



A note before we dive in: Please follow IOOS's workshop code of conduct. Please respect each others lived experiences and remember that their stories are their own to share. We are not here to compare and measure against each others traumas, but to share how we can do better.

https://ioos.github.io/bio_mobilization_workshop/CODE_OF_CONDUCT.html

- Intro
- Who am I
- What
- Why are we here
- What can we do

<https://oceanhackweek.org/about/code-of-conduct.html>

OceanHackWeek Code of Conduct

OceanHackWeek (OHW) is dedicated to providing a harassment-free learning experience for everyone regardless of gender, gender identity and expression, sexual orientation, disability, physical appearance, body size, race, age or religion. We do not tolerate harassment of participants in any form. Sexual language and imagery is not appropriate for any OHW venues in either in-person or virtual form, including the Slack workspace. Participants violating these rules may be sanctioned or expelled from OHW at the discretion of the organizers.

Harassment includes, but is not limited to:

Verbal comments that reinforce social structures of domination related to gender, gender identity and expression, sexual orientation, disability, physical appearance, body size, race, age, religion.

Sexual images in public spaces

Deliberate intimidation, stalking, or following

Harassing photography or recording

Sustained disruption of talks or other events

Inappropriate physical contact

Unwelcome sexual attention

Advocating for, or encouraging, any of the above behavior

Participants asked to stop any harassing behavior are expected to comply immediately. If a participant engages in harassing behavior, the organizers retain the right to take any actions to keep the event a welcoming environment for all participants. This includes warning the offender or expulsion from OceanHackWeek.

OceanHackWeek organizers may take action to redress anything designed to, or with the clear impact of, disrupting the event or making the environment hostile for any participants. We expect participants to follow these rules at all the event venues and event-related social activities.



Why are we here?



- In climate and/or geoscience?
- At <institution>?
- Part of the IOOS community?
- Having this conversation?

I'm going to start off with a few questions for everyone to ponder.

Who am I



- Web application developer at the Gulf of Maine Research Institute

(And why the heck am I the one giving this talk)

Hmm, that doesn't seem to be all of it

Who am I



- Web application developer at the Gulf of Maine Research Institute
- On the data management team for NERACOOS
- OceanHackWeek steering committee member and infrastructure wrangler
- Xpublish and IOOS tool hacker

Like most of you, I'm guessing your title isn't the full story of who you are as we aren't just our work.



Son, sibling, (crazy) uncle, friend
Emergency medical provider
Wilderness educator and trip leader
Search and rescue team member
Backcountry skier, sailor, whitewater kayaker, trail builder, glade maintainer

What I am not: a mental health professional



So, lets rephrase this and focus this

Mental stress injuries not a mental illness

What is stress?



Stress is a normal human reaction that happens to everyone. In fact, the human body is designed to experience stress and react to it. When you experience changes or challenges (stressors), your body produces physical and mental responses. That's stress.

Stress responses help your body adjust to new situations. Stress can be positive, keeping us alert, motivated and ready to avoid danger. For example, if you have an important test coming up, a stress response might help your body work harder and stay awake longer. But stress becomes a problem when stressors continue without relief or periods of relaxation.

Acute Stress - Fight or flight. The body prepares to defend itself. It takes about 90 minutes for the metabolism to return to normal when the response is over.

Chronic or cumulative Stress - The cost of daily living: bills, kids, jobs...This is the stress we tend to ignore or push down. Left uncontrolled this stress affects your health- your body and your immune system.

Eustress - Stress in daily life that has positive connotations such as:

- Marriage
- Promotion
- Baby
- Winning Money
- New Friends
- Graduation

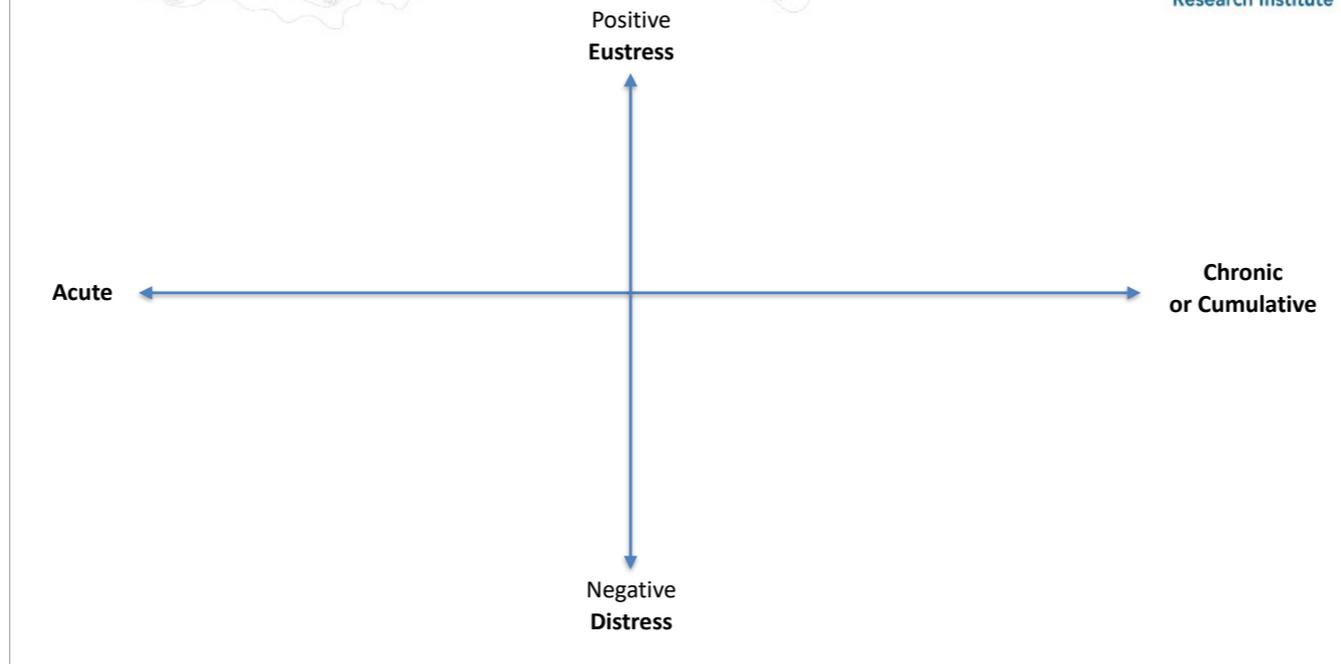
Distress - Stress in daily life that has negative connotations such as:

- Divorce
- Punishment
- Injury
- Negative feelings
- Financial Problems
- Work Difficulties

Stress definition from the Cleveland Clinic: <https://my.clevelandclinic.org/health/articles/11874-stress>

<https://www.stress.org/daily-life>

Stress (like many things) occurs on continuums



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What is a stress injury?



- Injury because it is treatable and not a permanent condition
- Operational stressors have three primary sources:
 - Critical incidents - Direct trauma
 - Daily hassles - organizational challenges
 - Relational stressors - managing relationships

The literature on operational stress in first responders actually suggests that across occupations, the daily hassles of working within the constraints of bureaucracies with strict hierarchies contributes more to stress injury than acute traumatic incidents (Larsson, 2016). This implies that mental health treatment must be consistently accessible to people throughout the organization in order to manage chronic institutional stressors.

Examples of Potentially Traumatic Events:

- Exposure to very difficult cases
- Exposure to extreme violence, murder, or suicide
- Exposure to life-threatening infectious agents
- Sexual assault or offenses
- Working with families who have seriously ill or injured children
- Dealing with hostility/resistance/violence from patients
- Exposure to similar potentially traumatic events in one's personal life

Examples of Loss:

- Death or significant illness in patients, coworkers, family, or friends
- Working with families who have lost their child
- Loss of ideals
- Loss of time
- Loss of personal wellbeing
- Loss of innocence

Examples of Inner Conflict:

- Conflicts with personal values and the job
- Finding time to satisfy work and personal responsibilities
- Second guessing what could have been done differently to prevent a negative outcome
- Concerns about the impact of one's job on family or friends

Examples of Wear and Tear:

- Long hours and rotating shifts
- Working when ill or injured
- Dealing with different personalities
- Addressing substance abuse

- Working through personal illness
- Lack of supervisor support
- Personnel turnover
- More record keeping and accountability in records
- More attention to things done wrong than things done right
- Balancing homelife with job duties
- Trying to manage a growing caseload
- Extra duty assignments
- Pressures from supervisors
- Multiple updates in patient care, insurance policies, and programs
- Multiple stressors in one's personal life over extended periods

Stress definition from the Cleveland Clinic: <https://my.clevelandclinic.org/health/articles/11874-stress>

We call it an injury rather than a disorder: <https://www.psychologytoday.com/us/blog/morality-in-language/201905/why-calling-stress-injury-matters> / https://lauraniemidotcom.files.wordpress.com/2019/05/2019may1_operationalstress_utfinalreport.pdf

"And like other injuries, it occurs on a continuum with early and late changing signs. For instance, a sprained ankle can progress to an injury that needs surgery if not treated. A stress injury can be mitigated when recognized, but when left unrecognized or treated, the body continues to take the load and it can actually shorten your capacity to do what you love or take years off your career." - <https://www.tetongravity.com/story/culture/witm-laura-mcgladrey-stress-injuries-and-the-responders-alliance>

Stress Continuum Model

READY (Green)	REACTING (Yellow)	INJURED (Orange)	ILL (Red)
<p>DEFINITION</p> <ul style="list-style-type: none"> Optimal functioning Adaptive growth Wellness <p>FEATURES</p> <ul style="list-style-type: none"> At one's best Well-trained and prepared In control Physically, mentally and spiritually fit Mission-focused Motivated Calm and steady Having fun Behaving ethically 	<p>DEFINITION</p> <ul style="list-style-type: none"> Mild and transient distress or impairment Always goes away Low risk <p>CAUSES</p> <ul style="list-style-type: none"> Any stressor <p>FEATURES</p> <ul style="list-style-type: none"> Feeling irritable, anxious or down Loss of motivation Loss of focus Difficulty sleeping Muscle tension or other physical changes Not having fun 	<p>DEFINITION</p> <ul style="list-style-type: none"> More severe and persistent distress or impairment Leaves a scar Higher risk <p>CAUSES</p> <ul style="list-style-type: none"> Life threat Loss Moral injury Wear and tear <p>FEATURES</p> <ul style="list-style-type: none"> Loss of control Panic, rage or depression No longer feeling like normal self Excessive guilt, shame or blame Misconduct 	<p>DEFINITION</p> <ul style="list-style-type: none"> Clinical mental disorder Unhealed stress injury causing life impairment <p>TYPES</p> <ul style="list-style-type: none"> PTSD Depression Anxiety Substance use disorders <p>FEATURES</p> <ul style="list-style-type: none"> Symptoms persist and worsen over time Severe distress or social or occupational impairment



Slide 15: Stress Continuum Model

The Stress Continuum Model was developed as a visual tool for assessing an individual's stress experiences, zones of stress, and stress responses. It forms the foundation for Stress First Aid. It also indicates that four possible types of stress injury—trauma, loss, inner conflict/moral injury, and long-term chronic stress, or “wear and tear” --- might move a person from the Yellow Zone of stress to the Orange or Red Zones.

Stress responses lie along a spectrum of severity and type — from transient and mild to chronic and debilitating. The continuum has four zones: Ready (Green), Reacting (Yellow), Injured (Orange) and Ill (Red). It is important to note that 100% of people will react when faced with significantly stressful experiences. However, the way in which they respond will depend on many factors, including how prepared they are for the stressor and how they interpret it.

Stress First Aid was adapted from the Navy/Marine Corps Combat Operational Stress First Aid (COSFA). The Stress Continuum Model was developed as a visual tool for assessing an individual's stress responses and forms the foundation for both COSFA and SFA. It was also designed to reduce stigma by showing that people can go in and out of ranges of stress reactions frequently, based on a variety of factors.

This model acknowledges that within this range of reactions to stress, a person can go from being in optimal functioning—feeling good, mentally and physically fit, mission focused, calm, and motivated—into the Yellow Zone. In the Yellow Zone a person can feel irritable, anxious or down, lack motivation, lose focus, have trouble sleeping, or have muscle tension or other physical changes, but these are transient reactions.

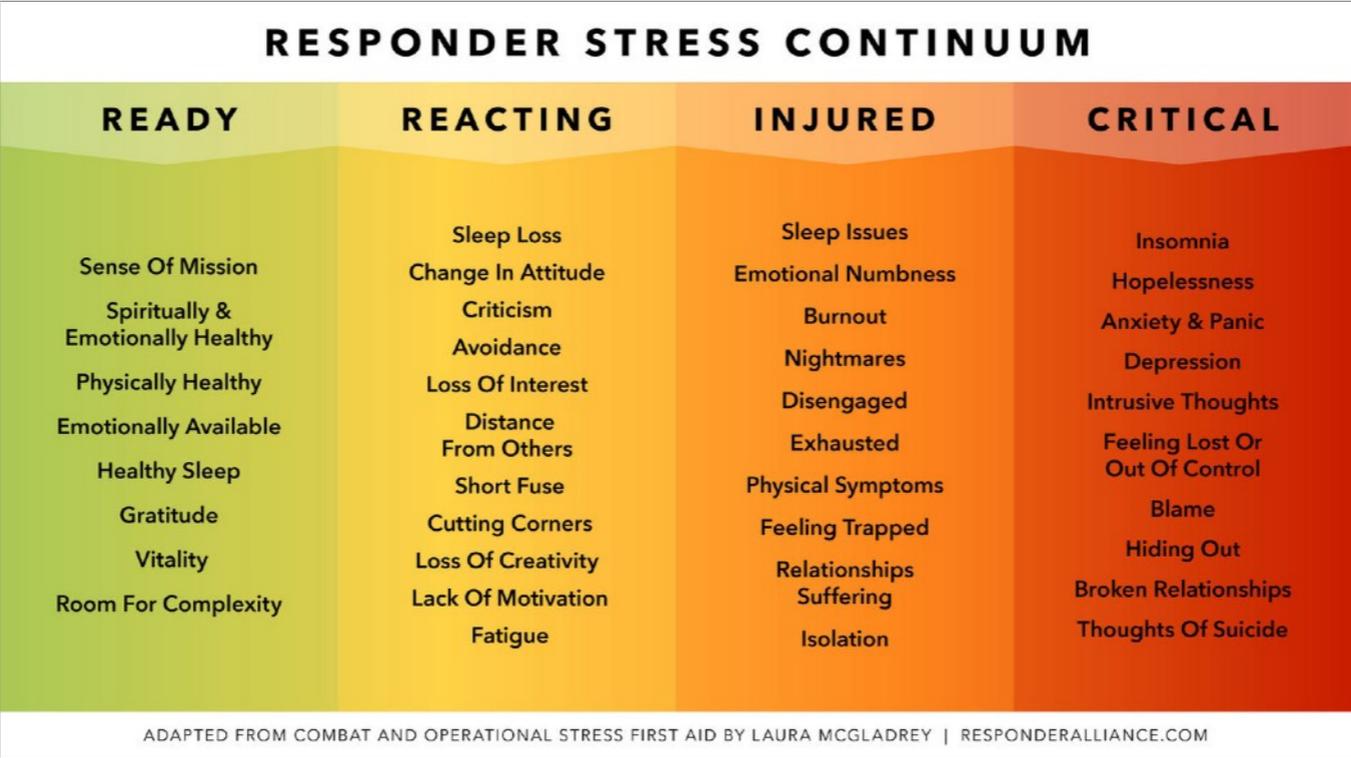
Movement into the Orange Zone is usually caused by an accumulation of different types of stressors or a pretty severe stressor. In the Orange Zone you start to see more severe and persistent distress or impairment, the person doesn't feel like themselves, or they have a loss of control of their stress reactions. They might feel strong panic or depression, rage, guilt, or blame. In this zone it starts to feel like the stress “leaves a scar,” and the person is at high risk for having trouble functioning and strong or persistent distress.

The Red Zone is usually reserved for diagnoses like PTSD, depression, anxiety, or substance use disorders. What signifies a person being Red Zone is that their symptoms are very persistent or worsen over time, the person experiences severe distress, or has significant difficulty functioning at work or in their home life.

Stress First Aid was designed to help people move themselves or their coworkers from the Red and Orange Zones back to the Yellow or Green Zones.

The norm in many high stress work cultures has been that after a difficult event, one should be able to “tough it out.” This is still the case in many settings, where the stigma associated with reacting to stress or stress injury behaviors is still very real and people will try to conceal stress reactions from supervisors to avoid medical or psychological intervention.

However, it is usually not possible to keep these behaviors hidden for long from family members, coworkers, and friends. When a coworker recognizes that someone is in trouble, it is important to try to assist in some way. Getting this individual connected with the next level of help as soon as possible may help prevent their reaction from progressing into the Red Zone. And once an individual has moved into the Red Zone, the goal is to help get them into treatment as soon as possible.



Via: <https://www.responderalliance.com/stress-continuum>

Green - Ready - Mission Satisfaction

Yellow - Reacting - Mission Drift
 - Things start stacking up, can't clean plate

Orange - Injured - Mission Fatigue
 - Exhausted
 - Alcohol, drugs
 - Not motivated

Red - Critical - Moral Injuries
 - Short tempered, lashing out
 - Self fulfilling



Why are we here?



- In climate and/or geoscience?
- At <institution>?
- Part of the IOOS community?
- Having this conversation?

Some of our missions



Collaborative solutions to global ocean challenges

Our mission is to provide and support high quality global ocean observations and research to improve our scientific understanding and inform society about the ocean's role in environmental change.

___ is our eyes on the ocean, coasts, and Great Lakes. We are an integrated network of people and technology gathering observing data and developing tracking and predictive tools to benefit the economy, the environment, and public safety at home, across the nation, and around the globe.

___ is the authoritative source for accurate, reliable, and timely tides, water levels, currents, and other coastal oceanographic and meteorological information. Our services support safe and efficient maritime commerce and transportation, help protect public health and safety, and promote robust, resilient coastal communities. ___ maintains ocean observing infrastructure, including more than 200 permanent water level stations on the U.S. coasts and Great Lakes, an integrated system of real-time sensors concentrated in busy seaports, and temporary meters that collect observations for tidal current predictions. Through these systems, we provide the nation with historic and real-time data, forecasts, predictions, and scientific analyses that protect life, the economy, and the environment on the coast.

To foster partnerships and grow a powerful online platform that generates information, knowledge, and place-based solutions to advance our understanding of the ocean.

___'s mission is to inform the stewardship and sustainable management of aquatic animals by providing knowledge on their movements, habitats and survival in the face of changing global environments.

___ provides environmental data, products, and services covering the depths of the ocean to the surface of the sun to drive resilience, prosperity, and equity for current and future generations.

Let's look at some of our missions. While you may recognize which mission comes from an institution, the themes of our missions are what matters. We care about humanity, ecosystems, the oceans,, the world. We have chosen to take on the problems facing the world.

—

At GMRI our mission is - Collaborative solutions to global ocean challenges.

Collaborative solutions to global ocean challenges

Our mission is to provide and support high quality global ocean observations and research to improve our scientific understanding and inform society about the ocean's role in environmental change.

IOOS is our eyes on the ocean, coasts, and Great Lakes. We are an integrated network of people and technology gathering observing data and developing tracking and predictive tools to benefit the economy, the environment, and public safety at home, across the nation, and around the globe.

Axiom Data Science is an informatics and software development firm focused on developing scalable solutions which can be leveraged across a variety of users, clients and institutions in order to make the best tools for data management, integration, and visualization. We support a variety of federal, private, academic and non-governmental organizations managing and conducting research in the ecological, geological and ocean sciences.

Meaningful Oceanographic Data for the Nation

NOAA's Center for Operational Oceanographic Products and Services (CO-OPS) is the authoritative source for accurate, reliable, and timely tides, water levels, currents, and other coastal oceanographic and meteorological information. Our services support safe and efficient maritime commerce and transportation, help protect public health and safety, and promote robust, resilient coastal communities. CO-OPS maintains ocean observing infrastructure, including more than 200 permanent water level stations on the U.S. coasts and Great Lakes, an integrated system of real-time sensors concentrated in busy seaports, and temporary meters that collect observations for tidal current predictions. Through these systems, we provide the nation with historic and real-time data, forecasts, predictions, and scientific analyses that protect life, the economy, and the environment on the coast.

To foster partnerships and grow a powerful online platform that generates information, knowledge, and place-based solutions to advance our understanding of the ocean.

OTN's mission is to inform the stewardship and sustainable management of aquatic animals by providing knowledge on their movements, habitats and survival in the face of changing global environments.

NCEI provides environmental data, products, and services covering the depths of the ocean to the surface of the sun to drive resilience, prosperity, and equity for current and future generations.

UW School of Aquatic and Fishery Sciences: We work together to protect our world's aquatic systems through high caliber teaching, research, service, and partnerships.

CSIRO: As Australia's national science agency, CSIRO is solving the greatest challenges through innovative science and technology.

Fisheries and Oceans Canada:

Canada has an abundance of freshwater and marine and coastal areas that are ecologically diverse and economically significant. Fisheries and Oceans Canada and the Canadian Coast Guard manage Canada's fisheries and safeguard its waters by:

- sustainably managing fisheries and aquaculture
- working with fishers, coastal and Indigenous communities to enable their continued prosperity from fish and seafood
- ensuring that Canada's oceans and other aquatic ecosystems are protected from negative impacts
- ensuring commercial vessels and recreational boaters can safely navigate our waters
- being there to save lives and protect our environment when emergencies arise

Fisheries and Oceans Canada and the Canadian Coast Guard work in over 400 locations across Canada on 4 core responsibilities.

INBRSea: The International Master of Science in Marine Biological Resources (IMBRSea), is a joint Master program organised by eleven leading European universities in the field of marine sciences, supported by the European Marine Biological Resource Centre (EMBRC). The IMBRSea program builds upon the strengths from the previous International Master of Science in Marine Biodiversity and Conservation (EMBC+), and helps to prepare students for the rapidly evolving demands of the blue bio-economy as well as research on the sustainable use of marine biological resources.

We aim to find people who dare to think about the challenges of tomorrow, for the simple reason that at IMBRSea we strive to provide an environment in which students can gain expertise in not only marine related subjects, but also cultivate essential life skills like flexibility, adaptability and perseverance. All of which help to produce individuals who can confidently enter the working world as international professionals.

Think broadly. You will encounter different environments, but you will soon see that the challenges in each are similar. Not only dare to think, but also dare to change your way of thinking.

Keep researching. Research is the foundation of our education. This is a Master of Science, so research is an essential element.

Equality matters. Everyone starts with equal opportunities. Each and every IMBRSea student gets the opportunity to foster their talents, regardless of gender, cultural or social background.

Build with us. Students, staff and the partners all have the opportunity to contribute to the course content, helping to ensure a high quality education.

Push boundaries. We aim to prepare our students for both international and inter-cultural exchanges. We provide them with the opportunity to gain experience across borders, opening our doors to students from all over the world, as well as welcoming lecturers and academic staff from abroad.

WSP: We believe that for societies to thrive, we must all hold ourselves accountable for tomorrow. That means creating innovative solutions to the challenges the future will bring. It inspires us to stay curious, act locally and think internationally.

NOC.ac.uk: Our aim at NOC is to build a world where everyone feels empowered and inspired to help our oceans thrive. This means giving people the opportunity, the ability and the motivation to protect, restore, and harness the value of our ocean. We're doing everything in our power to pursue and promote ground-breaking research and innovation. We believe that if we all have a deeper understanding of the ocean, we can unlock its potential and provide solutions to problems facing the world today. Because by helping our ocean, all life on Earth will benefit.

Our planet is a blue planet. Most of its expanse is covered by the ocean. This vast space is the lifeblood of our world, regulating the environment even more than the Amazon rainforest. Yet so much of our ocean is yet to be discovered and its value is so often overlooked. That's why we go further to gain a deeper understanding of our ocean and coastlines. Through ground-breaking research, collaboration and game changing innovation we will empower everyone to help them thrive. Our fate on this planet is bound up in our ocean and there is so much exciting power to harness in its depths. So here at NOC, we go deeper.

UVic: Science prepares us for concepts we can't imagine today but will shape our world tomorrow. Whether it's working on a more potent treatment to fight cancer, developing more accurate climate prediction models or understanding the secrets of anti-matter, we're having an impact on the world.

University of Tasmania: We are a University that makes a positive difference for Tasmanians and Tasmania and, from Tasmania, the world. Our governance, leadership and strategy are focused on ensuring we deliver and sustain this mission.

University of Western Australia: The Oceans Graduate School engages in fundamental and applied research to find solutions for the critical issues facing our oceans, coasts and estuaries. Our School comprises state-of-the-art facilities around Western Australia used for world-class marine research to investigate the ocean.

The issues facing our oceans are complex and our School gives students not just the scientific knowledge they require, but the technology, resources and community involvement that is essential for the future. We provide students with a science-based education and the know-how to form strong policy and governance, which creates a team of leaders ready to confront global issues. Our flagship course, the Master of Ocean Leadership, centres on tackling real threats our oceans face and provides graduates with the skills to lead multidisciplinary projects across the Indian Ocean.

Bigelow: Bigelow Laboratory for Ocean Sciences is an independent, nonprofit research institute located in East Boothbay, Maine. From the Arctic to the Antarctic, Bigelow Laboratory scientists use innovative approaches to study the foundation of global ocean health and unlock its potential to improve the future for all life on our planet.

Creative, cutting-edge science is our hallmark. We've reimaged ocean research – fusing the best of scientific inquiry and entrepreneurial ingenuity. This bold and nimble approach has transformed our independent nonprofit from a scrappy startup to a world-renowned hub of ocean discovery during the last 50 years.

With the help of our generous supporters, we're empowering diverse researchers to collaboratively explore – and exceed – the traditional boundaries of their fields. Together, we are turning the tide on global challenges, and unlocking the incredible opportunity hidden in each drop of the ocean.

At Bigelow Laboratory, we use innovative approaches to unlock the incredible opportunity of the ocean. All our work is guided by a set of shared values that define our unique approach.

We believe that transformative science is like great art and thrives in an environment where creativity is valued and scientists are continually challenged.

We continually strive to find ways our science can be utilized to benefit society.

We recognize that any science will only reach its full potential if it leverages tools and ideas from other disciplines.

We invest in basic research and recognize its proven value in long-term discovery and progress.

We are nimble and do not allow process or precedent to hinder the best possible science.

We believe there is power in embracing the full diversity of humanity to advance science and are committed to supporting each other as individuals worthy of respect.

We encourage every person, in every position, to continually learn, improve, and innovate.

We embrace our students' ability to challenge our perceptions and strive to empower our students to think critically and aim high.

We clearly and broadly communicate our findings and their importance.

We accept risk and believe that if we never fail, we aren't reaching high enough!

Voice of the Ocean: We conduct, support, and promote science and communication regarding the sea and its dynamic processes. With a holistic approach, we explore the interaction between humans and the sea. Historically, at present, and in the future.

Climate change and biodiversity loss continue unabated, threatening sustainable development and our viability as a species. Unfortunately, the challenges are particularly evident when we look at the state of our planet's life support system – the ocean.

To change the downward spiral, humankind must ensure a more sustainable situation for the ocean.

Therefore, we must collaborate to improve ocean stewardship through joint research, capacity development, and sharing data, information, and technology. And we need to change how humans interact with the ocean

University of Tasmania Institute for Marine and Antarctic Studies: Our research is innovative, relevant, and globally distinctive. Our education delivers first-class programs resulting in highly trained scientists and researchers serving the needs of academic institutions, industry, government and the community.

Scripps: Scripps Institution of Oceanography at UC San Diego is one of the most important centers for global earth science research and education in the world. Scripps scientists work to understand and protect the planet by investigating our oceans, Earth, and atmosphere to find solutions to our greatest environmental challenges. Scripps leads research in climate change impacts and adaptation, resilience to hazards, conservation and biodiversity, oceans and human health, national security, and innovative technology to observe the planet.

IOOS: To produce, integrate, and communicate high quality ocean, coastal and Great Lakes information that meets the safety, economic, and stewardship needs of the Nation.

STRESS CONTINUUM FOR THE TEAM

READY	REACTING	INJURED	CRITICAL
Transparency	Normalizing Depletion	Resources Scarce	Cliques And Hierarchy
Sense Of Mission	Staff Dreading Work	Rigid Perspectives	Lack Of Trust
Requests For Help Met With Support	Mistakes Are Personal	Members Undervalued	Gaslighting
Connection	Transactional Communication	Communication Silos	Culture Of Blame
Team Approach To Overwhelm	Requests For Help Are Criticized	Suffering In Silence	Vulnerability Punished
Curiosity Culture		Helplessness	Fear At Work
Mission Satisfaction	Mission Drift	Mission Fatigue	Moral Injuries

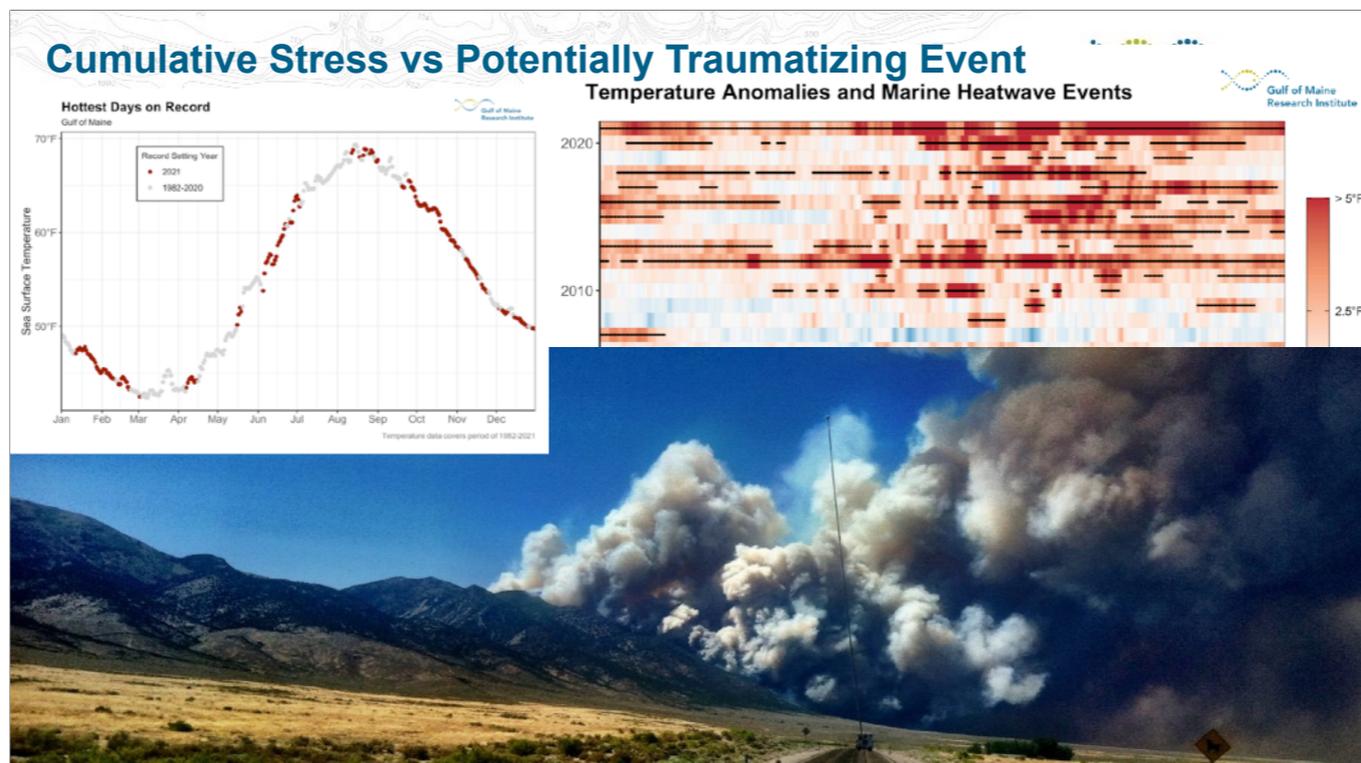
ADAPTED FROM COMBAT AND OPERATIONAL STRESS FIRST AID BY LAURA MCGLADREY | RESPONDERALLIANCE.COM

Mission

Why are these resources from first responders and the military important? Because they are also fields filled with mission driven individuals.

'As climate scientists we encounter the cryosphere on its worse days'

We are the first responders in climate.



These are stories that I have been given permission from my coworkers to share

As much as we may think we are scientists, developers, or engineers and can always approach things objectively, we are humans first.

'In the climate and geosciences we encounter the cryosphere on its worse days'

We are the first responders in climate

—

<https://www.stress.org/military/combat-stress>

Fire shot from: https://twitter.com/HotshotWake/header_photo

Mission

The expectation that we can be immersed in suffering and loss daily and not be touched by it is as unrealistic as expecting to be able to walk through water without getting wet.

This sort of denial is no small matter. The way we deal with loss shapes our capacity to be present to life more than anything else. The way we protect ourselves from loss may be the way in which we distance ourselves from life and help.

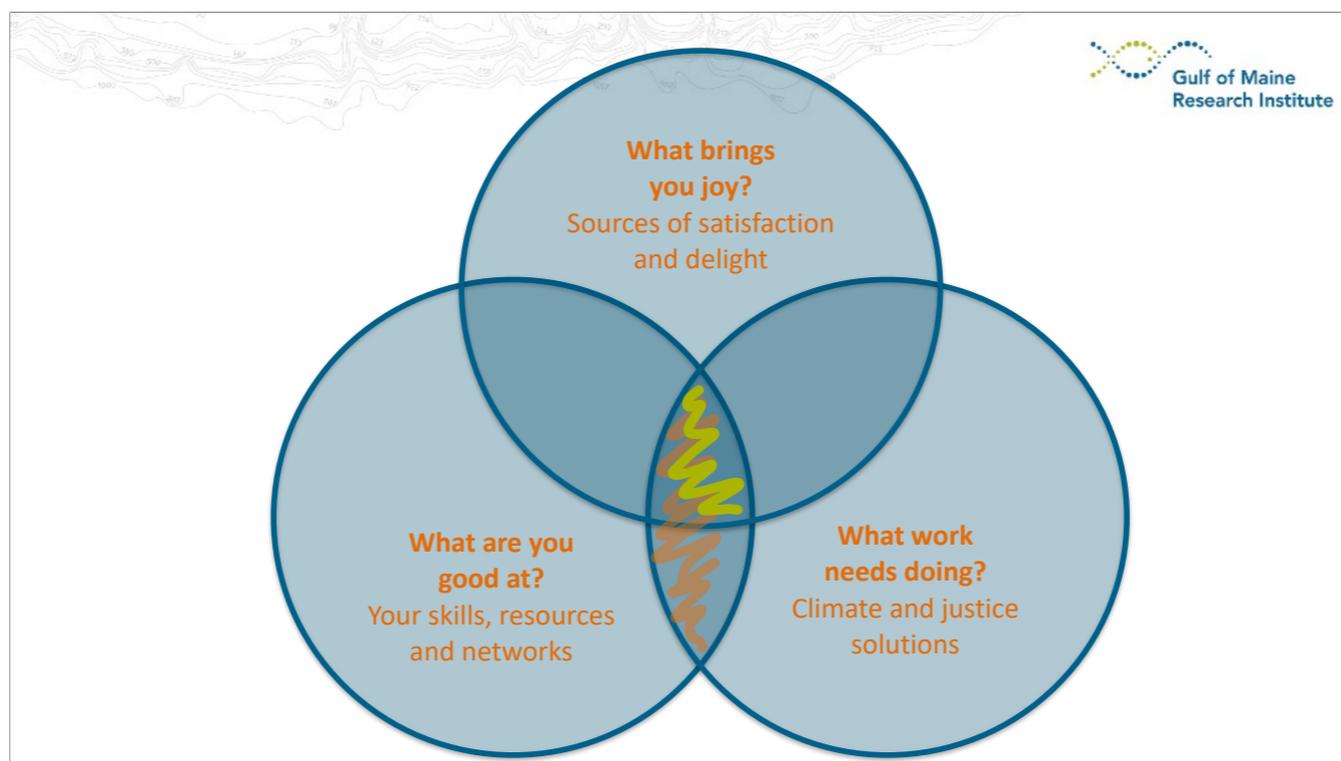
We burn out not because we don't care but because we don't grieve. We burn out because we've allowed our hearts to become so filled with loss that we have no room to care.

- Rachel Naomi Remem

So, which Spock are you?



As much as we may think we are scientists, developers, or engineers and can always approach things objectively, we are humans first. As much as we may try to turn off our feelings, they are still there



Most of us have found ourselves at this intersection between our skills and what needs to be done.

We need to recognize that there is another factor here of what makes us happy, or at least what doesn't add more stress. While we may not always be able to work in the intersection of all three, we should be aware when we are not there.

Additionally we should be aware of when our teammates and coworkers aren't there either.

Try to figure out with your team if that intersection is the same for everyone, or are there people who's stressors are different. Are there tasks that we can exchange from folks who find them stressful to those who who do not?

Via: Climate Venn by Ayana Elizabeth Johnson <https://www.instagram.com/p/CcOpgoiPizZ/>

Charge your Battery



	What charges your battery?	What drains your battery?
At work		
Outside work		

So, think about what charges your battery and what stress depletes it?

You are not alone
Field geophysicist, disaster researcher, sci-fi science consultant, science writer, public speaker, irrepressibly curious. #scicomm #womeninSTEM she/her 🇨🇦

It's been a long, shitty pandemic that's changed all of us. The fatigue is real. The burnout is real. The lure of submitting to defeat as it never fucking ends is real.

But just like with climate change, nihilism is kin to denialism.

It's never too late to make things less bad.

1:21 PM · Nov 10, 2021 · Twitter for iPhone

12 Retweets · 1 Quote Tweet · 52 Likes

Tweet your reply

Part of why I work in disasters is that it brings me comfort to know I'm making the world less bad.

Getting a flu shot is so small, so simple, so fast, but it protects those around you.

Small things like getting vaccinated add up, making the world just a little bit better.

Eos Science News by AGU

ABOUT SPECIAL REPORTS TOPICS PROJECTS NEWSLETTER SUBMIT TO EOS

The Adaptive Mind: Taking Care of Those Who Take Care of Us

The Emotional Toll of Climate Change on Science Professionals

Earth scientists and communicators dealing with or studying climate change face many potential stressors. They need support and resources to maintain and improve their emotional well-being.

IS THIS HOW YOU FEEL?
HOME STAFF THIS IS HOW SCIENTISTS FEEL HOW DO YOU FEEL? TOP READERS BLOG NEWSWORTH CONTACT

Emotion, Space and Society
Volume 24, August 2017, Pages 34-41

Keeping the heart a long way from the brain: The emotional labour of climate scientists

Mental health risk and resilience among climate scientists

Susan Clayton

Nature Climate Change 8, 260-261 (2018) | Cite this article
6452 Accesses | 21 Citations | 251 Altmetric | Metrics

Awareness of the threats to mental health posed by climate change leads to questions about the potential impacts on climate scientists because they are immersed in depressing information and may face apathy, denial and even hostility from others. But they also have sources of resilience.

Letters written in 2020
Below are a selection of the same contributors to Eos

And most importantly remember, you are not alone.

<https://twitter.com/mikamckinnon/status/1458500087110270976>

<https://eos.org/features/the-emotional-toll-of-climate-change-on-science-professionals>

<https://www.isthisshowyoufeel.com/this-is-how-scientists-feel.html>

https://www.cdc.gov/violenceprevention/about/copingwith-stresstips.html?CDC_AA_refVal=https%3A%2F%2Fwww.cdc.gov%2Fviolenceprevention%2Fpublichealthissue%2Fcopingwith-stresstips.html

<https://eos.org/wp-content/uploads/2019/12/personal-resilience-resources.pdf>

<https://www.goodgriefnetwork.org>

<https://www.sciencedirect.com/science/article/abs/pii/S1755458617301251?via%3Dihub>

<https://www.nature.com/articles/s41558-018-0123-z>

<https://eos.org/agu-news/whats-your-superpower-science-communication>

<https://www.sciencedirect.com/science/article/abs/pii/S0048733317300422?via%3Dihub>

<https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0044948>

<https://onlinelibrary.wiley.com/doi/10.1111/cag.12277>

https://www.youtube.com/watch?app=desktop&v=_BMytbK1-8g#searching

<https://gendread.substack.com/p/a-question-on-earth-day-who-is-protecting?s=r>

<https://basgdotorg.files.wordpress.com/2020/09/basg-september-2020.pdf>

You are not alone

Dr. Wendy Bohon
@DrWendyRocks

Geology MSc, PhD | AAAS If/Then Ambassador | Mom of 3 | #SciComm | Insta: @DrWendyRocks; TikTok: @DrWendyRocksIt | TerraExplore | she/her | views mine

I'm behind at home and at work but I'm also exhausted and fighting burnout. So I took the morning off and read a book (while hiding in a pillow fort).

I'm no use to anybody if I'm not healthy.



Researching Earth's past and present for a better future. Podcaster for the planet. Chaotic good professor. Naturalist. #TeamMuskOx for climate. She/har 🇪🇺

Dr. Jacquelyn Gill
@JacquelynGill

This is a terrible day in a terrible week in a terrible month in a terrible year in a terrible decade if you value justice, equality, bodily autonomy, compassion, freedom, and human rights. All I have to offer in this moment is: we must take care of each other. We must not stop.

12:38 PM · Jun 23, 2022 · Twitter Web App

300 Retweets · 12 Quote Tweets · 1,632 Likes

Tweet your reply

Dr. Jacquelyn Gill · Jun 23
Replying to @JacquelynGill
Things I am reminding myself while I breathe: 1) It feels like far, far too many problems, but it is really only a few (white supremacy, patriarchy, capitalism). Recognizing this connectivity means that all the work we do in one area makes a difference in all the other areas.

Dr. Jacquelyn Gill · Jun 23
Replying to @JacquelynGill
2) Remember the Mr. Rogers quote, "look for the helpers!" I don't care how true it is. It's true. People ARE doing that work and they need your help. And I've found that helping is hands-down the best solution to feeling helpless. It's certainly worth a try before giving up.

Dr. Jacquelyn Gill · Jun 23
Replying to @JacquelynGill
3) We need to resist the urge to turn inward in times of strife. Individualism is not going to save us. Instead of prepping and stockpiling and giving in to cynicism, strengthen your community. Connect with your neighbors. Feed someone. Donate. Volunteer. Run for local office.

Gulf of Maine Research Institute

Pete D. Akers
@PeteScientist

Paleoclimatologist, stable isotope geochemist, geographer, stal and ice enthusiast. Assistant professor of physical geography at Trinity College Dublin.

Replying to @JacquelynGill

A student eval I once had in a class was "he was the first teacher to make me feel like climate change was something we could still do something about". Which is crazy bc I thought was being straightforward & blunt. But also not fatalist and stated "the world isn't going to end"

2:14 PM · May

Chris Holdgraf
@choldgraf

Executive Director @212c_org, @ProjectUzayzi + @mybinder4team, open communities, open infrastructure, team science, education, communication, He/Him

I just realized that the image from Spiderman where he's trying to keep two halves of a boat from falling apart into the ocean is a great metaphor for maintainer burnout



How Coral Researchers Are Coping With the Death of Reefs

And remember to reach out to others and remind them that they are not alone

<https://twitter.com/DrWendyRocks/status/1552684360280817671>

<https://twitter.com/JacquelynGill/status/1540011400931807232>

<https://twitter.com/PeteScientist/status/1131986743874457603>

<https://twitter.com/choldgraf/status/1149670192982700032>

<https://www.theatlantic.com/science/archive/2017/11/coral-scientists-coping-reefs-mental-health/546440/>


 Gulf of Maine Research Institute

RESPONDER STRESS CONTINUUM

READY	REACTING	INJURED	CRITICAL
Sense Of Mission Spiritually & Emotionally Healthy Physically Healthy Emotionally Available Healthy Sleep Gratitude Vitality Room For Complexity	Sleep Loss Change In Attitude Criticism Avoidance Loss Of Interest Distance From Others Short Fuse Cutting Corners Loss Of Creativity Lack Of Motivation Fatigue	Sleep Issues Emotional Numbness Burnout Nightmares Disengaged Exhausted Physical Symptoms Feeling Trapped Relationships Suffering Isolation	Insomnia Hopelessness Anxiety & Panic Depression Intrusive Thoughts Feeling Lost Or Out Of Control Blame Hiding Out Broken Relationships Thoughts Of Suicide

ADAPTED FROM COMBAT AND OPERATIONAL STRESS FIRST AID BY LAURA MCGLADREY | RESPONDERALLIANCE.COM



Acute



Chronic or Cumulative

BATTERY SNAPSHOT

What brings you joy?
Sources of satisfaction and delight

What work needs doing?
Climate and justice solutions

Your climate action!

What are you good at?
Your skills, resources, and networks

What charges the battery?

-
-
-
-
-
-



What drains the battery?

-
-
-
-
-
-

STRESS CONTINUUM FOR THE TEAM

READY	REACTING	INJURED	CRITICAL
Transparency Sense Of Mission Requests For Help Met With Support Connection Team Approach To Overwhelm Curiosity Culture Mission Satisfaction	Normalizing Depletion Staff Dreading Work Mistakes Are Personal Transactional Communication Requests For Help Are Criticized Mission Drift	Resources Scarce Rigid Perspectives Members Undervalued Communication Silos Suffering In Silence Helplessness Mission Fatigue	Cliques And Hierarchy Lack Of Trust Gaslighting Culture Of Blame Vulnerability Punished Fear At Work Hopelessness Moral Injuries

ADAPTED FROM COMBAT AND OPERATIONAL STRESS FIRST AID BY LAURA MCGLADREY | RESPONDERALLIANCE.COM

McGladrey 2019

Via: <https://www.responderalliance.com/stress-continuum>

Green - Ready

Yellow - Reacting
 - Things start stacking up, can't clean plate

Orange - Injured
 - Exhausted
 - Alcohol, drugs
 - Not motivated

Red - Critical
 - Short tempered, lashing out
 - Self fulfilling