into action.

Some challenges identified in the culture survey affect the whole institution, and require intervention, policy, and culture change across the whole of UCAR and NCAR. To address these aspects, ODEI convened an institutional-wide Diversity Action Summit in November 2017. Around 140 people and around 85% of UCAR and NCAR leadership attended the summit, comprising around 12% of the organization as a whole. The day-long workshop was facilitated by the Spring Institute, and followed a similar process to the NSW, collecting both dreams and challenges from attendees, as well as specific recommended action steps. This input strongly guided the development of this document, and many of the actionable suggestions can be found in the enclosed strategies and tactics. Much of the data collected has also informed UCAR's upcoming Workforce Management Plan, which will include actionable steps to implement many of the strategies included here.

### ***Goal 3: Support and build research partnerships with underrepresented communities based on culturally responsive practices***

While the first two goals of increasing diversity and achieving an inclusive culture are critical to D&I, true inclusive excellence comes from integrating those inclusive practices into science and engineering research.<sup>10, 21, 22</sup> Through nearly a decade of supporting the Rising Voices program, NCAR and UCAR have emerged as leaders in integrating inclusive practices into scientific research and application. Rising Voices facilitates cross-cultural approaches between Earth system scientists and indigenous scientists, students, and communities, working on adaptation solutions to extreme weather and climate events, climate variability and climate change. The program has led to a number of mutually-beneficial research collaborations, and is currently a partner in NCAR's NSF INCLUDES project, along with UCAR's GLOBE program, conducting co-designed hydrology research with NCAR scientists working on the National Water Model.

In addition to the work of Rising Voices, we have been working on expanding the SOARS program to satellite locations and working with SOARS alumni, who have a wide range of diverse identities, as new location leaders. This is accompanied by a greater emphasis in our future plans for working with Minority Serving Institutions who have closer ties and greater awareness about communities underrepresented in our field than we hold at UCAR. Closer research ties with both SOARS satellite locations and MSIs work to diversify the perspectives incorporated into the work being done at UCAR/NCAR, and in particular in projects co-designed with these partners. These co-designed projects have enormous potential to enrich scientific research questions and outcomes.

Empirical evidence is amassing about the benefits to scientific disciplines, scientific processes, and community engagement outcomes of involving local communities in scientific endeavors.<sup>23, 24</sup>

Ultimately, working with partners with diverse knowledge backgrounds in foundational research leads to more creative questions and methodologies, and more culturally-appropriate and socially acceptable research outcomes.

#### ***Goal 4: Ensure ongoing institutional commitment and accountability***<sup>25</sup>

The final essential element in effective D&I plans is the inclusion of elements that encourage institutional commitment, an ongoing feedback process, and accountability to the goals of the strategic plan. The metrics and benchmarks were chosen to be ambitious but achievable within the given timeframes, and within the context of the state of the field. They were developed in collaboration with HR, taking into account current demographic diversity of the fields from which we recruit, and the turnover rate of our organization. Goals related to workplace culture are benchmarked internally across L/D/P, and externally against similar research organizations, with the aim of positioning UCAR as a leader in the field. The strategies under this goal are designed to build D&I into the fabric of UCAR and NCAR, and are supported by the UCAR Workforce Management Plan that is currently under development.

#### **Metrics and Benchmarks**

Progress towards the goals laid out in this strategic plan will be measured on various timescales, depending on the goal. Some are measured quarterly, others annually, and some on a four-year cycle due to the cadence of institution-wide Workplace Culture Surveys. The metrics and benchmarks used to measure our progress relative to our own history and relative to the work of other similar institutions are laid out in the final section of this document.

### **Goals, Strategies, & Tactics**

#### ***Goal 1: Attract, prepare, recruit, retain, and promote a diverse and inclusive workforce***<sup>13, 25</sup>

Current gender and race demographics for UCAR and NCAR STEM positions are provided in Appendix A. The method for developing demographic goals for all UCAR job categories is also described in detail in Appendix A. Overall demographics for UCAR and NCAR can be found in Appendix B. The strategies below have deeply informed UCAR's Workforce Management Plan (currently under development), which contains projects and activities explicitly designed to support the diversification of UCAR's workforce, visitor program, student programs, and partnerships.

##### **a) Actively work to attract and recruit diverse and inclusive candidates for all open positions**

- i) Diversify the avenues through which we advertise all jobs at UCAR to ensure that we reach a broad and diverse audience. Staff actively encourage applicants from underrepresented identities through their personal and professional networks.
- ii) Develop strong relationships with Minority Serving Institution faculty and other individuals that work with students from underrepresented communities.<sup>20</sup>
- iii) Actively recruit candidates from underrepresented identities for science and engineering positions through our alumni networks (including our internship program alumni), targeted email, mutual connections, and professional networks.

- iv) Develop new internship opportunities for non-science/engineering positions to enhance pathways for students with a wide diversity of identities into our organization.

**b) Integrate diversity, equity, and inclusion best practices into hiring, promotion, and salary decisions**<sup>13, 26, 27</sup>

- i) Develop improved job postings to ensure minimum requirements, desired skills, knowledge, and abilities stated in job postings are relevant to position, objective, and measurable to the extent possible.
- ii) Implement a consistent hiring process that is equitable, and appropriate for reviewing and assessing the applicants. All committee members agree on an assessment rubric in advance, and questions are relevant to the skills, knowledge, and abilities noted in job postings, and are applied fairly to all candidates.<sup>28</sup>
- iii) Work to ensure that hiring, promotion, fellowship, and intern selection committees for all positions have an understanding of and commitment to diversity and inclusion by including members with underrepresented identities, and/or who have taken part in the UCAR/NCAR Equity & Inclusion (UNEION) training program so as not to overburden our underrepresented staff serving on these committees.<sup>29</sup>
- iv) Provide unconscious bias training for all members of selection committees, hiring managers, and promotion panels.<sup>30</sup>
- v) Ensure that hiring and promotion policies are responsive to differing expectations and norms across disciplines.<sup>31</sup>
- vi) Standardize and fully document promotion processes and decisions. Determining factors used for assessing employees are documented and fairly and consistently applied to everyone.
- vii) Create promotion opportunities and pathways for staff that don't require entering a management or supervisory role.
- viii) Conduct an annual review of promotion demographics and salaries to ensure equity across gender and race.

**c) Invest in the development and support of employees at all levels to ensure opportunity and retention, and support the maximization of potential for all**

- i) Adopt and implement an objective and transparent performance evaluation process that is consistent throughout the organization.
- ii) Ensure that all employees are provided with a clear pathway and set of expectations for promotion to the next level, and provide information on skills required for lateral or departmental moves.
- iii) Provide mentoring and ongoing professional development throughout all employees' careers.<sup>32, 33</sup>

**d) Support the preparation of diverse and inclusive students and postdoctoral researchers for careers in the Earth Sciences**

- i) Continue to focus on internship programs that support underrepresented students.<sup>33</sup>
- ii) Continue to support programs that provide development opportunities for underrepresented students and university faculty members that teach them.
- iii) Provide all NCAR and UCAR student visitors and postdocs with professional development in the area of diversity and inclusion.<sup>10</sup>

**e) Support the wider community through visitor programs that welcome a wide diversity of researchers from a broad cross section of institutions to NCAR and UCAR**

- i) Broaden research collaborations between NCAR and institutions of higher education through faculty sabbaticals and fellowships, especially for schools that traditionally have not participated in NCAR activities, including MSIs and smaller schools.<sup>34, 35, 36</sup> (This reflects [NCAR's E&O Strategic Plan Goal 3, Strategy 1](#)).
- ii) Partner with member institutions to identify more diverse faculty and students who would be interested in spending time collaborating at NCAR as part of our visitor program.

**f) Strive for Universal Design in all our processes, and physical and online spaces**

- i) Ensure that all new websites and online systems follow the Web Content Accessibility Guidelines (WCAG 2.0).
- ii) Triage existing websites and strive to retroactively bring existing high-impact websites to align with WCAG 2.0.
- iii) Continue to address accessibility issues across UCAR campuses.
- iv) Develop and adopt UCAR guidelines for accessibility at conferences and meetings based on good practices from the literature.

**g) Integrate culturally responsive practices into our management, administration, and education and outreach programs**

- i) Partner with other organizations with strong expertise in culturally inclusive practices, including MSIs, other UCAR Member Universities, professional societies, and our funding agencies.
- ii) Identify ways to entrain and mentor undergraduate and graduate students in scientific practices in ways that allow space for their heritage, culture, and home communities.<sup>37, 38</sup>

- iii) Integrate culturally responsive pedagogy and materials into our K-12 education and outreach programs and resources.<sup>15, 39</sup>

**Goal 2: Foster a workplace culture that promotes inclusive excellence**<sup>10, 12</sup>

As with Goal 1, the strategies outlined below have heavily influenced the upcoming UCAR Workforce Management Plan, which has a strong element of building and supporting an inclusive and welcoming culture for both current and future employees. Both the WMP and this DEI Strategic Plan are living documents and will continue to inform one another as we update them to reflect the current status of our organization.

**a) Build an environment where everyone is actively engaged, empowered, informed, supported, and welcomed**

- i) Highlight, promote, and educate the whole organization on UCAR's Case for Diversity and Inclusion.
- ii) Improve, organize, and implement regular orientation and onboarding processes for all new employees.
- iii) Create mechanisms for recognition of high performing individuals and teams across all areas of the organization and within all disciplines. Ensure that support staff are included in the definition of the team.
- iv) Provide support and resources for L/D/P to implement their plans developed in response to the 2017 Workplace Culture Survey.

**b) Ensure a safe and productive work environment free from exclusion, harassment, bias, and discrimination for all employees and visitors in all UCAR workplace locations**

- i) Review and enforce UCAR's Code of Conduct and anti-harassment policy, develop participant and contributor codes of conduct and procedures for visitors, workshops, conferences, and field programs, and establish behavioral norms that are applicable in all workplace settings and locations.
- ii) Create and disseminate clear procedures for reporting and investigating misconduct, harassment, bias, and discrimination.
- iii) Establish a third-party anonymous reporting platform for employees to make anonymous complaints.
- iv) Ensure consistent follow-through on all reported incidents.
- v) Internally publish an annual summary of statistics about investigations into breaches of conduct at UCAR and NCAR.

**c) Develop training and hold all employees accountable for fostering and maintaining a diverse, inclusive, and welcoming culture for all employees and visitors in all UCAR workplace locations**

- i) Provide in-depth, comprehensive training around diversity and inclusion to any member of staff wishing to attend.<sup>40, 41, 42, 43, 44</sup>
  - ii) Develop supervisory and leadership skills for all staff in supervisory roles.
  - iii) Develop and make available training for all employees in key interpersonal skills.<sup>45, 46</sup>
  - iv) Develop and model a culture at all levels where feedback is welcome and encouraged.
  - v) Include Diversity and Inclusion as a core competency in all employees' performance evaluations.<sup>43</sup>
- d) Continually review existing policies and procedures to remove barriers to a more inclusive workplace**
- i) Review all existing policies and procedures to ensure that they do not disproportionately affect individuals with different identities.
  - ii) Ensure that all policies and procedures are equitably applied across all labs, departments, programs, job roles, and levels.
  - iii) Develop new policies as needed that are responsive to the needs of employees.
- e) Advocate for the well-being of employees of all identities, in all of our work environments**
- i) Recognize and acknowledge societal issues that impact our marginalized employees through institutional communications to support and express care for affected groups. Develop guidelines for these communications that set parameters around when and from which office to release a message.<sup>47, 48, 49</sup>
  - ii) Advocate for moving meetings or providing remote participation options when meetings or conferences are taking place in locations that our employees may have difficulty accessing, or where they can reasonably be expected to feel unsafe due to their identity(ies).
  - iii) Work to ensure that UCAR-led meetings are held in locations that are accessible, welcoming, and safe to people of all identities, or where alternative options such as remote participation options are provided.

***Goal 3: Support and build research partnerships with underrepresented communities based on culturally responsive practices***

The culture of science and engineering at UCAR and NCAR is dominated by a white, western history and background, and is heavily influenced by these values. A growing body of research is showing the critically valuable role that engaging with indigenous and traditional ways of knowing, with communities of color, and with local communities can play in scientists' understanding and context of the data they collect.<sup>50, 51, 52, 53</sup> NCAR and UCAR have been engaging in these types of partnership for around a decade through the Rising Voices Collective, which partners scientists at NCAR and other western research institutions with scientists, elders, and students from indigenous communities across the U.S. and beyond.

Similar partnerships between research scientists and U.S. local communities beyond indigenous groups (including rural communities, inner-city communities, communities of color, and those in low socio-economic areas) have also been championed by the Thriving Earth Exchange, which has facilitated numerous mutually-beneficial projects that draw on the scientific knowledge of geoscientists with the local knowledge and resources of community leaders. These projects both enhance the quality of the science that is developed, and work to position the science outcomes in direct service to society.

Goal 3 has been developed in response to the scientific benefits to UCAR and NCAR that research shows these partnerships will bring, and the community benefits that UCAR and NCAR have the potential to generate. The strategies herein directly support elements of the new NCAR Strategic Plan that is scheduled for release in 2020.

**a) Build on our existing collaborative research partnerships with underrepresented communities**

- i) Continue to support and build partnerships with Rising Voices to co-create community-based research with indigenous groups that bring western science and indigenous science together on equal footing, and address climate and severe weather adaptation and mitigation issues of mutual concern.
- ii) Identify ways to build on additional partnerships already established within NCAR and UCP.
- iii) Develop and offer professional development for staff in scientific, engineering, and education roles to promote culturally inclusive practices.
- iv) Foster and develop research and educational collaborations with faculty, postdocs, and students at MSIs.

**b) Foster and expand new mutually-beneficial collaborative research relationships with communities beyond the academic community.**

- i) Leverage relationships with partners from Rising Voices to create new opportunities for research collaborations of mutual benefit.
- ii) Explore new partnerships with Thriving Earth Exchange and similar organizations to build research relationships with underrepresented communities beyond academia. Work together with community leaders in equal partnerships to tackle community issues and advance local priorities related to natural hazards, natural resources, and climate change.<sup>50</sup>
- iii) Leverage existing community partnerships, such as those developed through GLOBE to build mutually-beneficial research relationships with communities that are underrepresented in STEM.

**c) Recognize and reward collaborative research practices as an integral part of the scientific endeavor**

- i) Adapt evaluative processes to allow for collaborative research practices to be recognized as scientific achievement during hiring, evaluation, and promotion.



**Goal 4: Ensure ongoing institutional commitment and accountability<sup>25</sup>**

- a) Embed the structure for diversity, equity, and inclusion across UCAR, and into the job descriptions and performance evaluations of all of our employees**
  - i) Widely disseminate UCAR's Case for Diversity and diversity statement.
  - ii) Include Diversity and Inclusion competencies in the new performance evaluation system.
  - iii) Require a diversity statement from all applicants for scientific staff positions.
  
- b) Hold all labs, departments, and programs accountable for meeting their diversity, equity, and inclusion goals, and establish a formal reporting process on their progress**
  - i) Hold L/D/P Directors accountable for progress towards their D&I goals as part of their annual performance evaluations.
  - ii) Obtain reports from responsible parties within L/D/P at the identified milestones set in the implementation plans.
  
- c) Measure progress towards the goals outlined in this strategic plan, and commit to continuous improvement**
  - i) Metrics listed below, and in Tables 1 and 2 in the appendices.
  
- d) Build relationships with communities in and beyond the Earth Sciences to share, adopt, and support good practices with and from the wider community**
  - i) Continue to participate in D&I activities and advisory committees at professional societies and meetings, and share good practices with colleagues investing in this work.
  - ii) Monitor and track membership on UCAR's Board of Trustees and NCAR's Advisory Panel so that UCAR/NCAR leadership can strive to ensure gender, racial, and institutional diversity
  - iii) Publish good practices identified during D&I work at UCAR and NCAR, and adopt those that are published by others.
  - iv) Continually seek out and build new partnerships and collaborations with those doing similar work in the Earth Sciences and related communities.

**Metrics & Benchmarks**

As expressed in Goal 4, we will measure progress towards the goals outlined in this plan, and the outcomes of our strategies and tactics. These metrics will be used to direct resources to the most successful strategies, and to iteratively improve the design and implementation of training, processes, and policy. An external program assessment will take place every four years, collating all of the available data, including workforce demographics, culture survey reports,

external evaluations of our training and other programs, and conducting a site visit with focus groups, to develop a report that assesses the success of our entire DEI program. We are currently talking to a number of vendors about providing this assessment, including the AAAS. This is a living document, and many of the metrics outlined below are designed to gather previously unrecorded data to establish a baseline. More concrete goals will be established annually as baselines are established, annual progress is measured, and realistic goals can be determined.

**Goal 1: Attract, prepare, recruit, retain, and promote a diverse and inclusive workforce**

Progress towards Goal 1 will be measured according to the demographics of our job categories and levels, looking for progress towards the goals outlined in Appendix A. Our annual turnover rate is currently 11.2% of our workforce when retirements are included. There is potential for this to increase slightly over the coming decade as we anticipate that an increasing percentage will begin to retire. We aim to achieve demographic parity with the available workforce in all job categories and levels by 2029 (see Appendix A), recognizing that the goals will advance during that time as the graduating cohort in our relevant science fields becomes more diverse.

Data will be collected to support these metrics as follows. Human Resources will be responsible for the collection of all metrics related to hiring, official visitors, retention, and promotion while ODEI will work with L/D/P and the Communications Team to monitor metrics for strategy. Much of the data collection described here is also included in UCAR's upcoming Workforce Management Plan and will be used to evaluate and make changes to those activities.

**a) Actively work to attract and recruit diverse and inclusive candidates for all open positions**

- i) Monitor the diversity of the applicant pools at every stage of the hiring process to determine whether and where the diversity of the candidate pools change. We expect to see the diversity of the initial applicant pool increase to match the available talent pool as our education and recruitment strategies take effect, and the demographic composition of the applicant pool should be maintained throughout the hiring process. If this is not being achieved, we will revise strategies to address, based on the data collected.
- ii) Monitor the demographics of the individuals hired to assess efficacy of existing strategies, and compile a report for the President's Council every six months. Demographics of hired individuals should match the demographics of the available talent pool. Revise strategies to address any issues that emerge.
- iii) Monitor the demographics of individuals promoted, and provide an annual report to the President's Council. Demographics of individuals promoted should be on par with the available talent pool and should be consistent up the promotion chain. Revise strategies to address any deficits in these numbers that emerge.
- iv) Conduct an annual salary review for all positions, and provide a report with findings and recommendations for equity adjustments to the President's Council. Adjust salaries for equity as needed and provide education if required.

**b) Integrate diversity, equity, and inclusion best practices into hiring, promotion and salary decisions**

- i) Metrics and responses are the same as collected for Strategy (a).
- c) Invest in the development and support of employees at all levels to ensure opportunity and retention, and support the maximization of potential for all**
- i) Measure employee retention numbers, broken down by demographics, and provide an annual report to the President's Council. Retention should be equitable across demographic groups. If we are seeing differential retention, develop strategies to address.
  - ii) Measure employee satisfaction with professional development and career progression opportunities in the 2021 Workplace Culture Survey. Repeat the 2017 Workplace Culture Survey communication and implementation plan development cycle to ensure that emerging issues are addressed in 2021 Culture Implementation Plans.
- d) Support the preparation of diverse and inclusive students and postdoctoral researchers into careers in the Earth Sciences**
- i) Each of the individual internship and education and outreach programs has their own metrics for success and writes annual reports. These will be incorporated into the D&I progress reports. These assessments are formative and summative, and the programs regularly adapt their programming to address issues that arise.
- e) Support the wider community through visitor programs that welcome a wide diversity of researchers from a broad cross section of institutions to NCAR and UCAR**
- i) Monitor the demographics and the home institution of visitors to UCAR and NCAR to ensure that we are bringing in individuals with a diversity of identities and institutions. Track the proportion of visitors who apply to open NCAR or UCAR positions. Increase efforts to engage demographics and institutions who are not well represented amongst visitor statistics.
- f) Strive for Universal Design in all our processes, and physical and online spaces**
- i) Monitor the number of conferences and meetings at NCAR and UCAR that adopt Universal Design principles. Provide additional support to those who are not doing so until all have adopted these principles by 2023.
  - ii) Measure the proportion of our websites and other online spaces that adhere to these principles. We strive for all umbrella websites to adopt these practices by 2023, and for work to them begin on lab-level sites.
  - iii) Measure progress towards increasing accessibility of our physical spaces at UCAR and NCAR through renovation work and the addition of new facilities and tools. Ensure that all new facilities meet or exceed ADA requirements.

**g) Integrate culturally responsive practices into our management, administration, and education & outreach programs.**

- i) Measure the number of partnerships with other institutions doing similar work to develop accurate baselines for this work.
- ii) Increase the number of NCAR/UCAR staff attending the annual Rising Voices conference.
- iii) Track and increase attendance at training in culturally inclusive practices.
- iv) Track and increase the use of culturally responsive content in educational materials.

***Goal 2: Foster a workplace culture that promotes inclusive excellence***

Progress towards this goal will be measured at two different levels: the overall organizational culture, and the culture within individual L/D/P. Data to measure progress on this goal will be collected by ODEI during the 2021 Workplace Culture Survey and compared to the baseline established in 2017. Progress for the organization will be measured against this plan, while progress in the L/D/P will be measured according to their individual Workplace Goals documents, delivered to ODEI as part of the strategic planning process.

Intermediate progress will be determined by attendance and satisfaction surveys for training, the number and nature of complaints that are brought to HR, and employee ratings of their supervisors' skills during the annual performance review process. Supervisor training will be assessed via a dedicated external evaluation that will determine participant satisfaction, the satisfaction of their direct reports, and measure changes in behavior as a result of the training.

Culture at the institutional level will be benchmarked against other similar organizations, including AURA and NRAO, and we are reaching out to try to introduce common culture survey questions with other FFRDCs and NSF Large Facilities to provide common benchmarks for all of our institutions.

All of these data will be used to inform priorities and changes to both DEI activities and those put in place by the UCAR Workforce Management Plan.

***Goal 3: Support and build research partnerships with underrepresented communities based on culturally responsive practices***

Metrics for success will be collected by ODEI and the NCAR Library, and include the number of research and educational partnerships developed between UCAR and NCAR staff and institutions and communities that are underrepresented in STEM, the outcomes from those relationships in terms of benefits to our partner communities, and the number and citation rates of papers that emerge from those relationships. We will also measure the number of staff members who attend training in culturally inclusive practices. For the first five years, we are focusing on incremental progress in these metrics, in order to establish a baseline for the following five years. Rising Voices as a program is subject to external evaluation, which is using culturally responsive methods and metrics to determine the strength and benefits of the

relationships between NCAR (and other western science institutions) and indigenous scientists and communities.

***Goal 4: Ensure ongoing institutional commitment and accountability***

ODEI commits to providing an annual report to the President's Council and Board of Trustees on progress towards the goals outlined in this document. Strategy (d) under Goal 4 will be measured according to the number and diversity of collaborations and partnerships built with those conducting diversity and inclusion work in the Earth Sciences and beyond. For the first five years we are focusing on incremental progress in these metrics, in order to establish a baseline for the following five years.

## Appendices

### Appendix A: Derivation of Demographic Goals for UCAR Job Categories

At this time, we are concentrating on demographic goals for Science, Technology, Engineering and Math (STEM) job categories, with the intent to expand to all job categories over the coming 2 years. Demographic goals outlined below have been derived for each STEM job category based on information from the NSF as follows:

For job levels I and II, goals are equivalent to the graduation rates in Earth and Atmospheric Sciences from the NSF's report on *Women, Minorities, and Persons of Disabilities in Science and Engineering*. The rates are taken from the year corresponding to the graduation date of an applicant with the lowest necessary experience. For example, if a position requires 5 years of experience, the goals are taken from the statistics reported for 2014 (given that we are writing this plan in 2019). A position requiring 7 years of experience will use demographic statistics from 2012, and so forth. Numbers used for scientist positions are a blend of the demographics for Physics & Astronomy and Earth System Science, weighted by the ratio of HAO-based scientists to scientists in other labs.

For job levels III and IV, we recognize that underrepresented STEM professionals may have left the field due to environments beyond UCAR's control. We therefore use NSF data for scientists working in the field, rather than graduating rates. As this is an updated number relevant to our hiring year, we use the most recent version of these numbers whenever updated by NSF. Numbers used are a blend of the demographics for Physics & Astronomy and Earth System Science, weighted by the ratio of HAO-based scientists to scientists in other labs. For Associate Scientist III and IV positions, there are not enough data on URM individuals in Physics/Astronomy to be reported by the NSF. We, therefore, use the data for Earth System Sciences. For Project Scientist III and IV, Scientist III, and Senior Scientist positions, only Physics/Astronomy data are available, and are used for our demographic goals. These cases are noted in Table 1 by asterisks and footnotes.

When, over the next 2 years, we extend to additional job categories outside of our STEM career paths, we will introduce an additional element into the goals for jobs that are sourced locally to reflect the local applicant pool. More information on how these goals are calculated will be added to an updated version of this plan as we carry out this work.

All of these demographic goals will evolve with time as the diversity of graduating cohorts change. UCAR's goals will be updated biannually to match the cadence of the NSF's Report on *Women, Minorities, and Persons with Disabilities*. We recognize that as graduating cohorts become more diverse (as is the current trend), UCAR's workforce demographic goals will become accordingly more diverse.

Data for the Tables 1-4 were collated on June 1, 2018, from the *Women, Minorities, and Persons with Disabilities in Science and Engineering*, published by the NSF, and UCAR employee statistics. These data represent statistics from reports spanning several years

**Guide to Tables 1 & 2:**

Column 1: Job title

Column 2: The percentage of the UCAR workforce who are underrepresented minorities (URM; Table 1) or women (Table 2). URM is defined as individuals who have identified their race or ethnicity to UCAR as American Indian/Alaska Native, Black/African American, Hispanic/Latino, Native Hawaiian/Pacific Islander, or Two or More Races, i.e. it does not include people of color who identify as Asian.

Column 3: The number of people who hold a particular job title at UCAR

Column 4: The percentage of URM or women in the available qualified talent pool for the job title/level, as defined above. Percentages in parentheses are the difference between UCAR’s workforce and the talent pool represented in each comparison column. The Qualified Talent Pool is adjusted to reflect the years of experience necessary for the position.

Column 5: The percentage of the graduating cohort in 2018 who identify as URM or women. This column is not adjusted for the years of experience necessary for the position

Column 6: The demographics for Boulder County with no adjustment for experience or qualifications necessary for applying to a position at UCAR

Column 7: The demographics of the US Population with no adjustment for experience or qualifications necessary for applying to a position at UCAR

**Table 1. Comparison of UCAR employee demographics and talent pool demographics for Underrepresented Minorities (URM) in STEM-related positions.**

Title	UCAR Workforce - URM	Incumbents per title	Qualified Talent Pool - URM*, **	Graduating cohort in 2018 - URM*, **	Boulder County - URM ***	US POPULATION - URM ****
ASSOC SCIENTIST I & II	20.8%	24	14.8% (+6.0%)	14.8% (+6.0%)	16.8% (+4.0%)	33.9% (-13.1%)
ASSOC SCIENTIST III & IV *	5.5%	55	5.4% (+0.1%)	14.8% (-9.3%)	16.8% (-11.3%)	33.9% (-28.4%)
ENGINEER (ALL LEVELS)	5.6%	18	11.4% (-5.8%)	18.0% (-12.4%)	16.8% (-11.2%)	33.9% (-28.3%)
PROJ SCIENTIST I & II	4.3%	93	6.2% (-1.9%)	6.2% (-1.9%)	16.8% (-12.5%)	33.9% (-29.6%)
PROJ SCIENTIST III & IV **	0.0%	43	6.3% (-6.3%)	6.2% (-6.2%)	16.8% (-16.8%)	33.9% (-33.9%)
SCIENTIST I & II	10.0%	10	6.1% (+3.9%)	6.1% (+3.9%)	16.8% (-6.8%)	33.9% (-23.9%)
SCIENTIST III & SR SCIENTIST **	2.1%	47	6.3% (-4.2%)	6.1% (-4.0%)	16.8% (-14.7%)	33.9% (-31.8%)
SOFT ENG/PROG I & II	2.4%	41	22.7% (-20.3%)	22.7% (-20.3%)	16.8% (-12.4%)	33.9% (-31.5%)
SOFT ENG/PROG III & IV	1.0%	97	18.4% (-17.4%)	22.7% (-21.7%)	16.8% (-15.8%)	33.9% (-32.9%)

\*Data are only available for Earth sciences/geology/oceanography

\*\* Data are only available for Physics/Astronomy

**Table 2. Comparison of UCAR employee demographics and talent pool demographics for Women in STEM-related positions.**

Title	UCAR Workforce - Female	Incumbents per title	Qualified Talent Pool - Female*, **	Graduating Cohort 2018 - Female*, **	Boulder County - Female ***	US POPULATION - Female ****
ASSOC SCIENTIST I & II	54.2%	24	38.35% (+15.8%)	38.35% (+15.8%)	49.7% (+4.5%)	50.8% (+3.4%)
ASSOC SCIENTIST III & IV *	56.4%	55	26.8% (+29.6%)	38.35% (+18.05%)	49.7% (+6.7%)	50.8% (+5.6%)
ENGINEER (ALL LEVELS)	11.1%	18	14.3% (-3.2%)	20.9% (-9.8%)	49.7% (-38.6%)	50.8% (-39.7%)
PROJ SCIENTIST I & II	41.9%	93	39.6% (+2.3%)	39.6% (+2.3%)	49.7% (-7.8%)	50.8% (-8.9%)
PROJ SCIENTIST III & IV **	20.9%	43	24.8% (-3.9%)	39.6% (-4.8%)	49.7% (-28.8%)	50.8% (-29.9%)
SCIENTIST I & II	40.0%	10	38.9% (+1.1%)	38.9% (+1.1%)	49.7% (-9.7%)	50.8% (-10.8%)
SCIENTIST III & SR SCIENTIST **	27.7%	47	23.9% (+3.8%)	38.9% (-11.2%)	49.7% (-22.0%)	50.8% (-23.1%)
SOFT ENG/PROG I & II	31.7%	41	18.75% (+13.0%)	18.75% (+13.0%)	49.7% (-18.0%)	50.8% (-19.1%)
SOFT ENG/PROG III & IV	20.6%	97	27.22% (-6.6%)	18.75% (+1.9%)	49.7% (-29.1%)	50.8% (-30.2%)

\*Data are only available for Earth sciences/geology/oceanography

\*\* Data are only available for Physics/Astronomy

**Guide to Tables 3 & 4:**

Column 1: Job title

Column 2: The percentage of the UCAR workforce who are underrepresented minorities (URM; Table 3) or women (Table 4). URM is defined as individuals who have identified their race or ethnicity to UCAR as American Indian/Alaska Native, Black/African American, Hispanic/Latino, Native Hawaiian/Pacific Islander, or Two or More Races, i.e. it does not include people of color who identify as Asian.

Column 3: The number of people who hold a particular job title at UCAR

Column 4: The percentage of URM or women in the available qualified talent pool for the job title/level, as defined above. Jobs recruited from a national pool reflect the national numbers, while jobs primarily recruited locally (e.g. Administrative and Facilities) reflect the local talent pool. Percentages in parentheses are the difference between UCAR's workforce and the talent pool represented in each comparison column. The Qualified Talent Pool is adjusted to reflect the years of experience necessary for the position.

Column 5: The demographics of Boulder County with no adjustment for experience or qualifications necessary for applying to a position at UCAR

Column 6: The demographics of the US Population with no adjustment for experience or qualifications necessary for applying to a position at UCAR



**Table 3. Comparison of UCAR employee demographics and talent pool demographics for Underrepresented Minorities (URM) in all job categories**

Job Category	Current UCAR employees: URM	Total number of UCAR employees within job category	National/Local Available talent pool	Boulder County URM	US Population URM
Administrative	13.8%	276	13.6% (1.0%)	16.8% (-3.0%)	33.9% (-20.1%)
Computing	4.8%	272	13.5% (-8.8%)	16.8% (-12.0%)	33.9% (-29.1%)
Engineering	0%	28	15.2% (-15.2%)	16.8% (-16.8%)	33.9% (-33.9%)
Facilities	21.9%	32	40.6% (-18.7%)	16.8% (5.1%)	33.9% (-12.0%)
Management	2.8%	106	11% (-8.2%)	16.8% (-14.0%)	33.9% (-31.1%)
Scientific	5.0%	339	4.9% (0.1%)	16.8% (-11.8%)	33.9% (-28.9%)
Student	21.6%	51	4.99% (16.6%)	16.8% (4.8%)	33.9% (-12.3%)
Technician	12.8%	47	30.8% (-18.0%)	16.8% (-4.0%)	33.9% (-21.1%)
Total	8.3%	1151			

**Table 4. Comparison of UCAR employee demographics and talent pool demographics for Women in all job categories**

Position Title	Current UCAR employees: Women	Total number of UCAR employees within job category	National/Local Available Women talent pool	Boulder County Women	US Population Women
Administrative	75.0%	276	65% (10.0%)	49.7% (25.3%)	50.8% (24.2%)
Computing	23.2%	272	22% (1.2%)	49.7% (-26.5%)	50.8% (-27.6%)
Engineering	7.1%	28	11.2% (-4.1%)	49.7% (-42.6%)	50.8% (-43.7%)
Facilities	28.1%	32	18.4% (9.7%)	49.7% (-21.6%)	50.8% (-22.7%)
Management	40.6%	106	33.6% (7.0%)	49.7% (-9.1%)	50.8% (-10.2%)
Scientific	38.1%	339	31.0% (7.1%)	49.7% (-11.6%)	50.8% (-12.7%)
Student	39.2%	51	41.5 (-2.3%)	49.7% (-10.5%)	50.8% (-11.6%)
Technician	2.1%	47	2.0% (0.1%)	49.7% (-47.6%)	50.8% (-48.7%)
Total	41.2%	1151			

Data for tables 3 and 4 for STEM positions were collated from the *Women, Minorities, and Persons with Disabilities in Science and Engineering*, published by the NSF. All data for non-STEM, non-exempt positions were taken from Boulder, CO census. All data for non-STEM, exempt positions taken from U.S. Census

## Appendix B: Overall Demographics for the UCAR/NCAR workforce

Table 3. UCAR Employee Demographics for All Positions: April 1, 2019

	Racial Group	Count	Percentage
<b>URM</b>	American Indian Men	< 6	< 0.5%
	American Indian Women	< 6	< 0.5%
	Black/African American Men	13	1.10%
	Black/African American Women	< 6	< 0.5%
	Hispanic/Latino Men	34	2.89%
	Hispanic/Latina Women	30	2.55%
	Two or more races Men	8	0.68%
	Two or more races Women	< 6	< 0.5%
	<b>URM Total</b>	<b>≈ 85</b>	<b>≈ 7.2%</b>
<b>Asian</b>	Asian Men	69	5.86%
	Asian Women	64	5.43%
	<b>Asian Total</b>	<b>133</b>	<b>11.3%</b>
<b>White</b>	White Men	570	48.39%
	White Women	378	32.09%
	<b>White Total</b>	<b>948</b>	<b>80.5%</b>
	<b>Grand Total</b>	<b>1178</b>	

Note: Table 3 does not include casual positions. Numbers not reported for fewer than 6 incumbents to protect individuals' identities.

## Appendix C: Culture Survey External Benchmarks

UCAR is currently benchmarking certain questions from our workplace culture survey against the institutions in Table 4, with more to be added as we develop further reciprocal benchmarking relationships. Table 4 shows the number of questions that fall into three categories: those for which UCAR employees responded considerably more positively (>5% higher than the comparable), those for which UCAR employees answered comparably (within +/-5%), and those for which UCAR employees responded considerably less positively (>5% lower). For example, compared to FedView, 6 questions could be matched with our survey, 5 of which were answered more positively by UCAR employees and one of which was answered comparably.

**Table 4. Benchmarking Institutions**

Comparison Entity	Number of Questions Compared		
	UCAR Rated Higher (>= 5%)	UCAR Rated Similar (+/- 5%)	UCAR Rated Lower (>= 5% lower)
Lawrence Berkeley National Lab	5	7	1
NASA	5	10	2
National Employee Survey	11	2	0
Gallup	0	3	0
FedView	5	1	0
UCAR 2013	5	3	2
NRAO	Internal only	Internal only	Internal only
AURA	Internal only	Internal only	Internal only

## Appendix D: Definitions List

CISL	Computational Information Systems Laboratory
D&I	Diversity & Inclusion
GIS	Geographic Information Systems
GLOBE	Global Learning and Observations to Benefit the Environment
INCLUDES	Inclusion across the Nation of Communities of Learners of Underrepresented Discoverers in Engineering and Science
L/D/P	Laboratories/Departments and Programs
MSI	Minority-Serving Institution
NCAR	National Center for Atmospheric Research
NSF	National Science Foundation
NSW	Next Steps Workshop
ODEI	Office of Diversity, Equity & Inclusion
RAL	Research Applications Laboratory
RFP	Request for Proposals
SOARS	Significant Opportunities in Atmospheric Research and Science
STEM	Science, Technology, Engineering and Mathematics
TEX	Thriving Earth Exchange
UCAR	University Corporation for Atmospheric Research
UCP	UCAR Community Programs
Universal Design	The design and composition of an environment so that it can accessed, understood and used to the greatest extent possible by all people regardless of their age, size, ability, or disability.
WCAG	Web Content Accessibility Guidelines

## Endnotes

<sup>1</sup> See Appendix D for a definition of this term.

<sup>2</sup> Hunt, V., Layton, D., & Prince, S. (2015). Why Diversity Matters| McKinsey & Company. *McKinsey & Company, January*.

<sup>3</sup> Ely, R. J., & Thomas, D. A. (1996). Making differences matter: A new paradigm for managing diversity. *Harvard Business Review*, 74(5), 9-90.

<sup>4</sup> Hong, Lu. & Page, S. E. (2004). Groups of diverse problem solvers can outperform groups of high-ability problem solvers. *Proceedings of the National Academy of Sciences*. 101 (46), 16385-16389.

<sup>5</sup> Page, S. E. (2008). *The Difference: How the Power of Diversity Creates Better Groups, Firms, Schools, and Societies*. Princeton, NJ: Princeton University Press.

<sup>6</sup> Griffith, A. L. (2010). Persistence of women and minorities in STEM field majors: Is it the school that matters? *Economics of Education Review*, 29, 911–922.

<sup>7</sup> Office of the Vice Chancellor for Equity & Inclusion. (2009). *UC Berkeley Strategic Plan for Equity, Inclusion, and Diversity: Pathway to Excellence*. Retrieved from [https://diversity.berkeley.edu/sites/default/files/speid\\_final\\_webversion.pdf](https://diversity.berkeley.edu/sites/default/files/speid_final_webversion.pdf)

<sup>8</sup> Office of Diversity, Equity, and Inclusion. (2016). *Diversity, Equity, & Inclusion Strategic Plan (2016-2021)*. Retrieved from [https://diversity.umich.edu/wp-content/uploads/2018/10/Strategic-Plan\\_10.05.18.pdf](https://diversity.umich.edu/wp-content/uploads/2018/10/Strategic-Plan_10.05.18.pdf)

<sup>9</sup> UC Davis Equity and Inclusion. (2017). *UC Davis Diversity and Inclusion Strategic Plan*. Retrieved from <https://diversity.ucdavis.edu/sites/g/files/dgvnsk731/files/inline-files/Diversity%20and%20Inclusion%20Strategic%20Vision%20Plan%20June%2029%202017.pdf>

<sup>10</sup> Williams, D. A. (2013). *Strategic Diversity Leadership: Activating Change and Transformation in Higher Education*. Sterling, VA: Stylus Publishing. (and references therein).

<sup>11</sup> Metcalf, H., Russell, D., & Hill, C. (2018). *Broadening the Science of Broadening Participation in STEM Through Critical Mixed Methodologies and Intersectionality Frameworks*. *American Behavioral Scientist*, 62, 580-599.

<sup>12</sup> Kreitz, P. A. (2008). Best practices for managing organizational diversity. *The Journal of Academic Librarianship*, 34(2), 101-120.

<sup>13</sup> Aronson, D. (2002). Managing the diversity revolution: Best practices for 21st century business. *CRJ*, 6, 46.

- 
- <sup>14</sup> Ladson-Billings, G. (1994). *The Dreamkeepers: Successful Teachers of African American Children*. San Francisco, CA: Jossey-Bass Publishing Co.
- <sup>15</sup> Ladson-Billings, G. (1995). But that's just good teaching! The case for culturally relevant pedagogy. *Theory Into Practice*, 34(3), 159-165.
- <sup>16</sup> Sanchez, B., & Colón, Y. (2005). Race, ethnicity, and culture in mentoring relationships. *Handbook of Youth Mentoring*, 191-204.
- <sup>17</sup> Estrada, M., Woodcock, A., Hernandez, P. R., & Schultz, P. W. (2011). Toward a model of social influence that explains minority student integration into the scientific community. *Journal of educational psychology*, 103(1), 206.
- <sup>18</sup> Delparte, D. M., Richardson, R., Eitel, K., Matsaw, S., & Cohn, T. (2016). Promoting Geoscience STEM Interest in Native American Students: GIS, Geovisualization, and Reconceptualizing Spatial Thinking Skills. *International Journal of Learning, Teaching and Educational Research*, 15(5).
- <sup>19</sup> Sparks, D. M. (2017). Navigating STEM-worlds: Applying a lens of intersectionality to the career identity development of underrepresented female students of color. *Journal for Multicultural Education*, 11(3), 162-175.
- <sup>20</sup> Allen-Ramdial, S. A. & Campbell, A. G. (2014). Reimagining the Pipeline: Advancing STEM Diversity, Persistence, and Success. *BioScience*, 64, 612-618.
- <sup>21</sup> Simpson, L. (2002). Indigenous environmental education for cultural survival. *Canadian Journal of Environmental Education*, 7(1), 13-25.
- <sup>22</sup> Snively, G., & Williams, W. (2016). *Knowing Home: Braiding Indigenous Science with Western Science (Book 1)*.
- <sup>23</sup> Mazzocchi, F. (2006). Western science and traditional knowledge: Despite their variations, different forms of knowledge can learn from each other. *Science and Society*, 7(5), 463-466.
- <sup>24</sup> Robbins, J. (2018). Native Knowledge: What Ecologists Are Learning from Indigenous People. *YaleEnvironment360*. Retrieved from <https://e360.yale.edu/features/native-knowledge-what-ecologists-are-learning-from-indigenous-people>
- <sup>25</sup> US Government Accountability Office. (2005). Diversity management: Expert identified leading practices and agency examples.
- <sup>26</sup> Knight, R. (2017). Seven Practical Ways to Reduce Bias in Your Hiring Process. *Harvard Business Review*. Retrieved from <https://hbr.org/2017/06/7-practical-ways-to-reduce-bias-in-your-hiring-process>
- <sup>27</sup> Bohnet, I. (2016). How to Take the Bias Out of Interviews. *Harvard Business Review*. Retrieved from [https://hbr.org/2016/04/how-to-take-the-bias-out-of-interviews?utm\\_campaign=harvardbiz&utm\\_source=twitter&utm\\_medium=social](https://hbr.org/2016/04/how-to-take-the-bias-out-of-interviews?utm_campaign=harvardbiz&utm_source=twitter&utm_medium=social)
- <sup>28</sup> Dattner, B. (2016). A Scorecard for Making Better Hiring Decisions. *Harvard Business Review*. Retrieved from <https://hbr.org/2016/02/a-scorecard-for-making-better-hiring-decisions>
- <sup>29</sup> University Health Services, University of California, Berkeley. (2013). *A Toolkit for Recruiting and Hiring a More Diverse Workforce*. Retrieved from [https://diversity.berkeley.edu/sites/default/files/recruiting\\_a\\_more\\_diverse\\_workforce\\_uhs.pdf](https://diversity.berkeley.edu/sites/default/files/recruiting_a_more_diverse_workforce_uhs.pdf)
- <sup>30</sup> Devine, P. G., Forscher, P. S., Austin, A. J., & Cox, W. T. (2012). Long-term reduction in implicit race bias: A prejudice habit-breaking intervention. *Journal of experimental social psychology*, 48(6), 1267-1278.
- <sup>31</sup> Linton, J. D., Tierney, R., & Walsh, S. T. (2012). What are research expectations? A comparative study of different academic disciplines. *Serials review*, 38(4), 228-234.
- <sup>32</sup> Bimrose, J., & Brown, A. (2014). Mid-career progression and development: The role for career guidance and counseling. In *Handbook of career development* (pp. 203-222). New York, NY: Springer.
- <sup>33</sup> Tsui, L. (2007). Effective strategies to increase diversity in STEM fields: A review of the research literature. *The Journal of Negro Education*, 555-581.
- <sup>34</sup> Robinson, L., Rousseau, J., Mapp, D., Morris, V., & Laster, M. (2007). An educational partnership program with minority serving institutions: A framework for producing minority scientists in NOAA-related disciplines. *Journal of Geoscience Education*, 55(6), 486-492.
- <sup>35</sup> Morris, V. R., Joseph, E., Smith, S., & Yu, T. W. (2012). The Howard University Program in Atmospheric Sciences (HUPAS): A program exemplifying diversity and opportunity. *Journal of Geoscience Education*, 60(1), 45-53.
- <sup>36</sup> Pandya, R. E., Henderson, S., Anthes, R. A., & Johnson, R. M. (2007). BEST practices for broadening participation in the geosciences: strategies from the UCAR Significant Opportunities in Atmospheric Research and Science (SOARS®) Program. *Journal of Geoscience Education*, 55(6), 500-506.
- <sup>37</sup> Hansman, C. A. (2002). Diversity and power in mentoring relationships. *Critical perspectives on mentoring: Trends and issues*, 39-48.
- <sup>38</sup> Smith, J. L., Cech, E., Metz, A., Huntoon, M., & Moyer, C. (2014). Giving back or giving up: Native American student experiences in science and engineering. *Cultural Diversity and Ethnic Minority Psychology*, 20(3), 413.
- <sup>39</sup> Finley, F. (2014). The Anthropocene and the Framework for K-12 Science Education. In D. Dalbotten, G. Roehrig, & P. Hamilton (Eds.), *Future Earth: Advancing civic understanding of the Anthropocene* (9-17). Hoboken, NJ: John Wiley & Sons.
- <sup>40</sup> The training literature is divided on the value of voluntary versus mandatory diversity training.<sup>42, 43, 44, 41</sup> However, there is broad acknowledgement that the best method for diversity and inclusion initiatives is to create a strategic plan that fits an institution's needs. UCAR and NCAR have decided to take a voluntary approach to create the best

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learning environments for those who are participating and to not create any negative repercussions toward underrepresented employees due to backlash.

<sup>41</sup> Tomlinson, A. (2002, March 25). Mandatory or voluntary? Canadian HR Reporter, 15, pp. 15, 18. Retrieved from <https://www.hrreporter.com/article/1755-mandatory-or-voluntary/>

<sup>42</sup> Dobbin, F., & Kalev, A. (2016). Why diversity programs fail. *Harvard Business Review*, 94(7), 14.

<sup>43</sup> Cocchiara, F. K., Connerley, M. L., & Bell, M. P. (2010). "A GEM" for increasing the effectiveness of diversity training. *Human Resource Management*, 49(6), 1089-1106.

<sup>44</sup> Kulik, C. T., Pepper, M. B., Roberson, L., & Parker, S. K. (2007). The rich get richer: Predicting participation in voluntary diversity training. *Journal of Organizational Behavior: The International Journal of Industrial, Occupational and Organizational Psychology and Behavior*, 28(6), 753-769.

<sup>45</sup> Sethi, D., & Seth, M. (2009). Interpersonal communication: Lifeblood of an organization. *IUP Journal of Soft Skills*, 3(3), 32-40.

<sup>46</sup> Gillard, S. (2009). Soft skills and technical expertise of effective project managers. *Issues in informing science & information technology*, 6, 723-730.

<sup>47</sup> Argenti, P. (2002). Crisis communication. Lessons from 9/11. *Harvard Business Review*, 80(12), 103-9.

<sup>48</sup> Bersin, J. (2018). Yes, CEOs, You Do Need to Speak Up on Social Issues. *Forbes*. Retrieved from <https://www.forbes.com/sites/joshbersin/2018/09/05/yes-ceos-you-do-need-to-speak-up-on-social-issues/#690a48735898>

<sup>49</sup> McGirt, E. (2016). Why Employers Need to Talk about the Police Shooting of Black People. *Fortune*. Retrieved from <http://fortune.com/2016/07/07/police-shootings-black-employers/>

<sup>50</sup> Pandya, R. E. (2014). Community -Driven Research in the Anthropocene. In D. Dalbotten, G. Roehrig, & P. Hamilton (Eds.), *Future Earth: Advancing Civic Understanding of the Anthropocene* (53-66). Hoboken, NJ: John Wiley & Sons.

<sup>51</sup> Redsteer, M. H., Kelley, K. B., Francis, H., & Block, D. (2013). Increasing vulnerability of the Navajo people to drought and climate change in the southwestern United States: Accounts from Tribal Elders. *Special report on indigenous people, marginalized populations and climate change*. Cambridge University Press, Cambridge.

<sup>52</sup> Weatherhead, E., Gearheard, S., & Barry, R. G. (2010). Changes in weather persistence: insight from Inuit knowledge. *Global Environmental Change*, 20(3), 523-528.

<sup>53</sup> Whyte, K. P. (2013). On the role of traditional ecological knowledge as a collaborative concept: a philosophical study. *Ecological processes*, 2(1), 7.