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# INCLUSIVE FIELD SAFETY ACTION PLAN

Inclusion, Diversity, Equity, and Accessibility (IDEA) Subcommittee for  
Inclusive Field Safety

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**GAGE**

National Science Foundation's  
Geodetic Facility for the  
Advancement of Geoscience



## INTRODUCTION

Supporting a diverse and multi-talented engineering staff is extremely beneficial to our organization. UNAVCO fieldwork takes place all around the world, and the presence of staff who are familiar with these locations and with the experiences of the local communities are critical in understanding the scientific and societal context for the research that we support. Unfortunately, the geosciences are one of the least diverse of the academic fields, and only small incremental progress has been made on increasing diversity in the last forty years [1]. One significant factor is that many fieldwork environments are not safe or welcoming to members of underrepresented groups. Those who appear to be a minority in the community where the fieldwork is taking place may be questioned or targeted for increased harassment or assault. This may be based on ethnicity, religion, gender/sexuality, or other identity groups. Members of these different groups may experience an increase in various types of risks, including sexual harassment or assault, generalized violent acts, intimidation, property crimes, and others.

If an organization, such as UNAVCO, is not able to demonstrate that we have well-developed mechanisms to support underrepresented field staff and ensure their safety, members of these groups may be less likely to apply for or accept an engineering position with us. Likewise, members of these groups that are hired may choose not to remain with UNAVCO. Those that accept these risks may not be able to perform at peak efficiency if their focus is split between work and these safety concerns. Therefore, a clear field safety plan that proactively addresses these concerns is critical to supporting a diverse engineering workforce.

Additionally, due to the wide variety of domestic and international locations where UNAVCO operates, all field staff may experience locations or situations where they are more or less likely to be targeted. For example, White staff may be at higher risk of property crimes and kidnapping/ransom in certain international locations, and staff who are identified as government-affiliated may face hostility in certain regions of the US. The recommended actions that we propose within this document would increase the safety of UNAVCO field staff of all identities.

### **Reference:**

[1] Bernard, R. E., Cooperdock, E. H. (2018), No progress on diversity in 40 years. *Nature Geoscience*, 11(5), 292-295. <https://doi.org/10.1038/s41561-018-0116-6>. Published on 30 April 2019

## METHODOLOGY

In developing these recommendations, the Inclusive Field Safety Committee (IFSC) referenced two primary sources: [2] *Safe fieldwork strategies for at-risk individuals, their supervisors and institutions* and [3] *Ten Steps to Protect BIPOC Scholars in the Field*. Each of these sources provided a list of concrete recommendations for individuals, supervisors, and institutions to increase safety in the field for members of underrepresented groups. We worked through each of these recommendations, and initially evaluated them on the following categories: 1) relevance to each of the GI sub-directorates, 2) what current policies/resources are available at

UNAVCO to address this issue, and 3) proposed actions. In our discussions, we allowed tangential discussions of other related safety issues that were raised, and incorporated the resulting recommendations as appropriate. Once the proposed actions were compiled, we re-evaluated them for effectiveness, feasibility and prioritization, and then assigned classifications based on cost and time investment.

Our approach is to attempt to find resolutions to the issues presented by our primary sources, in a way that most seamlessly integrates with our existing practices and workflow. This will increase the utility of these resources, and reduce the burden associated with their enactment. In many cases, these recommendations can also be applied to non-identity related risks (such as environmental or site-specific risks), which will increase the overall safety of field participants in any scenario they may encounter.

We have also carefully considered the legal allowances and sensitivities associated with identification with a protected class. Our recommendations include developing clear legal guidance on how these conversations can be appropriately conducted between managers and staff. Additionally, we have endeavored to provide options that empower staff to self-educate on the identity-based risks at their planned field site without a requirement to preemptively self-identify to managers or other staff, and to provide mechanisms to request additional support if needed. These mechanisms are automated whenever possible, to reduce hesitancy on the part of the staff member in asking for what may be perceived as special accommodations.

#### **Additional Notes:**

Several of the primary source recommendations, particularly those for institutions, exceeded the scope of this working group. In these cases, we intend to pass these to the IDEA committee for further consideration.

Several of the actions that we propose clearly fall within the purview of the Safety Committee. We present these actions here for your review, but any implementation would need to be a collaborative effort with the Safety Committee.

Additionally, several of the recommendations and proposed actions were outwardly focused toward the wider UNAVCO community rather than focused inwardly within GI. Given the scope of this committee, we chose to only include proposed actions that directly impact field safety for our own staff (with some consideration to other field participants on UNAVCO field supported PI projects). However, we did include a brief discussion of potential future external support in the “UNAVCO Community Outreach” section near the end of the report.

#### **Reference:**

[2] Demery, A.J.C., Pipkin, M.A. (2021), Safe fieldwork strategies for at-risk individuals, their supervisors and institutions. *Nat Ecol Evol* **5**, 5–9. <https://doi.org/10.1038/s41559-020-01328-5>. Published on 12 October 2020

[3] Anadu, J., Ali, H., and Jackson, C. (2020), Ten steps to protect BIPOC scholars in the field, *Eos*, 101. <https://doi.org/10.1029/2020EO150525>. Published on 10 November 2020

## RECOMMENDED ACTIONS

### TRAININGS

#### **Inclusive Field Safety Management Training**

*Justification:* Conversations between managers and their staff on issues regarding staff identity affiliation can be tricky to navigate, due to both legal considerations regarding protected class status as well as personal sensitivities. Additionally, managers may not currently have the knowledge and resources to effectively evaluate and mitigate safety risks for underrepresented staff.

*Action:* Institute an Inclusive Field Safety Management Training for all managers/team leaders who direct others in field activities. This training will provide specific guidance on how to legally and delicately initiate safety conversations regarding identity-based field risks. The training will also provide resources for evaluating the risks associated with a particular location for an identity group, and provide recommendations to reduce or eliminate these risks. Ideally this training would also include content to help managers develop a culture within their team of awareness of, and sensitivity to these concerns. A recurrence interval of 2 years is recommended for this training. New management hires or staff transitioning into a management role should be trained within 90 days of position start date.

*Implementation:* A member of the IFSC would be tasked with researching external organizations that can provide this training. Some components may be performed by UNAVCO staff, including a qualified in-house lawyer for legal guidance, HR, or IFSC members for resources specifically available at UNAVCO.

*Priority:* High

*Cost:* Further research will be necessary to evaluate options and cost. Expected Medium.

*Time investment:* Medium

#### **Bystander and Deescalation Training**

*Justification:* Knowledge of how to diffuse a tense encounter can help prevent escalation to assault and injury of oneself and other field participants. Bystander training provides resources for providing support to a field partner (or others) who may be targeted based on their identity. Combined, these trainings will help our field staff increase their own safety and those of other members of underrepresented groups that they work or interact with. A critical component of this is the ability to recognize microaggressions and negative attitudes directed towards others based on their identity, which may indicate an unsafe or uncomfortable/hostile working environment.

*Action:* Offer Bystander Training and Deescalation Training to all managers and staff who participate in fieldwork. These could be offered separately or combined into a single unit. A recurrence interval of 2 years, or within 90 days of hire for new managers is recommended for this training module. Topics should also include situational awareness training as it relates to the identity-based risks faced by others in the group.

*Implementation:* A member of the IFSC would be tasked with researching external organizations that can provide this training. This would be scheduled routinely with other offered training, such as Wilderness First Aid.

Priority: High

Cost: Low-Medium. \$485 for 1 Day Deescalation Training (Level 1) with 20+ participants from Anchorpoint.

Time investment: Medium

### **Mental Health First Aid**

Justification: Persons who are experiencing a mental health or substance abuse crisis may act unpredictably and create unsafe circumstances for themselves and others. Traditional de-escalation tactics may not be effective in these situations. Staff working at field sites near homeless encampments or staying in certain campgrounds/BLM locations that appeal to the off-grid community may be more likely to encounter individuals who may be suffering from these conditions. Long deployments in remote field situations can sometimes trigger mental health crises in fieldwork participants. Immediate assistance from trained professionals may not be available in either of these circumstances. Skills to assist and de-escalate may increase the safety of all field participants.

Action: Support for Mental Health First Aid Training is recommended for staff working in locations with increased risk of encounters with those experiencing mental health crises.

Implementation: IFSC will identify one or more recommended providers. Staff members may sign up individually for local classes. If there is sufficient interest, this course could be scheduled for a larger group.

Priority: Medium-low

Cost: Low. Approximately \$25-\$40 per participant.

Time investment: Low

### **SAFETY MATERIALS**

**Broad Justification:** A field participant who does not look similar to the local majority population may be perceived as an outsider, and may be at greater risk of harassment or assault. Clear visible identification as a professional who has a legitimate purpose for their presence in a community or field site may reduce the likelihood of these negative and unsafe interactions and/or assist in de-escalation if they occur.

#### **Branded Clothing**

Action: Provide field staff with clothing options that clearly identify company affiliation. Initial recommendations include hats and safety vests, due to versatility, clear “safety” connotations, and low cost. Additional shirts/jackets/badges/other clothing items may be considered according to manager preference and appropriate justification.

Implementation: Coordination with representatives of Business Affairs will be necessary to ensure that these items are allowable under NSF guidelines. IFSC has received preliminary indications that these items may be able to be classified as “safety clothing”. In this case, IFSC should work with the Safety Committee to add these items to the official list of approved PPE field clothing purchases. Branding logos should be approved by ECE. Batch purchases of

logoed items could be researched and purchased by a member of IFSC or administrative staff, and then distributed onward to field staff.

Priority: High

Cost: Low-medium. Low: Estimated \$7-10 per logoed vest, \$10-20 per logoed hat. Upward scaling as desired by management.

Time investment: Medium startup; Low ongoing

### **Removable Vehicle Decals**

Action: Provide logoed removable decals for all field vehicles to be used as needed. This gives the option to the field staff member to be identified officially or stay more anonymous depending on the local risks (such as anti-government sentiment).

Implementation: Branding should be approved by ECE. Batch purchases of decals could be researched and purchased by a member of IFSC or administrative staff.

Priority: High

Cost: \$30-\$100 per vehicle

Time investment: Low startup; minimal ongoing

### **Non-government License Plate Option**

Justification: In some locations, anti-government sentiment increases risks to staff driving vehicles with government plates. In these cases, license plates local to the state of operation are preferred. (Note that in other cases, the presence of government plates can be helpful, for example on military property.)

Action: Pursue options for acquiring local license plates for a subset of field vehicles.

Implementation: The Safety Coordinator is currently researching these options; we offer any support that would be helpful.

Priority: High

Cost: unknown

Time investment: Low-medium startup; minimal ongoing

### **Photo ID Badges**

Justification: Currently, UNAVCO staff have no way to prove their affiliation other than by business cards, which are not a recognized form of identification. There are a variety of scenarios in which a staff member could be asked to prove their legitimacy: on a field site on private property, while entering a UNAVCO facility after hours, or if pulled over while driving a UNAVCO vehicle. In these cases, minority staff members may be more likely to be disbelieved or targeted for additional harassment or arrest if they are unable to easily comply.

Action: Provide photo ID badges for all staff members. ID should include job title and a contact name and phone number for verification.

Implementation: The ID badge proposal and implementation procedure will likely need to be approved by SMT. This committee offers assistance in implementation if requested. Additionally, the verification contact will need to be identified, and a job description may need to be modified to include an expectation of responsiveness to urgent verification calls.

Priority: Medium

Cost: Low. \$5/badge if printing contracted; \$700-\$1000+ to purchase a badge printer.

Time investment: Medium startup; Low ongoing

### **Site Permits**

Justification: Updated site permits for NOTA stations are not uniformly available. Staff should have access to these permits, either in electronic or hard copy, before going to a field site. This could be necessary to prove legitimacy of presence if questioned by a landowner, neighbor, or law enforcement. Minority staff may be at greater risk of questioning, harassment, or arrest.

Action: Create a digital database with easy staff access to all necessary site permits.

Implementation: The Permitting team is currently spearheading this effort. This committee offers their full support.

Priority: High

Cost: N/A

Time investment: Medium startup; Low ongoing

### **UNAVCO Pamphlet**

Justification: If questioned by locals, it can be helpful to present a promotional/educational pamphlet showing who we are and what we do as an organization or provide the details of a specific projects. This can be used both to de-escalate a confrontation and as general outreach and good will.

Action: Provide a stack of pamphlets to each field engineer and stock all trucks with the same.

Implementation: The ECE team is in the process of developing a pamphlet for landowners that would have crossover use for field staff. Additional printings can be requested through Melissa Weber and distributed to field staff.

Priority: Low-medium

Cost: Low-medium

Time investment: Medium startup; minimal ongoing

### **Letter of Introduction**

Justification: If questioned, it can be helpful to present a letter of introduction from a manager that specifically states the field participants involved, timing, and scope and purpose of work. This can be used to de-escalate a confrontation and ease communication with suspicious locals or law enforcement.

Action: Provide a letter of introduction for staff working in new/unfamiliar environments.

Implementation: Similar templates have already been developed for use in easing entry/customs processing for overseas fieldwork. A template can be made available on Confluence, and staff may modify and submit to management for signature at any stage of fieldwork planning. Existence of this resource should be published on the Field Safety Resources page.

Priority: Medium-low

Cost: N/A

Time investment: Minimal

## **Field Vehicle Packet**

Justification: UNAVCO engineers often spend significant time driving between sites. Racial disparities in police stops are well documented, and minority drivers may face increased risks of a hostile police response. A uniform packet of all potentially requested documentation in each UNAVCO-owned field vehicle may assist in de-escalation of traffic stops for minority staff, and would be convenient for use by all drivers.

Action: Provide a packet of documentation for each fleet vehicle, to be kept updated and in a known uniform location. Packet should include registration, insurance, clear UNAVCO ownership and contact information, list of authorized drivers, and a UNAVCO info pamphlet. Staff may add supplemental documentation such as an introductory letter as appropriate.

Implementation: Packets could be assembled in Boulder and distributed to field staff. Updated packets could be supplied yearly with new registration and insurance info and any other updates.

Priority: Medium-low

Cost: Low

Time investment: Medium startup; minimal ongoing

## **RESOURCES**

### **Field Safety Resource List in Confluence**

Justification: Currently, GI does not have a repository of safety information to help guide safety assessments prior to fieldwork. For identity-based risks, managers and field staff need reliable information for location specific dangers. Examples may include locations with anti-LGBTQ+ legislation, or hate crime statistics/maps. Any opportunity for self-evaluation for one's own identity group reduces the need to share personal information with a manager, and a single compiled resource list allows managers to provide guidance and support without making assumptions about a staff member's identity.

Action: Create a "Field Safety Resource List" in Confluence to compile reputable information about safety risks in field locations. One section would include background reading materials for managers and staff on the types of risks faced by minority field participants. This page would also compile a list of the optional resources that are available to UNAVCO field staff by request (e.g. second engineer, introductory letter, international evacuation). This page was initially developed with a focus on inclusivity resources, but we recommend that it be expanded to include ALL safety concerns; for example, international locations with corrupt/unreliable police response, wildfire tracking maps, and other environmental risks.

Priority: High

Cost: N/A

Time investment: Low.

### **Site Safety Spreadsheet**

Justification: Frequently engineers are sent to field locations which have a history of UNAVCO presence, but they have not personally visited before. Currently we don't have a way to consistently track the hazards associated with sites. A site safety spreadsheet would compile



this knowledge into an easily searchable database. While engineers may not organically notice or document identity based risks (particularly for identities other than their own), prompted objective questions on the presence of these risk factors may increase this documentation to address future needs. Additionally, as above, self-evaluation of one's own risks reduces the need to publicly share one's personal identifying information.

**Action:** Create a "Site Safety Spreadsheet" with dropdown menus of potential hazards. For maximum value to the engineering group as a whole, ALL risks should be included here, not just identity-based risks.

**Implementation:** A "Site Safety Spreadsheet" template has already been created, and content can be modified with feedback from the GI group. Major headings include "Site Risk Factors" (e.g. seasonal inaccessibility, secondary escape routes), "Environmental Risk Factors" (e.g. extreme weather, carnivorous megafauna), and "Human Risk Factors" (e.g. Confederate imagery, challenging landowner, religiously conservative). International specific and High Latitudes specific categories are available if relevant. In Stage 1 of implementation we would request that engineers fill out the content for their regions/sites. In Stage 2, we would wish to work with GDS to integrate the content into MDM or another suitable location, to merge into existing engineer workflow. Alternative integration options will need to be developed for any field locations which do not have station pages in MDM (e.g. eGNSS, TLS/UAS, SAR CR's, short courses, external agency GNSS).

**Priority:** Medium-high

**Cost:** N/A

**Time investment:** Medium-High (including GDS time)

### **Implementation of Pre-fieldwork Safety Meetings and Development of Check-in Sheet**

**Justification:** Currently we don't have a standardized process for safety meetings prior to fieldwork; in most cases a safety check-in only occurs informally and if prompted by either the manager or staff member. This has implications beyond IDEA-focused safety risks as well. In the inclusivity sphere, a formalized meeting can prompt discussion of specific identity-based risks faced by individual field participants. This would also provide an opportunity to offer additional resources to increase safety and reduce the burden on the staff member to request what they may perceive as special accommodations. A safety check-in sheet that would guide these meetings would 1) provide a guide to consider the risks that may be faced by underrepresented field participants, 2) provide phrasing to managers to discuss these risks as appropriate/legal with members of protected classes, and 3) provide a prompt for consideration of additional resources to increase safety, including a second field participant if warranted. Incorporation of questions related to universal risks would increase safety awareness and utilization for all.

**Action:** Create a Pre-Fieldwork Safety Check-in Sheet, which would be used to guide check-ins between managers/team leaders and field participants prior to fieldwork. It is recommended that this be used in its entirety to guide field safety meetings for fieldwork in new locations or with early career engineers, and skimmed as a prompt in weekly meetings for more experienced engineers and/or repeat site visits. This meeting and worksheet should include all potential hazards including both environmental and human hazards. Specific inclusivity-related risks/topics should include:

- A prompt to check general resources for risks that staff may face due to personal characteristics or considerations, including those flagged on the Field Safety Spreadsheet
- A prompt to determine if staff safety would be meaningfully increased by the presence of a second field participant, due to identity/locality/environmental factors/the nature of the work being performed
- Identification of safety strategy in case of incident on-site

International risk/topics should include:

- A prompt to sign up for STEP alerts through the State Department and print a copy of the international travel insurance safety card
- Designate a US-based safety contact with reliable internet who is responsible for checking for changes to safety circumstances, as reported in local news, State Department updates, Twitter Emergency Management accounts, etc and alerting the field staff over inReach
- Are the police trustworthy? Are any crimes not typically prosecuted, especially gender-related?
- Are any identities/actions which are legal in the US criminalized in the destination country? Is there state-sponsored or broadly accepted discrimination against any race/religion/gender/other identity group?
- A prompt to research local cultural norms

**Implementation:** Due to the incorporation of non-inclusivity focused safety considerations, we recommend that this be developed jointly between the IFSC and the Safety Committee.

**Priority:** High

**Cost:** N/A

**Time investment:** Medium

### **Institute a Yearly Safety Resource Meeting for GI Staff**

**Justification:** Safety information and resources are currently discussed only informally, and critical knowledge may not be passed to all field staff (eg. foreign medical/ransom insurance info). Additionally, many new resources may be made available as part of this committee's actions. A meeting with all GI staff would provide an opportunity to share and discuss these resources, and ensure that all staff have access. Repeating this meeting yearly would ensure continuity for new hires as well as presenting new resources that may be made available.

**Action:** At the conclusion of this committee's review and implementation of new safety resource documentation, hold an all-GI meeting. Content will include 1) New safety resources compiled by IFSC, 2) Existing safety resources. Plan to repeat this meeting yearly.

**Implementation:** Develop content of initial meeting in conjunction with the Safety Committee. Plan for yearly recurrence, possibly linked to the GI Staff Meeting for a designated month.

**Priority:** Medium

**Cost:** N/A

**Time investment:** Low

## NEW HIRE / EARLY CAREER ENGINEER SAFETY

### Engineer Safety/Competence Assessment

**Justification:** Currently, we do not have a method of uniformly evaluating new engineer hires to determine their competence and comfort with safety resources and the equipment necessary to complete the job tasks. It has been proposed that GI develop an assessment to be used both as part of the hiring process and at intervals post-hiring. The IFSC believes that, if targeted effectively, this could level the playing field for engineers of all identity groups, and ensure that new hires from groups that are historically underrepresented in the geosciences have access to the safety and engineering training that they need to succeed.

**Action:** Develop an assessment methodology which evaluates a new engineer's knowledge of field safety, safe utilization of the tools needed for the job, and ability to complete necessary field/office-based tasks. Develop/source training materials to upskill engineers who need additional support in these areas. Set expectations for managers to routinely review progress and provide opportunities for training. We recommend the following guidelines apply to the assessment:

- This evaluation should be framed as an "assessment" instead of a "test," which would be primarily used non-punitively. The assessment would evaluate a new engineer's capabilities and ability to operate independently in a range of scenarios, and could provide guidance for both the engineer and their manager to develop a plan to achieve any unmet goals.
- This should be paired with better resources for training materials and training opportunities (developed within GI). If we do not provide opportunities for growth, then we would be setting up the engineers for failure. This may particularly help engineers who come in from atypical backgrounds with incomplete skill sets. Any milestone expectations or performance improvement plans that come out of the results of the assessment should be achievable with the provided resources. Some responsibility should fall on the manager for providing support of these goals.
- The assessment should not be viewed wholly as "pass/fail," since all fieldwork circumstances are unique. A manager/project lead could evaluate the competencies of a new engineer based on their results and the project needs; for example an engineer could easily "pass" for a roadside modem swap while not be ready for an ANET deployment. Conversely, an E3 in Polar would likely need additional training before fixing a VSAT in Central America.
- If executed effectively, this could be an opportunity to increase inclusivity, due to the objectivity of the assessment. It could prevent situations where engineers can't advance because their managers don't provide opportunities to increase their skills, and it can also provide clarity if managers and engineers are assessing the engineers' abilities differently (either due to manager bias or engineer overconfidence).
- We recommend that no mention of a test should be included as part of the job posting, since many women and minorities may be discouraged from applying. Any assessment included as part of the E1 hiring process should focus on ability to learn and their innate capabilities rather than specific skills that require more past opportunities (financial/right

connections). It would be reasonable, given these conditions, that a "hiring assessment" and "engineer benchmark assessment" would have different content.

*Implementation:* The GI director and other members of GI are exploring options; we defer to this group regarding implementation. IFSC offers full support.

*Priority:* Medium

*Cost:* TBD

*Time investment:* Medium-high.

### **Reinstating the Engineer Mentorship Program**

*Justification:* Early in UNAVCO's history, there was an informal mentorship program in which a new hire would be paired with a more experienced engineer. This provided a resource for new engineers to discuss safety concerns and technical questions, and any other questions they might have. We recommend a reinstatement of this mentorship program more formally to ensure that new staff have a non-chain-of-command, experienced engineer to provide recommendations and guide them through safety options and other resources that may be available.

*Action:* Formalize a mentorship program in which new engineers would be paired with a more experienced engineer for their first year.

*Implementation:* Upon hiring, identify a senior engineer to be the mentor of the new hire. This would be a recognized, time-allocated duty of the senior engineer.

*Priority:* Medium

*Cost:* N/A

*Time investment:* Medium

## **MANAGER RESPONSIBILITIES**

**Broad Justification:** To ensure the safety of their direct reports, this committee recommends formalizing some expectations of managers. Actions are listed below:

### **Implement regular check-ins on personal safety concerns**

- Should be performed once or twice yearly, timed to coincide with goals check in
- Scripted in alignment with training for sensitivity of phrasing regarding protected classes
- Consider major safety flags as well as back-of-the-mind concerns that interfere with or distract from efficient field operations, or create an uncomfortable working environment

### **Perform pre-fieldwork safety meetings as needed**

- Recommended for all E1.1 trips, all international trips, and anywhere that an unfamiliar or extreme risk has been flagged in the Site Safety Spreadsheet

**Become familiar with the resources provided on the Confluence page to appropriately identify specific risks to staff for a given fieldwork location**

**Additional oversight for early career staff**

- Be an advocate as needed to ensure that PI or others organizing fieldwork are considering the safety of the staff member
- Take an active role in research of safety issues (environmental and human risks) of the field location to better guide safety meetings pre-trip
- Ensure that resources are available for increasing safety skills and awareness for E1's as needed

## PI-SUPPORT RECOMMENDATIONS

**Broad Justification:** Recommendations described elsewhere in this document may not be applicable in cases where a UNAVCO staff member is on site in support of a PI-led project. The PI may have primary control over the field safety plan, transportation, housing, and other logistics. The recommendations below relate to ensuring the safety of UNAVCO field staff and other field participants who may be members of underrepresented groups in these circumstances. They may also be useful in field camps and other collaborative field projects.

### Provide “Best Practices” resource to PIs

**Justification:** PIs may have limited training in how to develop a comprehensive field safety plan, and may have variable awareness of and commitment to inclusive field safety practices. Providing a document that summarizes best practices and recommendations can assist in setting expectations for UNAVCO supported field projects, and in increasing safety for participating UNAVCO staff and other field participants. The UNAVCO Code of Conduct is recommended to be included in this guidance.

**Implementation:** IRIS PASSCAL has developed a similar document which they provide to the PIs that they support, and they require signature confirmation of receipt/acceptance. This document is worded carefully to avoid liability concerns, since it is not possible to anticipate or mitigate all potential safety concerns. UNAVCO could use this as a template and adapt as appropriate for the nature of work conducted by the UNAVCO community.

**Priority:** High

**Cost:** N/A

**Time investment:** Low

### Safety Plan Check-ins

**Justification:** To ensure field staff safety and comfort, safety discussions should take place throughout the project planning process. Early discussions are essential in ensuring that logistics aren't put in place before safety needs are fully evaluated. Safety meetings, either Zoom or in person, prior to fieldwork start can ensure full comfort with the safety plan.

**Action:** Institute an expectation of safety plan check-ins throughout the PI project planning process. Include manager participation if circumstances warrant it (i.e. E1, complex trip, less safety-motivated PI). Use “Pre-Fieldwork Safety Check-in” as a guide as appropriate. Specific safety considerations for members of underrepresented groups include:

- Confirm housing and transportation safety/comfort. Consider room sharing arrangements for diverse gender/sexual identities, and security arrangements at night for all. Use GSA guidelines for support as needed.
- Check with local contacts on specific risks, local sentiments, and risk mitigation for identity groups that may include any of the field participants, if warranted/desired (or phrase more generally)

Implementation: UNAVCO staff/manager should plan safety meetings with PI, timed to coincide with 1) first planning meeting after notification of award funding, 2) 1-3 weeks prior to fieldwork start, and 3) more as needed for larger field projects.

Priority: Medium

Cost: N/A

Time investment: Low

## OTHER RECOMMENDATIONS

### **IDEA/Inclusive Field Safety Subcommittee Involvement in Safety Policy Reviews**

Justification: The IFSC should work with the Safety Committee to ensure that the Safety Policy includes consideration of risks faced by members of underrepresented groups. These risks have not been fully captured in the past. This should include risks that may be faced by members of identity groups that are not currently represented in the UNAVCO engineering pool, to ensure that we are proactive rather than reactive in addressing the concerns of potential new hires.

Action: The IFSC would like to conduct a thorough read-through of the Safety Policy to identify unaddressed safety concerns that may be faced by members of underrepresented groups. Any concerns would be discussed with the Safety Committee and on-staff legal counsel to consider and draft potential revisions. The IFSC requests continued participation in future Safety Policy revisions. Preliminary suggestions for revision include:

- The Safety Policy solely focuses on environmental/material hazards, with no mention of human-sourced or identity-based risks.
- The Safety Policy currently indicates that employees must correct hazards, but problematic landowners and biased local attitudes cannot be removed by UNAVCO staff. In these cases, the policy should encourage mitigation.
- Harassment Policy could be incorporated/cross-listed.
- Logoed clothing could be added to the authorized PPE section, as described in the "Safety Materials" section above.

Implementation: The IFSC would identify areas for improvement and collaborate with the Safety Committee on potential revisions and next steps. In future revisions of the Safety Policy, identity-based risks and human-induced risks should be considered through collaboration with the IFSC.

Priority: Medium

Cost: N/A

Time investment: Medium

## **Reintroduce “checked box” in Travel Authorization process**

Justification: In the old Travel Authorization system, there were several boxes that staff were required to check that affirmed:

- Current US State Department warnings
- Current CDC recommendations
- Existing Personal Profile Risks
- Willingness for International Travel

This provided a prompt before every field visit to consider these safety risks and resources, and to prompt further conversation with approving managers as appropriate.

Action: We recommend the reinstatement of these checked boxes or their equivalent as part of a mandatory component of the travel approvals process.

Implementation: While we recommend this action, we are aware that Concur may have limitations that would prevent its enactment. If it is possible, this would need to be implemented by the Business Affairs team.

Priority: Medium-low

Cost: Unknown

Time investment: Unknown

## **FURTHER DISCUSSION**

### **UNAVCO COMMUNITY OUTREACH**

The scope of this committee focused primarily on those recommendations intended to increase the safety of current and future UNAVCO field staff. However, we recognize that in our position as an NSF facility in support of researchers across the US, we may be uniquely positioned to provide resources and guidance to be a standard-bearer on inclusive field safety topics. We strongly encourage further exploration of this topic by the appropriate UNAVCO entity. We also strongly encourage collaboration on this topic with IRIS staff as we move towards the upcoming merger. Below, we detail several potential avenues for outreach and community engagement, for later discussion:

#### **Inclusive Field Safety Workshop for UNAVCO Interns**

Justification: RECESS and GeoLaunchpad Interns often come from diverse backgrounds and identify with a broad range of racial, religious, and gender identities. By providing them with the resources to ensure their own safety in the field and to feel supported by an organization such as UNAVCO, we both increase their safety and may make them feel more comfortable with participating in field projects and/or pursuing a field-based career.

Action: Offer an inclusive field safety workshop to UNAVCO interns. We would offer resources for self-evaluation of safety according to identity and working location; set expectations for what support they can reasonably request from supervisors and other field participants; provide guidance on how to start those conversations; and provide options and resources for response to an unsafe/inappropriate field situation if it arises.

### **Inclusive Field Safety Resource Page for UNAVCO Community PI's**

*Justification:* The resources that the IFSC endeavors to make available to UNAVCO staff to assess their own safety in various field locations may be easily used by Principal Investigators who are planning their own fieldwork for their teams.

*Action:* Create an external resource page for UNAVCO Community Principal Investigators to use in planning their own fieldwork. This would include background published papers such as those referenced for this document, which provide explanations of how to approach field safety from an inclusivity perspective and give concrete recommendations in crafting a field plan; and objective sources of information on location-based risks for members of various identity groups. We do not recommend providing complete safety plan development strategies that might lead to liability concerns. We recommend a focus on high quality, objective resources which are either government sourced, peer reviewed or similar, to avoid concerns of bias and to reinforce our science-driven position as an NSF-funded facility.

### **Inclusive Field Safety Workshop at Future GAGE/SAGE Events**

*Justification:* An Inclusive Field Safety workshop at GAGE/SAGE events would increase visibility of this issue, provide resources to field leaders who wish to address these issues, and provide leadership support of inclusivity concerns to members of underrepresented groups who currently may be facing these increased risks alone.

*Action:* Hold a workshop at the GAGE/SAGE annual meeting to discuss the disproportionate field risks faced by members of minority groups and provide resources for mitigation. External experts may be invited to host or contribute.

## **ITEMS TO DEFER TO IDEA COMMITTEE**

Several recommendations from the primary sources, particularly those focused on institutional change, exceed the scope of this committee. These recommendations may be valuable for all UNAVCO staff, and therefore we defer these to the IDEA committee for further consideration and integration into the IDEA Action Plan as appropriate:

These recommendations include:

- Antidiscrimination and Bystander Trainings for all staff
- Development of a resource list for staff related to diversity and inclusion in the geosciences

## **SAFETY COMMITTEE COLLABORATION**

Many of the recommendations outlined in this report are wide-reaching and may incorporate safety considerations that are not specifically inclusion focused. Additionally, we recognize that maximum utilization of the resources that this group develops will depend on easy integration into current GI safety processes and workflow. Therefore, we reaffirm our commitment to



collaboration with the Safety Committee in enacting the recommendations above that have overlap with their committee scope.

## CONCLUSIONS

The summer of 2020 was a catalyst for change. It inspired a national push for more diversity and inclusion, and for deep-seated institutional change. The geosciences as a whole embraced this effort and took major steps through publishing resources such as those referenced here, creating JEDI/IDEA groups, and the NSF support of the URGE (Unlearning Racism in Geosciences) curriculum. UNAVCO leadership supported the creation of the IDEA committee and subsequently, the IDEA subcommittee for inclusive field safety. This document contains a large number of recommendations that we hope will translate to meaningful change across our engineering operations. We hope this will ultimately contribute to a cultural shift through our combined awareness of the extra or different risks faced by other field participants, so that we can better provide mutual support to one another. With the support and leadership from GI management, cultural change towards safety, diversity, and inclusion can be integrated into GI group operations. Every staff member has strengths, talents, and circumstances where they can bring extraordinary benefit, and everyone has areas where they may need more support or may be at greater risk. The recommendations in this report may help to provide this support in a way that is easily integrated into existing policies and practices, so that all staff can safely focus on providing exceptional work while in the field.