

# Post-Traumatic Earth Disorder & the formation of Earth Empathy: Lessons from COVID-19 for Mental Health Perspectives on the Climate Crisis

**The Rev. Dr. Storm Swain**

***Vibrant Disaster Behavioral Health Symposium,  
Washington D.C., 2023***



United Lutheran Seminary

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# Greetings



# Land and peoples acknowledgement



- “The land on which American University stands is the traditional territory of Nacotchtank/Anacostan/Piscataway people. I honor those original caretakers of this land, and we pay our respect to the elders, past, present, and emerging.



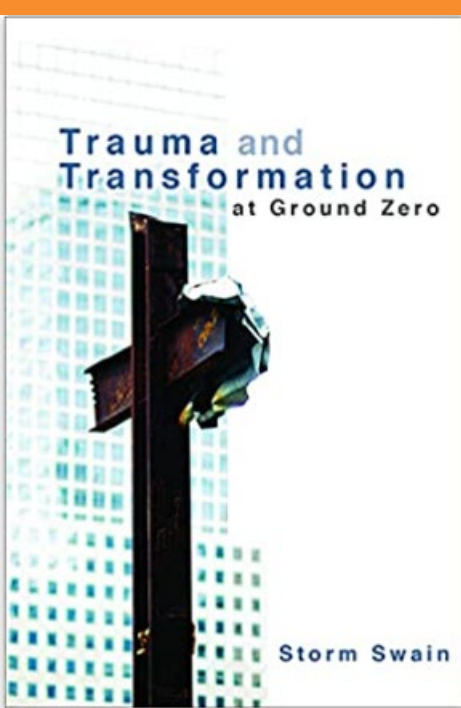
# From Clinic to Climate

## Context

- Psychiatric Chaplain
- Psychotherapist
- Disaster Response Chaplain
- Disaster response researcher
- Seminary Professor
- Congregational clergyperson

## Trauma

- Victims and perpetrators
- Subjective experience of past traumatizing events
- Acute /drip and strain trauma
- Disaster – Collective Trauma
- Intensity, duration, proximity
- Meaning
- Neurobiology of trauma
- Racialized trauma - generational
- Psyche & Body



# Research questions: 9/11, COVID, Climate...

- How do you care for the traumatized, when you might be somewhat traumatized yourself?
- What mitigates against trauma in a context of prolonged exposure to horrific material, traumatized persons, and personal risk?
- What can we learn from other disasters to mitigate against the effects of a current or impending disaster?
- How does the Emotional Lifecycle of a Disaster look when experiencing multiple disasters (in different phases) at once?
- What is resilience in the face of a cyclical experience of disaster?
- How do we respond to Climate Change and Crisis in a way that resources us for the ongoing nature of the disaster?

# Climate questions....

How warm are you?

How might you feel if we turned the thermostat up another 4 degrees? ...or more?

What is your body temperature?

What would your body do if it were another 4 degrees? ...or more?

- What comes to your mind when you think about 'Climate Change'?
- What do you feel in relation to 'Climate Change'?
- How might 'Climate Change' affect your clinical practice, work, life?
- How might 'Climate Change' affect clients, patients, persons affected by Climate related disasters?

# Words matter!

Climate Change (future or now)?

Crisis

- Climate Crisis?

Emergency

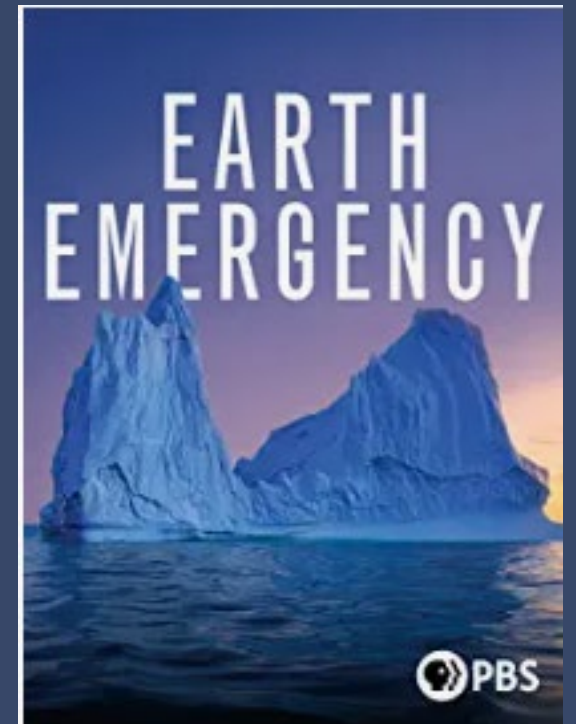
- Climate Emergency?

Disaster

- Climate Disaster?

Catastrophe

- Climate Catastrophe?



# American Psychological Association

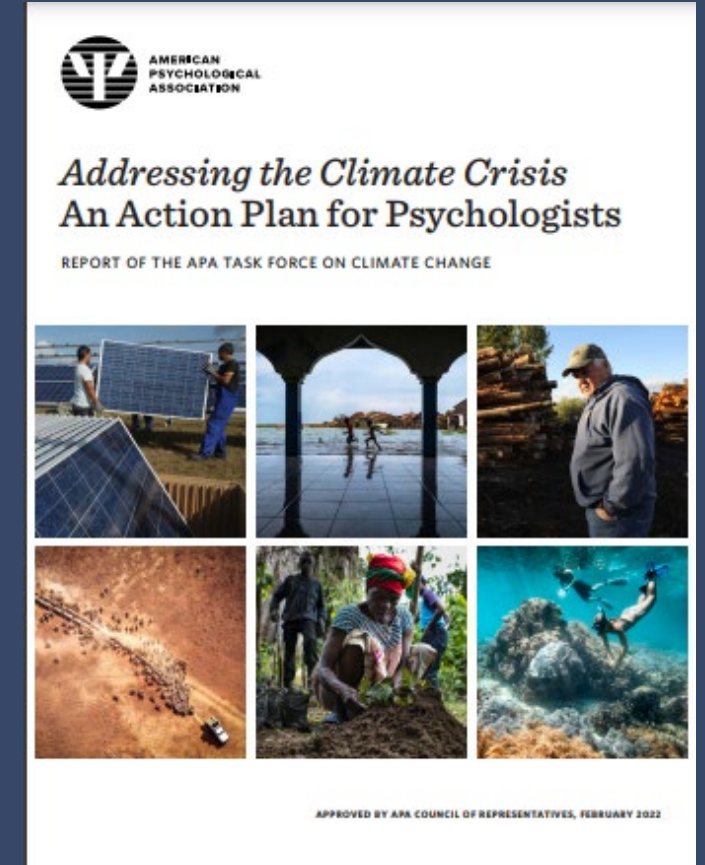
2010



2021

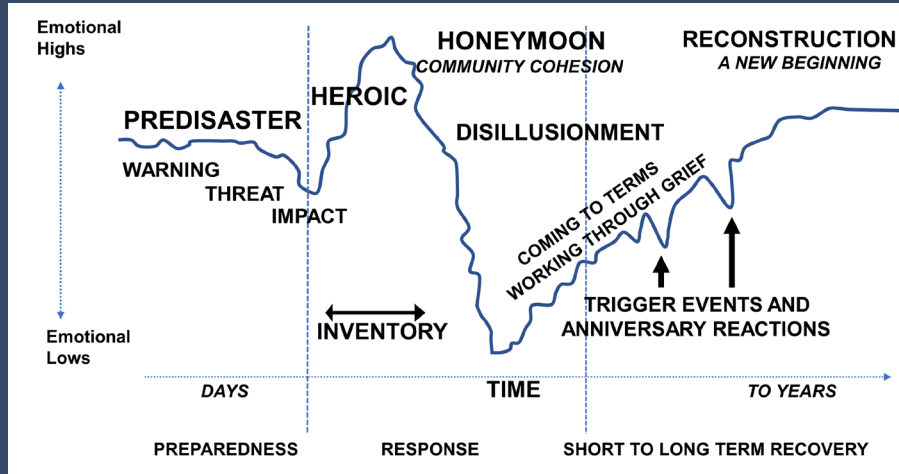


2022



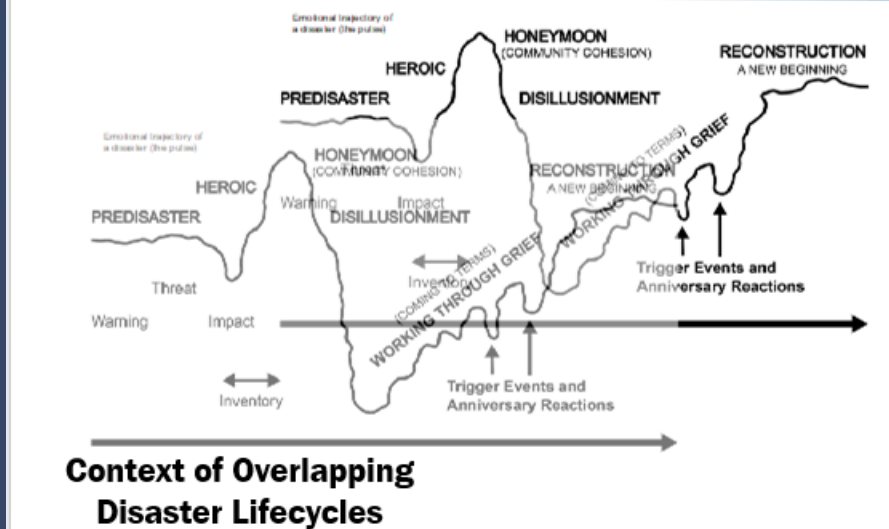


# Vibrant: what a difference two years makes



- Figure 1. Emotional Phases of a Disaster. Zunin/Myers, DeWolfe, 2000, in public domain.

## Mental Health Toolkit for Faith & Community Leaders



Complexity of the model with overlapping disasters

- COVID-19
- Racialized Violence
- Poverty
- Climate

# Disaster Management Cycle in light of the COVID-19 Pandemic

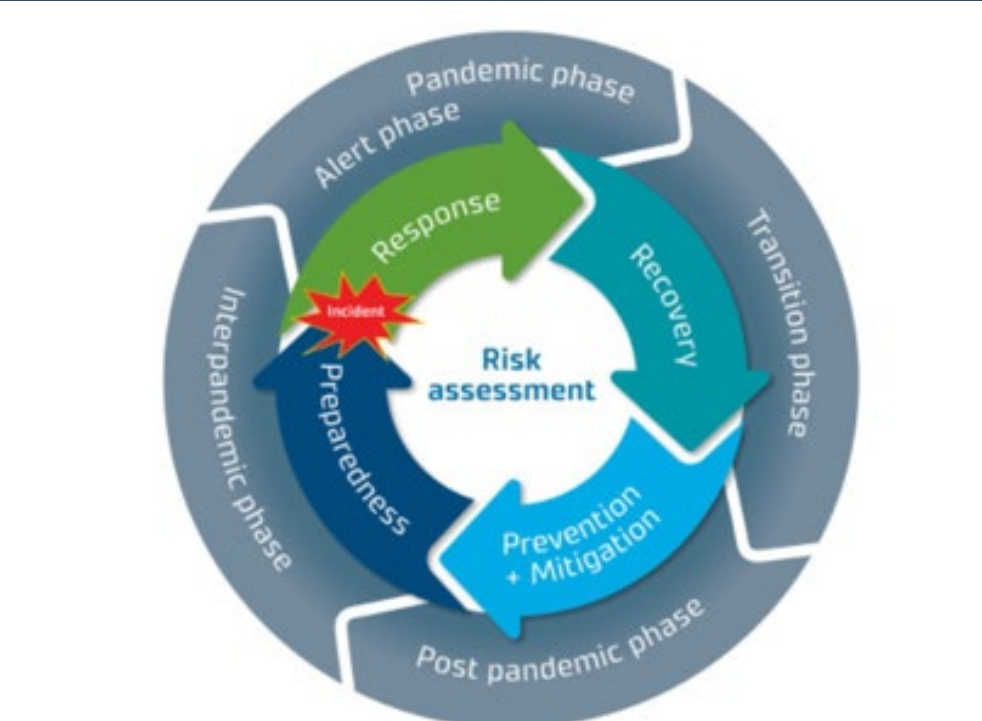


Figure 1. Disaster Management Cycle. Fakhruddin, Blanchard, and Ragupathy (2020).

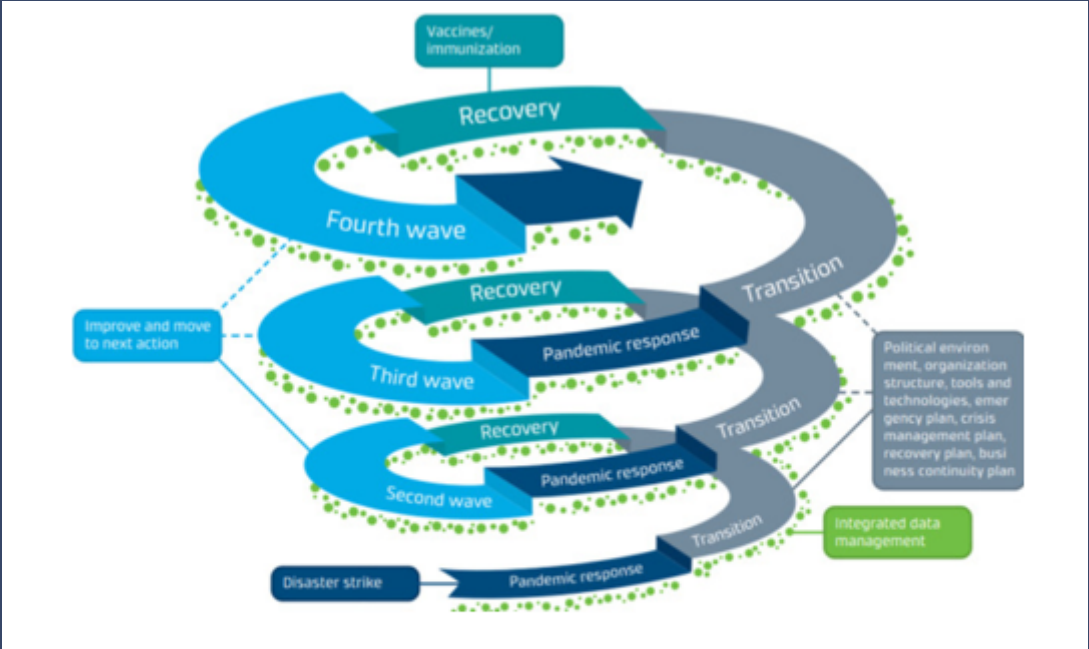


Figure 4. Spiral Revision of Disaster Management Cycle to a spiral cycle of Transition from Pandemic Response to Recovery, with repeated waves of Impact, which require going back in the cycle again and again.

Reprinted from Bapon (SHM) Fakhruddin, Kevin Blanchard, and Durga Ragupathy, "Are we there yet? The transition from response to recovery for the COVID-19 pandemic." Progress in Disaster Science 7, 100102, 2020, with permission from Elsevier.

# Global Lessons from COVID-19 for the Climate Crisis

## Pandemic

- ◆ There is here.
- ◆ They are us.
- ◆ Where is everywhere  
(but not the same).
- ◆ When is now... and now...  
and still now...

## Climate

- ◆ There is here.
- ◆ They are us.
- ◆ Where is everywhere  
(but not the same).
- ◆ When is now... and now...  
and still now...



# Eco-grief

- “a breadth of studies have examined the mental health effects of climate-related hazards, including post-traumatic stress disorder, depression, anxiety, and exacerbation of psychotic symptoms, and suicidal ideation and suicide completion.
- Alongside these mental health impacts, experiences of ecological anxiety (ie apprehension and stress about anticipated threats to salient ecosystems) and ecological grief (ie, grief in relation to ecological loss) related to climate are burgeoning.”

Cunsolo et. al., ‘Ecological grief and anxiety: the start of a healthy response to climate change,’ *The Lancet*, Vol 4, July, 2020, e261-263

- Cunsolo and Ellis characterise ecological grief as falling into three main areas:
  - 1) grief associated with physical ecological losses
  - 2) grief associated with the loss of environmental knowledge
  - 3) grief associated with anticipated future losses
- People who rely on land and land-based activities for their own wellbeing (e.g. Indigenous Peoples and farmers) at the forefront of exposure
- Training needed for health professionals
- Clinical support may be required for some
- Peer interactions and interpersonal group therapy could be drawn upon
- “social prescribing” and work that is community- based can support and enhance environmental, physical, and mental health
- Focus on families: encourage parental insight, empathy, validating feelings, mobilizing hope through meaningful goal directed activities
- a health equity approach is key

# Eco-anxiety:

- “a recent global survey about climate change among 10,000 children and youth in 10 countries revealed that 56% of them thought ‘humanity is doomed’, while 75% felt the climate future to be frightening; 42% reported having felt at least some hesitation in having children because of the climate crisis (Hinkman et. al.)
- People may feel climate related fear, anxiety, and worry because of many kinds of things, for example, the uncertainty of the future, that damage that has already been done to ecosystems and social systems, changes in identities and lifestyles, and the loss of hopes and dreams (for various types of climate related loss, see Tschakert et. al., 2019.)

## Clinical considerations

- various manifestations
- paralyzing and adaptive
- practical eco-anxiety
- existential anxiety: e.g. questions of freedom and guilt, and meaning and meaninglessness
- difficulty in finding therapists that will not disavow eco-anxiety or suggest the roots are in intra- or interpersonal issues (Macy 1995, Haseley 2019)
- Therapists’ own disavowal or denial can be a challenging problem
- younger therapists recognized climate more often in their work Seaman 2016
- therapists own inner conflicts around climate may impact therapy (Silva and Coburn 2022)

# Climate Trauma

“are we not talking about a pervasive, continual assault on the global biosphere? One that threatens mass extinction and overwhelms our emotional capacity? Is this not the very definition of trauma?”

“We must therefore recognize that the climate crisis is not just a crisis in relation to and with episodic trauma but instead represents an entirely new order of trauma itself.”

Zhiwa Woodbury, ‘**Climate Trauma: Toward a New Taxonomy of Trauma**,’ *Ecopsychology*, Vol. 11, No.1, March 2019, p. 1—8.

- “Kaplan and Craps consider climate trauma a form of “pre-traumatic stress...”
- Craps work on “Anthropocene Disorder” ...challenges readers to reconceptualise trauma in non-anthropocentric terms and acknowledges the interconnectivity of human and more-than-human forms of trauma.
- Ecopsychologists emphasize the intrinsic organic ways human emotions and bodies are part of the earth and expressive of its distress in specifically human form (Fisher 2013; Roszak 1995; Clinebell [1996] 2013).

Pamela R. McCarroll , ‘**Embodying Theology: Trauma Theory, Climate Change, Pastoral and Practical Theology**,’ in ‘McCarroll and Kim-Cragg, *Practical Theology Amid Environmental Crises*, Religions, Special Issue, MDPI, 2023 [Open Access]



# The Traumatized Earth

“A traumatized earth begets traumatized people.”

Craps, S., ‘Climate Trauma,’ in *The Routledge Companion to Literature and Trauma.*, David & Meretoja. (eds.)  
Routledge, Oxford, 2020, p. 281.

“when we recognize the phenomenon of eco-anxiety or climate trauma, not only can we acknowledge it and normalize it—a “normal” human response to a sense of overwhelming threat—we can go further to perceive the intrinsic integrity of these phenomena as they arise in human experience.

Indeed, rather than pathologies, eco-anxiety and climate trauma reflect how deeply bonded human persons are as part of the systems of the earth, experiencing the earth’s own distress in human bodies and emotions. Our epistemologies and practices can acknowledge our deep participation in the earth’s systems and process. This relates also to our field’s focus on suffering and flourishing.”

Pamela R. McCarroll , ‘Embodying Theology: Trauma Theory, Climate Change, Pastoral and Practical Theology,’ in ‘McCarroll and Kim-Cragg, *Practical Theology Amid Environmental Crises*, Religions, Special Issue, MDPI, 2023 [Open Access]

# How do you live in relation to the planet?



<https://virgilioclimatechangeproject.weebly.com/the-biosphere.html>

- On the planet?
- In the planet?
- As the planet?

# Stress, Distress, Trauma

What are the psychological symptoms of trauma?

- 
- [group answers]

What are the physical symptoms of trauma?

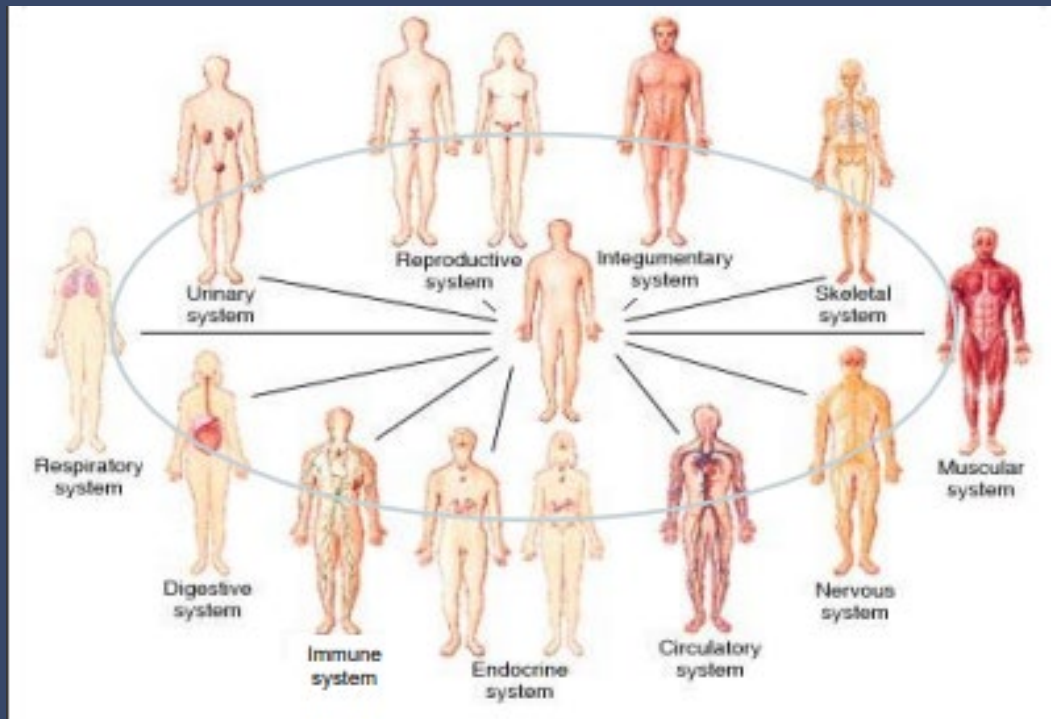
- [group answers]
- What body systems are NOT involved?
- Note: the physical symptoms of trauma are not noted in DSM V criteria. Here, we seem to separate mind and body.



# “The Body Keeps the Score,” Bessel Van der Kolk

## Which parts of the body keep the score?

### The Human Body



### The Ecological Body



Bringing the Universe to America's Classrooms What Is a Feedback Loop?

# What is the tipping point between Stress and Trauma?

## Human body

“Contrary to what many people believe, trauma is not primarily an emotional response. Trauma always happens *in the body*. It is a spontaneous protective mechanism used by the body to stop or thwart further (or future) potential damage.”

“When something happens to the body that is too much, too fast, or too soon, it overwhelms the body and can create trauma.”

Resmaa Menakem, MSW, author of  
*My Grandmother's Hands: Racialized Trauma  
and the Pathway to Mending our Hearts and Bodies.*

## Ecological Body

- Atmosphere – greenhouse gases: carbon – 350, 400...? methane, nitrous oxide; increased water vapor, extreme weather – high precipitation events, droughts;
- Biosphere – coral reefs (die off); forest (droughts, felling, fires, pests), - Northern expansion, Southern die off
- Cryosphere – ice sheet disintegration – Arctic, Greenland, East & West Antarctic ; permafrost thawing
- Hydrosphere – ocean surface temperature, circulation – Atlantic (slowdown); ocean acidification; sea level rise
- Geosphere - global surface temperature

# Potentially traumatizing event

## DSM V PTSD Criterion A

A. The person was exposed to: death, threatened death, actual or threatened serious injury, or actual or threatened sexual violence, as follows:

1. Direct exposure
2. Witnessing, in person
3. Indirectly, by learning that a close relative or close friend was exposed to trauma. If the event involved actual or threatened death, it must have been violent or accidental.
4. Repeated or extreme indirect exposure to aversive details of the event(s), usually in the course of professional duties (e.g., first responders, collecting body parts; professionals repeatedly exposed to details of child abuse). This does not include indirect non-professional exposure through electronic media, television, movies or pictures.

## PTED: Post traumatic Earth Disorder

- Threatened death of biosphere as we know it
- Serious injury to atmosphere, biosphere, cryosphere, hydrosphere
- Violence to habitats and species

Kerry Emmanuel, in *Earth Emergency*

“We frack the earth’s crust, seizing gas from its innermost parts. We rip trees from soil intended to generate life. We litter the atmosphere with carbon dioxide and methane emissions that pollutes the very air needed for the creation and continuation of life. Humans do this without asking the earth, assuming that it is our right to use the earth’s body, including its generative and reproductive capacities, as we please. Indeed, one may go so far as to say that humans have been raping the earth’s body.”

Tumminio Hansen, Danielle Elizabeth. 2022. The Body of God, Sexually Violated: A Trauma-Informed Reading of the Climate Crisis. Religions 13: 249.



“The Earth  
will be just fine.  
I’m not worried about the planet,  
I’m worried about us.”

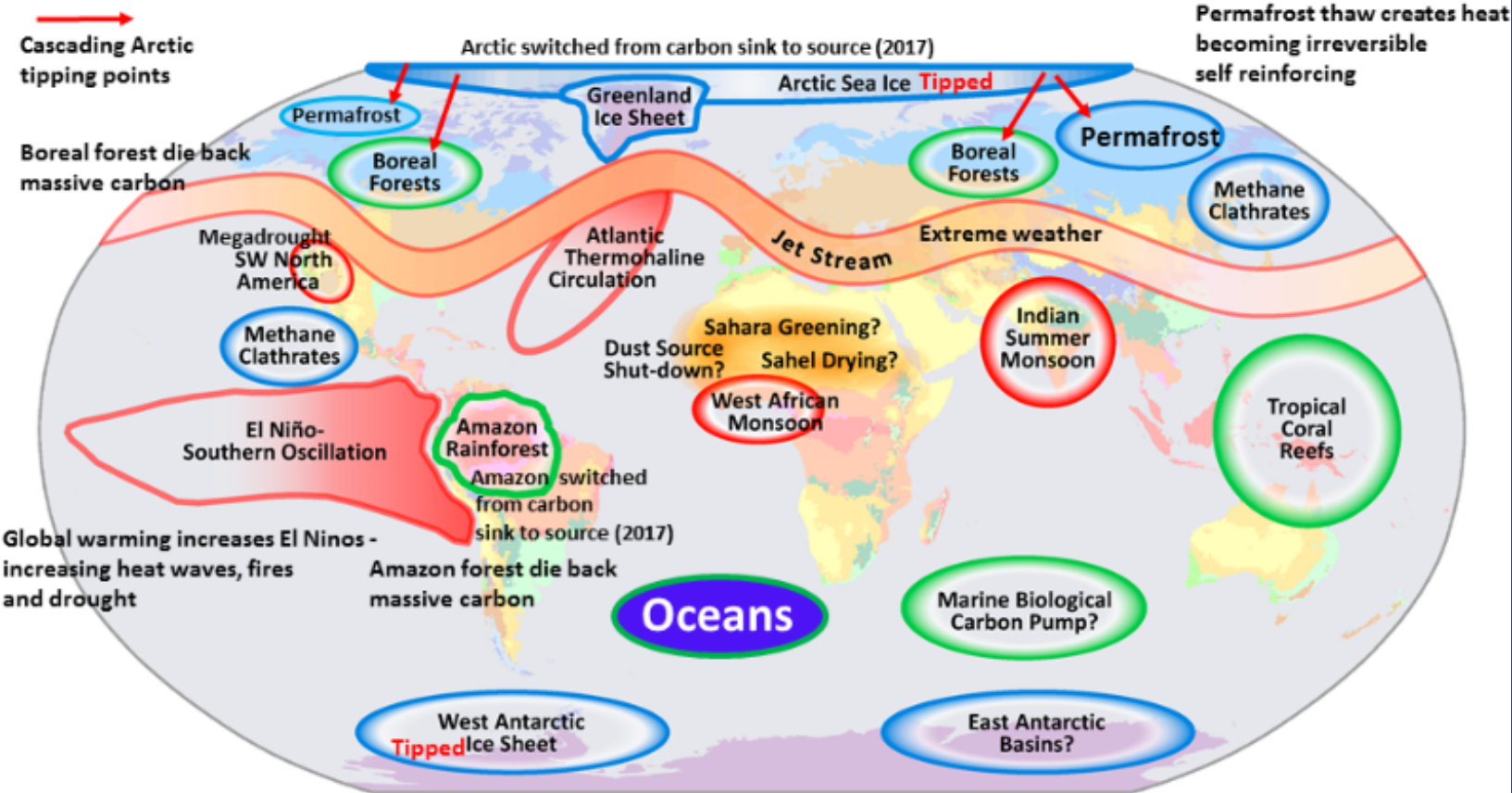
“Climate will reach a tipping  
point  
where we will lose the Earth  
as we know it.”



# Global Warming Vulnerable Tipping Points

Committed global warming (>2°C) commits most, most likely past tipping  
Thawing permafrost is emitting CO2, methane & nitrous oxide

- Cryosphere Entities
- Circulation Patterns
- Biosphere Components



Adapted from Potsdam Climate Institute  
Tipping Elements the Achilles Heels  
of the Earth System

Tipping or  
tipped?

Post  
Traumatic  
Earth  
Disorder

# Intrusion/Re-experiencing Symptoms

## DSM-5: PTSD Criterion B

### B. Intrusion (1/5 symptoms needed)

1. Recurrent, involuntary and intrusive recollections \* \*  
children may express this symptom in repetitive play
2. Traumatic nightmares  
\* \* children may have disturbing dreams  
without content related to trauma
3. Dissociative reactions (e.g. flashbacks) which may occur on  
a continuum from brief episodes to complete loss of  
consciousness \* \* children may  
re-enact the event in play
4. Intense or prolonged distress after exposure to traumatic  
reminders
5. Marked physiological reactivity after exposure to trauma-  
related stimuli

## PTED: Intrusion and Re-experiencing

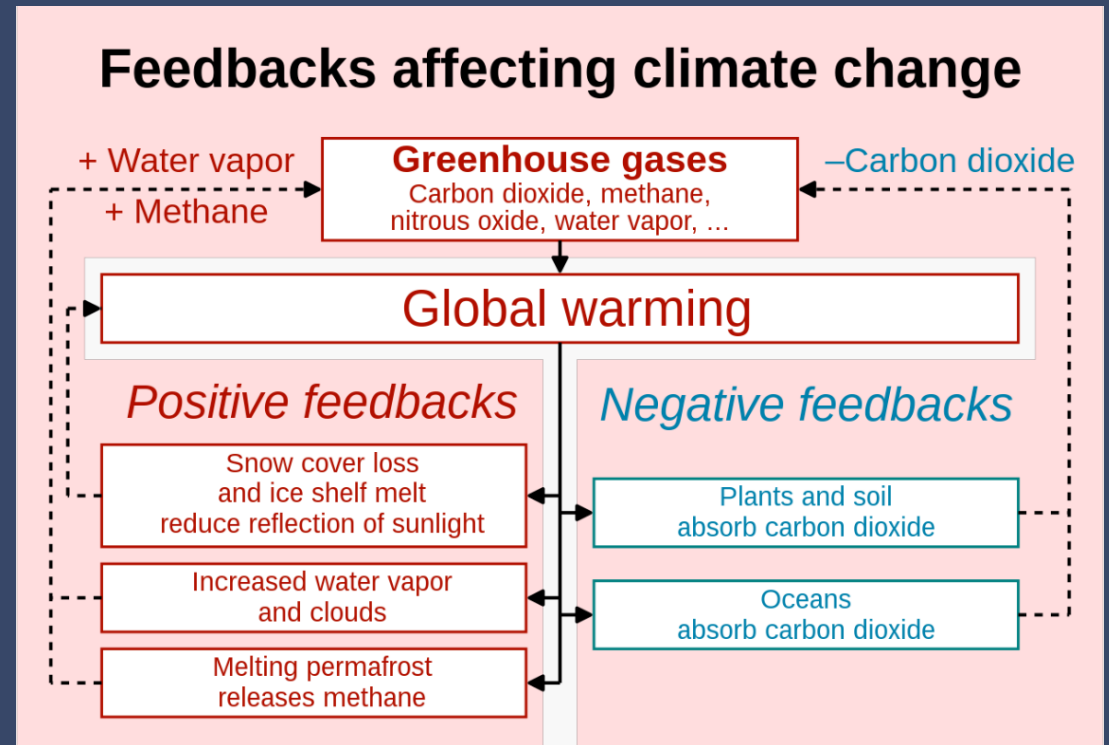
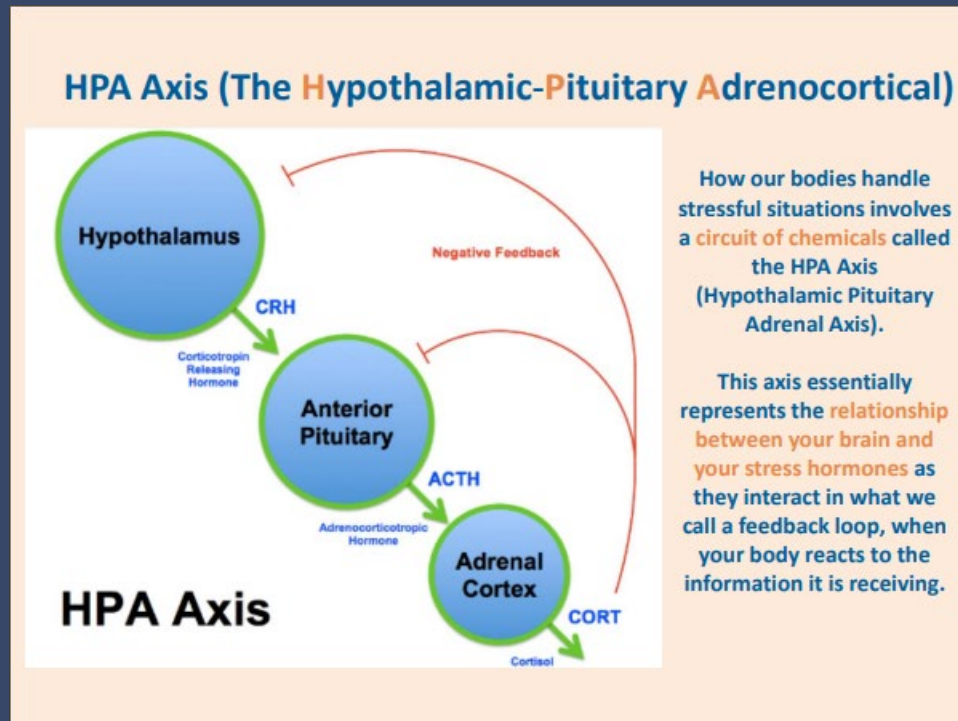
- Feedback loops where climate disruption amplifies exponentially symptoms caused by climate related events.

e.g. Australian bushfires creating their own weather events

- Natural variability of weather systems accentuated by Climate Change

e.g. Arctic Oscillation of polar vortex and polar jet stream increase?

# Feedback loops



<https://docs.fntn.ca/VC12883/Handouts/Trauma,%20Impact%20on%20the%20Family%20System.pdf>

# Feedback loops: Sinks or sources

“Climate  
is a  
threat  
multiplier”

[trace quote - Health Impacts of Climate Crisis, Munerah Ahmed or Hannah Costello ?]

- Land carbon cycle feedbacks
- Ocean carbon cycle feedbacks
- Nitrous Oxide Feedbacks
- Methane feedbacks
- Permafrost carbon feedbacks
- Biogeophysical feedbacks



# Avoidance Symptoms

## DSM-5: PTSD Criterion C

C. Persistent effortful avoidance of distressing trauma-related stimuli after the event (1/2 symptoms needed):

1. Trauma-related thoughts or feelings
2. Trauma-related external reminders (e.g. people, places, conversations, activities, objects or situations.)

“with Climate Trauma there is no past tense, and it is incumbent upon us to contemplate the abnormal changes that are occurring in our group consciousness, which are as close as today’s headlines: unprecedented levels of polarization, to the point renouncing scientific and historical facts; increased prevalence of victim mentality; unprecedented levels of displacement and migration giving rise to extreme forms of nationalism; mass denial/distraction/addiction; obscene concentrations of wealth (hoarding); and increasing instability at the highest levels of governance, including elevated threats of nuclear and/or world war.”

Zhiwa Woodbury, ‘**Climate Trauma: Toward a New Taxonomy of Trauma,**’ *Ecopsychology*, Vol. 11, No.1, March 2019, p. 1—8.

## PTED: Avoidance

- Climate Denial
  1. Literal
  2. Interpretative
  3. Implicatory(see Stanley Cohen, *States of Denial*, 2001;  
*Pittock A.B., Climate Change: The Science, Impacts, and Solutions*, Routledge, 2009;  
*Dunlap and Wright, ‘Organized Climate Change Denial,’ Oxford Handbook of Climate Change and Society*)
- Polarization [Z. Woodbury]
- Disavowal of responsibility
- [COVID-19?]

# Negative alterations

## DSM-5: PTSD Criterion D

D. Negative alterations in cognitions and mood that began or worsened after the traumatic event (2/7 symptoms needed)

1. Inability to recall key features of the traumatic event (usually dissociative amnesia; not due to head injury, alcohol or drugs)
2. Persistent negative trauma-related emotions (e.g. fear, horror, anger, guilt, or shame) (new)
3. Persistent (& often distorted) negative beliefs and expectations about oneself or the world (e.g. "I am bad," "the world is completely dangerous")
4. Persistent distorted blame of self or others for causing the traumatic event or for resulting consequences (new)
5. Markedly diminished interest in (pre-traumatic) significant activities
6. Feeling alienated from others (e.g. detachment or estrangement)
7. Constricted affect: persistent inability to experience positive emotions

## PTED: Negative Alterations

- 30-70% loss of Permafrost by 2100  
(Permafrost stores 2 x as much Carbon as Earth's atmosphere; 3x as much as every forest on the planet) [B1.5]
  - Ice volume decreased by 75% in just 40 years. [EE]
- Jetstream [Northern] – bigger North /South swings [EE]
- Polar Vortex splitting into two parts ? [Dr. Jean Francis WCRC]
- Deforestation – Amazon
- 'The 6<sup>th</sup> Extinction' –

Under 2 degrees of warming, up 18% of land species could be at high risk of extinction, (inc. polar bears, arctic penguins, and polar seals). Up to 29% under 3 degrees of warming, up to 39% at 4 degrees, and up to 48% at 5 degrees.

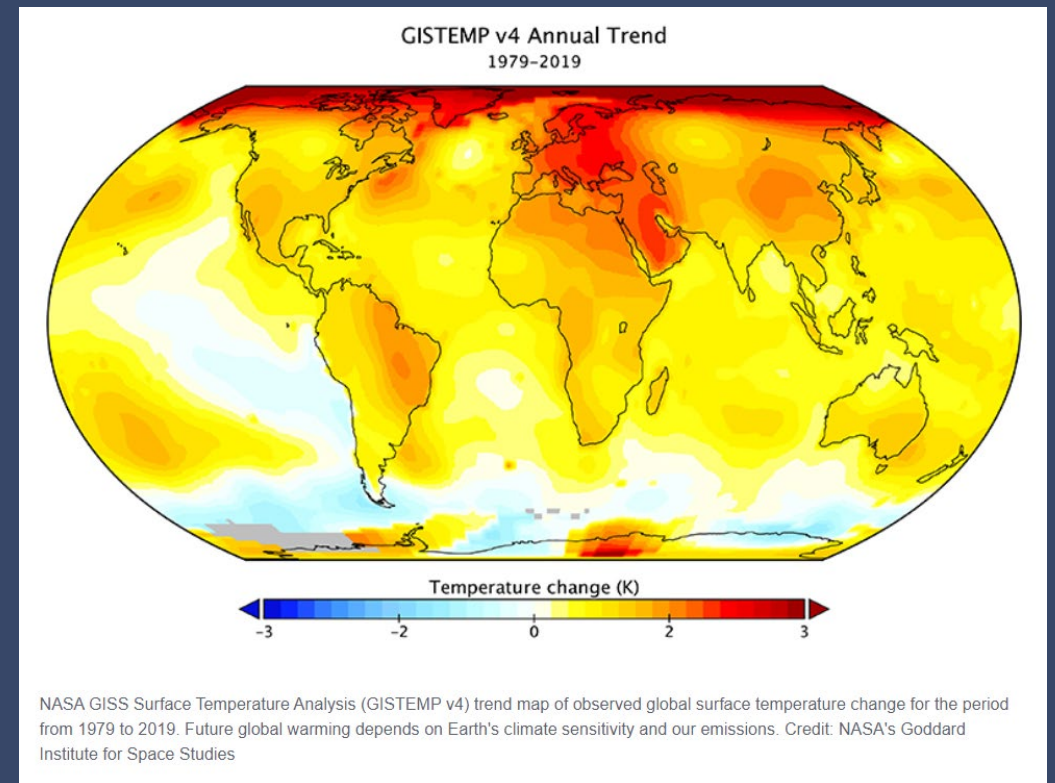
- Persistent negative trauma-related emotions
- Climate grief (chronic rather than adaptive)
- Climate anxiety – paralyzing rather than mobilizing

- “The Arctic is warming almost twice as fast as the rest of the planet.”

Dr. Sara Das, Polar Scientist,  
Woods Hole Oceanographic Institute

“The Arctic is  
Climate Change  
Ground Zero.”

Holly Morris, Filmmaker  
Pole to Pole: [WHFF get ref.]



# Arousal and Reactivity Symptoms

## DSM-5: PTSD Criterion E

E. Trauma-related alterations in arousal and reactivity that began or worsened after the traumatic event (2/6 symptoms needed)

1. Irritable or aggressive behavior
2. Self-destructive or reckless behavior
3. Hypervigilance
4. Exaggerated startle response
5. Problems in concentration
6. Sleep disturbance

## PTED: Arousal and Reactivity

- Global mean temperature rise
- Extreme weather events - increase in intensity and duration - precipitation, cyclones, hurricanes, etc. in some areas
- Droughts in other areas
- Nighttime temperatures increasing faster than daytime temperatures [decreased cooling effect] [HICC]
- Arctic warming 2-3x faster than rest of planet



# Temperature

“Heat is more deadly than any other weather.

In New York City, Black New Yorkers are twice as likely to die from heat than white New Yorkers.

[To mitigate against blackouts in hot urban centers, set Air Conditioning to 78 degrees.]”

[Source?]

# Local risks

What are the major Climate related risks and hazards in your location?

# Other Criteria

## DSM V: PTSD

F. Persistence of symptoms (in Criteria B, C, D and E) for more than one month

G. Significant symptom-related distress or functional impairment

H. Not due to medication, substance or illness

## PTED

- Is H where it all falls down? Is Carbon/Methane/Nitrous Oxide substances for the ecological body or part of the biology?
- Or does it fall down because we cannot see ourselves as part of the biosphere, and cannot equate our psychological response (trauma = fear) to the geological planet.

‘We’re pushing it to the point where the Earth might say, “You know, if it’s a choice between you and me, I choose me.”

And if we don’t get it together, the planet will help to get rid of the problematic species that is causing trauma for everyone else.’

Mariama White-Hammond  
Chief of Environment, Energy & Open Space  
City of Boston

- “We’re looking at the end of the world in a way; also looking at great opportunities.

We can’t doubt. If we are working from negativity, we’re not going to go anywhere.

One person alone can’t do it. [We need to] join with others.”

Will Seager, Polar Explorer  
Commenting on film *Pole to Pole*

# Resilience & Earth Empathy (for the Ecological Body)

- **A – Agency and Adaptability**
- **B – Blessing and Being Present**
- **C –Community and Co-creation**

## PTED

- In what ways can you respond to a traumatized Earth?
- How are you adapting to a changing climate professionally?
- How might seeing the Earth as ‘traumatized’ be a blessing?
- How can you ‘be present’ to the condition of the Earth in a way you have not before?
- What kind of community is needed to make a resilient response?
- How can you co-create a sense of meaning and practice that promotes realistic mitigation, preparation, and response, to a ‘traumatized Earth’?



# “So what?”

- From your context, how does seeing the Earth as an ecological body that has been traumatized change your preparation, practice, and personal choices?
- **Questions**
- **Concerns**
- **Comments**

# APA Recommendations

	STRENGTHENING THE FIELD	BROADENING IMPACT
<b>Research</b>	1. Advance research on climate change across all areas of psychological science.	2. Promote engagement of psychological scientists with policymakers, practitioners, and community members on climate change issues.
<b>Practice</b>	3. Build psychologists' capacities to support people in mitigating and adapting to climate change.	4. Enlarge the range of settings and partnerships in which psychology practitioners address climate change.
<b>Education</b>	5. Incorporate coverage of climate change into all levels of psychology education.	6. Promote coverage of the psychological dimensions of climate change in the education of other professionals and the public.
<b>Advocacy</b>	7. Engage in sustained advocacy on climate change to government at all levels and to business and non-profit organizations.	8. Partner on climate advocacy with other scientific, professional, social justice, environmental, and health organizations.
<b>Communications</b>	9. Serve as an important channel of information to psychologists about climate change and how they can contribute to effective climate action.	10. Educate the public about the psychological dimensions of climate change and effective climate action.
<b>APA's Energy Use/ Sustainability</b>	11. Implement a strategic approach to reduce greenhouse gas emissions and improve sustainability across all of APA's operations and in the psychological community.	12. Engage with other organizations and the public to reduce greenhouse gas emissions and improve sustainability practices.