
# Caribbean Climate and Health Responders Course

## Mental Health - May 18, 2022

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Promoting Health of People and Planet Together

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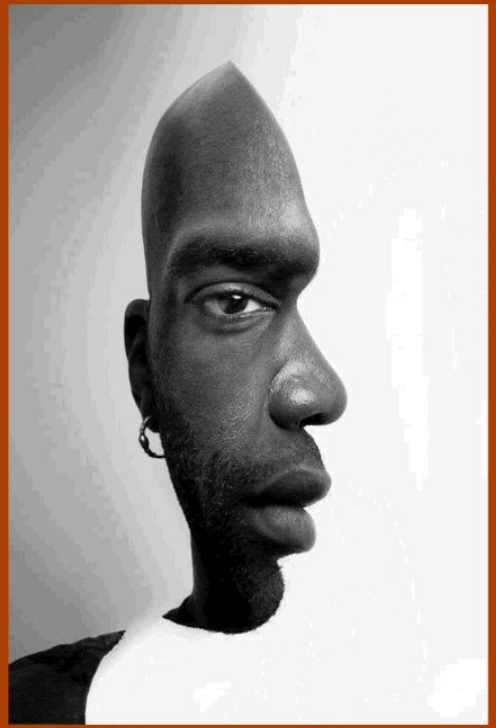
CIMH

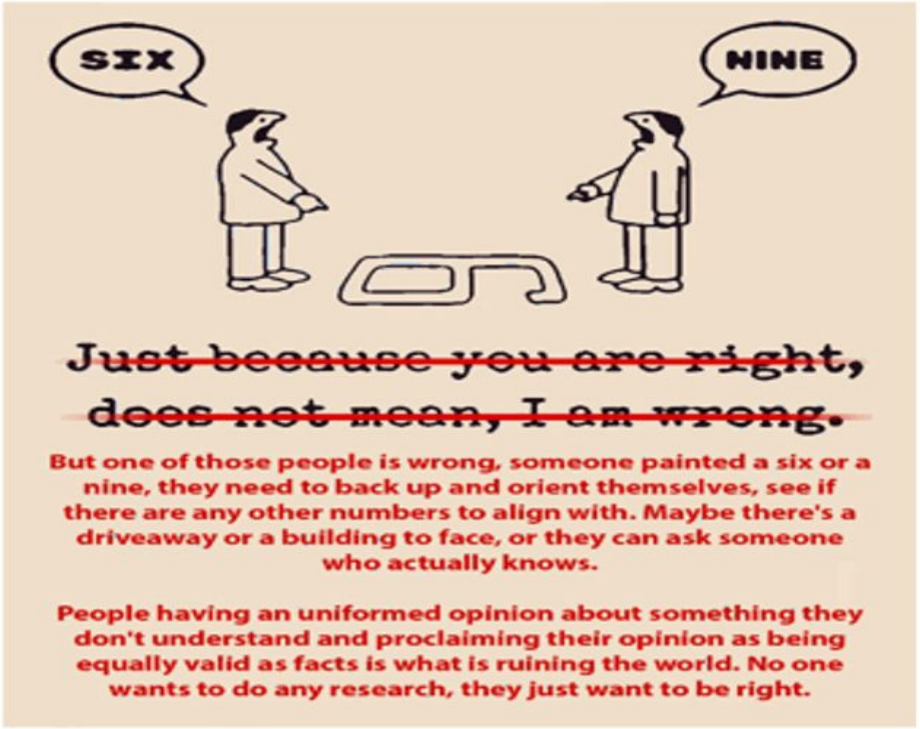
# Learning Objectives

- Discuss how natural disasters resulting from climate change impact the mental health of a population, specifically in regard to the incidence and prevalence of stress disorders, depression, domestic abuse, violence and aggression, and substance abuse.
- Explore the impact on the mental health of “climate refugees” or those that have been displaced from their home or livelihood from climate related environmental changes such as drought, sea level rise, wildfires or hurricanes. Cite and explore recent examples (examples will vary based on geographic region of program)
- Describe what can be done to mitigate the population mental health consequences of climate change
- Explore the unequal burden of climate related mental health disorders and discuss strategies for targeted interventions in vulnerable populations.

# PARADIGMS PERSPECTIVE AND PRACTICE



# PARADIGMS PERSPECTIVE AND PRACTICE



# Mental Health and Climate Change: Making the Link

***"The inattention to mental health is of particular concern in the field of climate change and mental health given the evidence that psychological impacts from any form of disaster exceed physical injury by 40–1.... and that since 2000 the frequency of climate change-related weather disasters has increased by 46%"***

**(Hayes, et al. 2018)**

*Costa Rica*

*Credit: QCostaRica, 2015*

# Mental Health and Climate Change: Making the Link

“the Lancet Countdown that tracks health implications of climate change had until last year no explicit indicators for mental health consequences of climate change.

The last climate conference (COP25) did not give great prominence to mental health and climate change, either in the main sessions or the side events.

Whilst COP26 has chosen health as a priority area for science, the corresponding program does not mention mental health” (UCL The Bartlett, 2021).

*Costa Rica*

*Credit: QCostaRica, 2015*

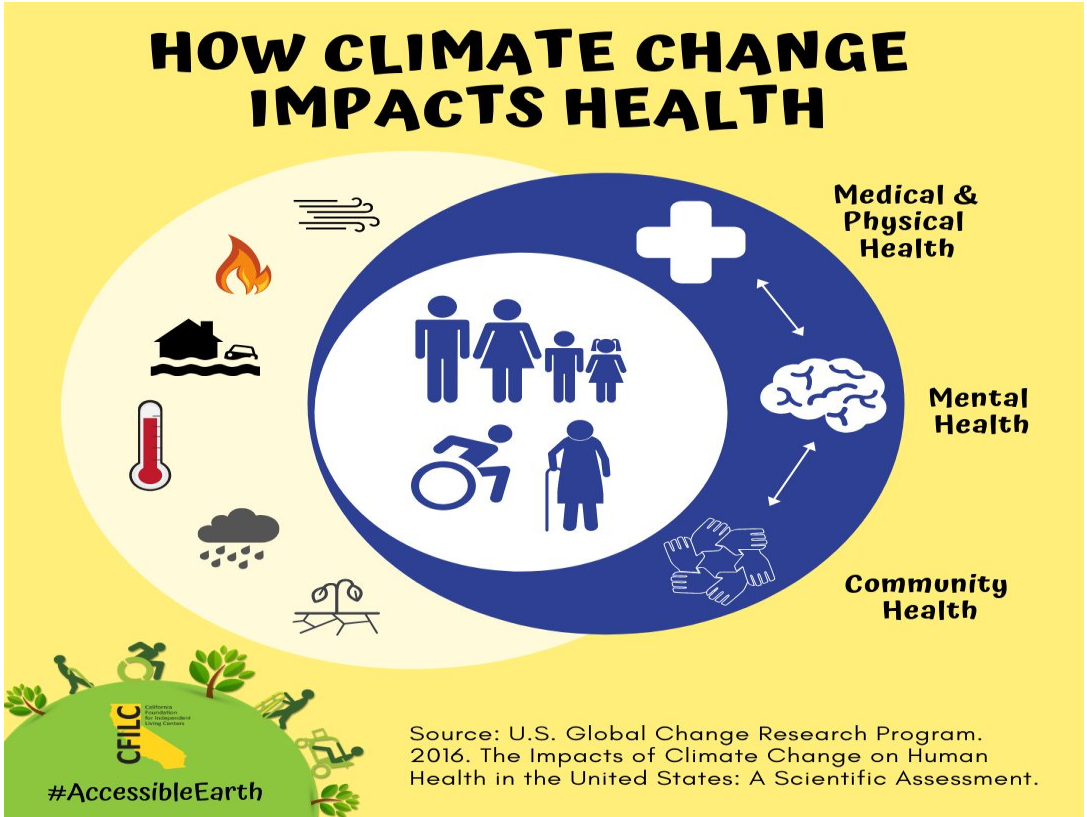
# RESILIENCE AND MENTAL HEALTH

**Resilience is a protective factor against psychological distress in adverse situations involving loss or trauma. It can help in the management of stress levels and symptoms.**

**Psychological resilience refers to the mental fortitude to handle challenges and adversity.**

"a state of mind characterized by emotional well-being, good behavioral adjustment, relative freedom from anxiety and disabling symptoms, and a capacity to establish constructive relationships and cope with the ordinary demands and stresses of life"
*(American Psychological Association, 2020)*

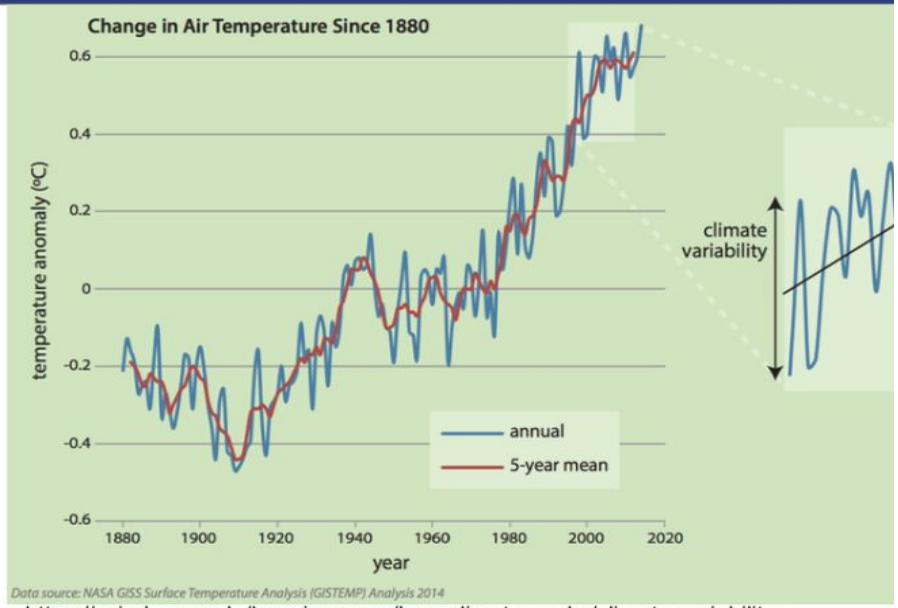
# THE MIND CONNECTION



# REVIEW

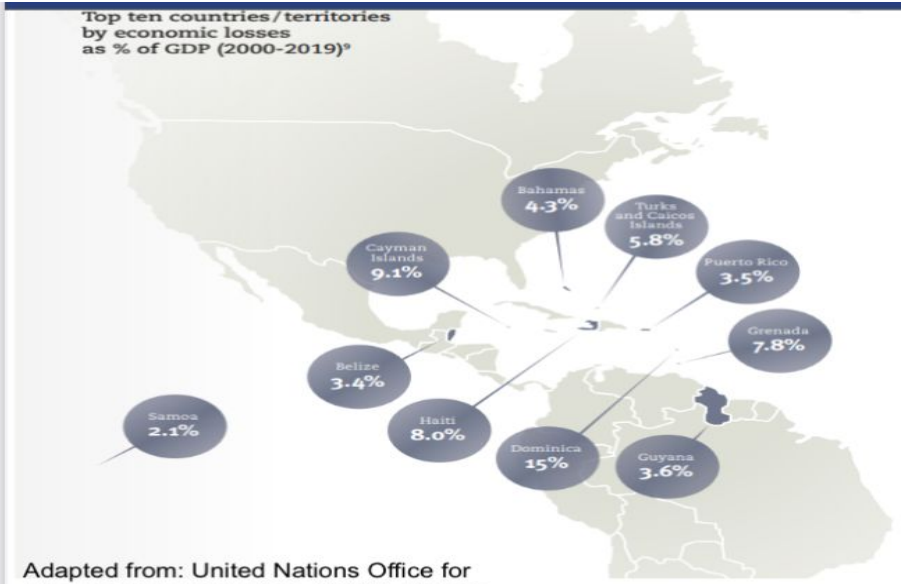
## What is Climate Change?

- Climate change is a significant and persistent **change in an area's average** climate conditions or their extremes
- Climate change may be due to natural internal processes or external forcings such as modulations of the solar cycles, volcanic eruptions and persistent anthropogenic changes in the composition of the atmosphere




https://scied.ucar.edu/learning-zone/how-climate-works/climate-variability

# REVIEW:What are the causes of climate change?




Adapted from: United Nations Office for Disaster Risk Reduction. (2020). *Human Cost of Disasters: An Overview of the Last 20 Years 2000-2019*, p. 27.

# Economic Impact

- Disasters have a relatively high impact on smaller economies, e.g., storms on small islands
- Of the top 10 countries by economic losses (% of GDP), 9 were island nations in the Caribbean region

University of Pittsburgh
School of Public Health

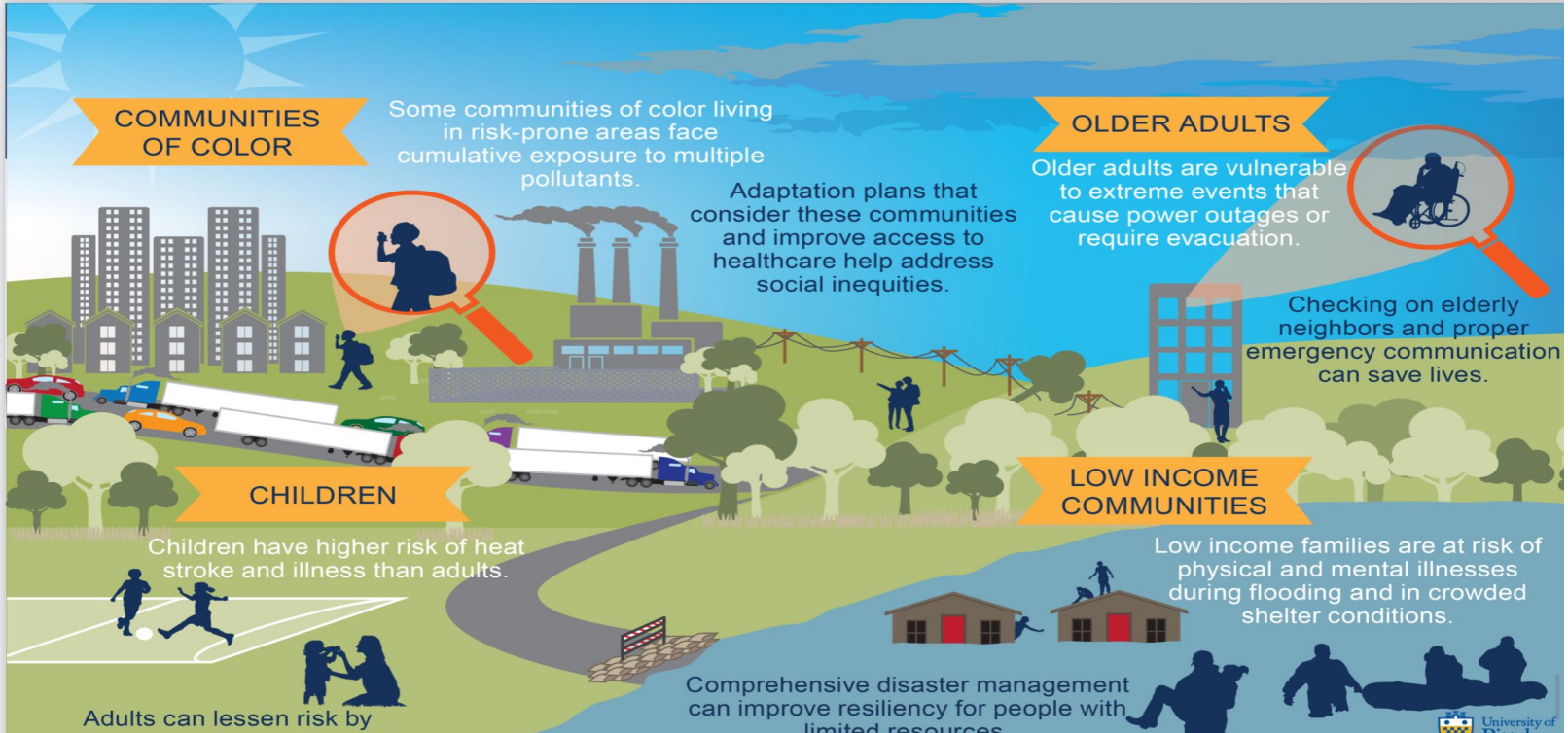
# REVIEW


Air pollution affects everyone but there are **inequalities in exposure** and **the greatest impact on the most vulnerable**
older people (65 and older)
pregnant women
communities with poorer air quality (eg. those situated closer to main roads)
children
those with cardiovascular disease and/or respiratory disease

# REVIEW

Rebecca Carroll, Apr 20, 2021. Saharan Dust Forecasts Minimize Health Risks in the Caribbean. *NASA's Spinoff publication*. https://www.nasa.gov/directorates/spacetech/spinoff/Saharan_Dust_Forecasts_Minimize_Health_Risks_in_the_Caribbean

Pittsburgh School of Public Health



# Poll Question 1

## Do most people in your community:

a) Believe disasters are acts of God
b) Believe disasters are just part of nature
c) Believe disasters are man made

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# Mental Health and Climate Change: Making the Link

A culture of emergency focuses on the crises (discrete natural disasters ) BUT  inhibits adaptation planning for climate change

- Education about climate change and mental health leads to:

  - better management of stress
  - improved resilience and adaptation
  - increased engagement in climate action

# Climate Change Related Disasters & Events

- Acute (floods, hurricanes)
- Sub-acute (pervasive droughts, heat waves)
- Chronic (melting polar ice caps, rising sea levels, increasing temperatures, desertification)
- Lead to direct, indirect and overarching psychosocial consequences

*Flood damaged road in St Ann, Jamaica. Credit: National Works Agency (NWA) Jamaica*

# DIRECT, INDIRECT, OVERARCHING PSYCHOSOCIAL CONSEQUENCES

- Direct : trauma related to extreme weather events, like floods, hurricanes, wildfires, and heat waves
- Indirect : occur through social, economic, and environmental disruptions (e.g. famine, civil conflict, displacement, and migration) related to a changing climate
- The overarching : the long-term emotional distress caused by awareness of the threats and impacts of climate change on the current and future wellbeing of the earth and its inhabitants.

# What impact do storms and floods have on mental health?

- Grief, anxiety, violence, outrage, and blame
- Depression and reduced cognitive functioning
- Feelings  that the government “doesn’t care” about them
- .The financially stretched are most vulnerable.
- Flooding affects the greatest number of people

Hurricane Harvey, 2017, Credit: Scott Olson, NBC News

# Climate Change in the Caribbean: Hurricanes

- Second most disaster-prone region (OCHA, n.d.).
- In 2017, the Eastern Caribbean was struck by Hurricanes Irma and Maria.
- 231 fatalities, 39,000 children in need of assistance (UNDP, n.d).
- The worst affected sectors were housing and infrastructure.

*Hurricane Irma, Barbuda*
*Credit: The Independent, 2017*

# What impact do droughts have on mental health?

Breaking the cycle: drought and hunger in Kenya

Credit: Sam Loewenberg

# Sub-acute disasters arising from climate change: Drought Conditions

Droughts have attendant, often chronic, mental health impacts (Stanke, Kerac, Prudhomme, Medlock, & Murray, 2013).

Decline in available water  life-altering changes  Stressful impacts on individuals, families and communities (Vins, Bell, Saha, & Hess, 2015).

Distress for at-risk populations including suicide risk (Carleton, 2017; Hanigan et al., 2012; Vins et al., 2015).

Food insecurity  hunger/rationing/malnutrition  starvation/death.

Drought severity and likelihood of armed conflict

Increased asylum seeking between 2011 and 2015 (Abel, Brottrager, Crespo Cuaresma, & Muttarak, 2019).

# HEAT

- Suicide rates vary with weather, rising with high temperatures
- Impacts from climate change on depression and other mental illnesses.
- Dementia is a risk factor for hospitalization and death during heat waves.
- Some patients with mental illness are especially susceptible to heat because their medications may interfere with temperature regulation or even directly cause hyperthermia.
- Distress associated with environmental degradation and displacement
- Anxiety and despair that the knowledge of climate change elicits

# AIR POLLUTION

- Neuro-inflammation  (Souhel, Pearlman, Alper, Najjar, & Devinsky, 2013).
- Increased psychosis in adolescents (Newbury, Arseneault, Beevers, et al., 2019).
- Increased risk of mental illness in children (Oudin, Bråbäck, Åström, Strömgren, & Forsberg, 2016).
- Children exposed more likely to have symptoms of anxiety or depression (Weir, 2012).
- Emergency room visits for anxiety—including panic attacks and threats to commit suicide—are significantly higher on days with poor air quality (Szyszkowicz, Willey, Grafstein, Rowe, & Colman, 2010).

# Chronic disasters arising from climate change: Sea Level Rise

- Global sea level is likely to increase 10–13 feet in as few as 50 years.

- Millions live on coastlines, millions depend on coastline stability for their livelihoods, well-being, and survival;
  (McGranahan, Balk, & Anderson, 2007).

With some acute climate events, victims can “arm themselves” by taking actions that help protect them should they face a similar event. but with Sea level rise it is different.

- Although governments can work to adopt measures to mitigate harm in the short term, future sea levels will continue to rise.
- Anxiety, helplessness and loss of control and self efficacy

# Disasters arising from climate change:

- Hurricane damage in The Bahamas
- Flooding in Guyana
- Deforestation in Haiti
- Volcano ash St Vincent to Barbados

# The effects of Climate Change on mental health in the Caribbean

- Distress, sleep disorders. (Grieg et al., 2020)
- “Patients described ongoing distress related to losses, role transitions, and life changes including unemployment, homelessness, and displacement.” Shultz et. Al. 2020
- “...majority of respondents, over 80%, foresee negative changes to The Bahamas due to climate change in the next 50 years”. Thomas and Benjamin 2017

*Marsh Harbour, Bahamas*
*Credit: UN, 2019*

# Attributions of Climate Change in the Caribbean

Be mindful when framing these natural disasters to the public as  Impact may vary

- Cultural beliefs
- Acts of God / The end times
- Man Made

Hurricane Sandy, Jamaica, 2012. Credit: Ricardo Makyn

# Processing after a natural disaster

- Why did this happen?
- Who or what is responsible?
- Could the disaster have been prevented?
- An identifiable low point, feeling the worst is over, beginning of the recovery process.
- Disasters experienced as natural are easier to reconcile because they are experienced as “fate”—beyond our control
- When disasters are experienced as the result of human behavior, it is much harder to recover.

(Folkman, Lazarus, Dunkel-Schetter, DeLongis, & Gruen, 1986).

# Processing after a natural disaster

How we “carry on” is influenced by our background, current mental state, personality, and life experiences. The nature of the event plays a role:

- The intensity of the feeling of powerlessness
- The “merciless” character of incidents
- The pace
- Suddenness,
- Degree of damage,
- Loss of life and injury

The extent to which people personalize these incidents will be factors influencing the extent of emotional injury.

# PRE-DISASTER PHASES AND CYCLICAL/SEASONAL EVENTS

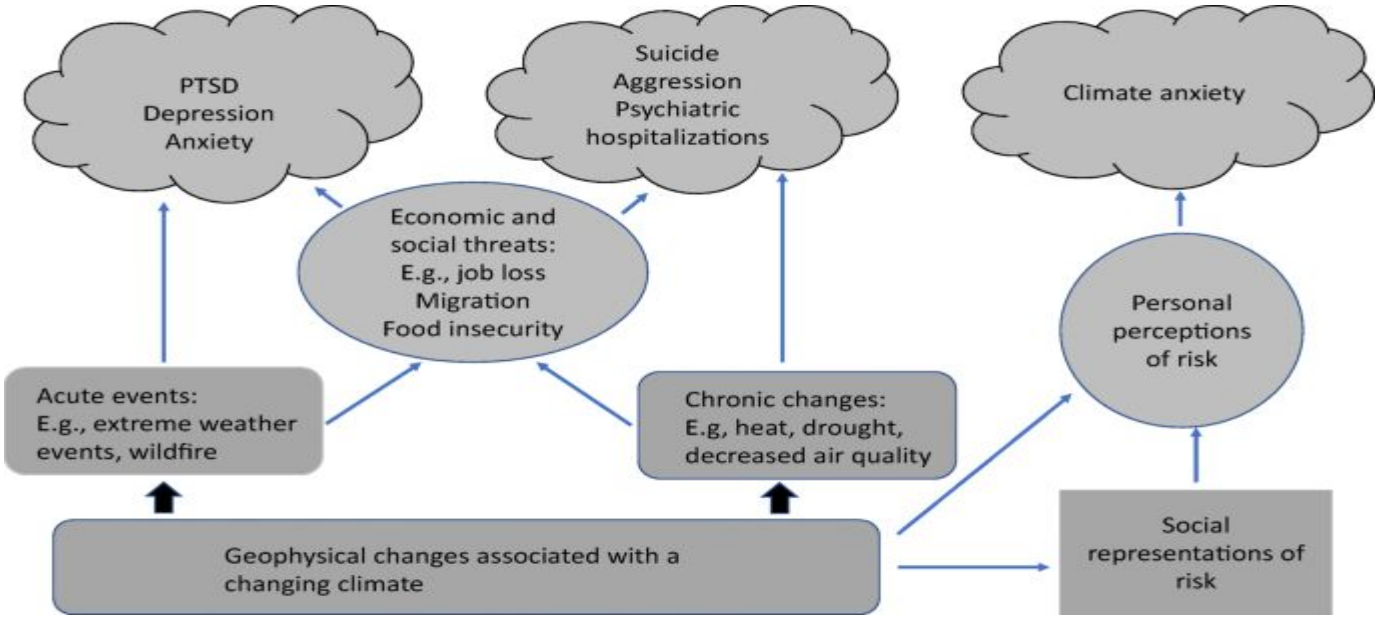
Cyclical extreme weather events, for example Caribbean  Hurricane Seasons may lead to: **“A pre-traumatic stress syndrome”**

- heightened anxiety levels,
- feelings of impending doom,
- hopelessness,
- fatalism that can be triggered by approaching extreme events or associated weather warnings;
- amplified distress due to the perceived risk of subacute, environmental changes like rising temperatures and episodic droughts

# Processing after a natural disaster

- Burdens and anxieties; additional stress of the climate crisis.
- Ongoing disasters  No opportunity to recover emotionally  Next disaster hits  Harm compounds.
- Victims also contend often with the realization that “no lessons have been learned”.
- The healing process is helped along when we can look back, identify where we went wrong and act to legitimately say we are doing all that we can to prevent further injury.

# CLIMATE CHANGE AND MENTAL HEALTH ()




Clayton, S. Climate Change and Mental Health. *Curr Envir Health Rpt* 8, 1–6 (2021). https://doi.org/10.1007/s40572-020-00303-3

# CLIMATE CHANGE: ALL THE FEELINGS, BUT MOSTLY NEGATIVE!


Artistashmita | Dreamstime.com

# STRESS AND PSYCHOTERRATIC SYNDROMES

Albrecht et al. suggest that these experiences contribute to ‘psychoterratic syndromes’ including:

‘Ecoanxiety’ - the anxiety people face from constantly being surrounded by the threatening problems associated with a changing climate

‘Ecoparalysis’ - the complex feelings of not being able to take effective action to significantly mitigate climate change risks.

‘Solastalgia’- the distress and isolation caused by the gradual removal of a sense of solace in one’s familiar environment

# TOP STRESS  DISORDERS

The major types of anxiety disorders are:

- Generalized Anxiety Disorder. ...
- Post-Traumatic Stress Disorder (PTSD)
- Obsessive-Compulsive Disorder (OCD) ...
- Panic Disorder. ...
- Social Phobia (or Social Anxiety Disorder)

# VULNERABLE POPULATIONS

- The elderly
- The children and young people
- The poor, and those whose jobs are tied to the natural environment (tourism, farming, fishing, forestry, etc.)
- People who are sick and those with cognitive or mobility impairments
- Pregnant and postpartum women
- Residents in areas destroyed by climate related factors
- The mentally ill

# How does climate change affect the mental health of Children?

- Frightened, sad and angry; a bleak and pessimistic view of the future (Ojala, 2012; Strife, 2012).
- Chronic childhood stress a  potential cause of impaired cognition
- Life-long predisposition to anxiety, depression, and susceptibility to additional stress (Carrion & Wong, 2012; Simpson, Weissbecker, & Sephton, 2011).
- Epigenetic inheritance (Skinner, 2014).
- Children who experience multiple early life stressors are at greater risk for suicide (Björkenstam, Kosidou, & Björkenstam, 2017).
- Increased risky behavior and substance use

# How does climate change affect the mental health of the Migrants and Climate Refugees ?

- Financial, social, and personal stress
- Blamed for psychosocial ills
- Anti-refugee sentiment
- Fears of permanent displacement.
- Searching for safety and security, followed by chaos and violence

# How does climate change affect the mental health of the most vulnerable?

Other often overlooked groups include:

- First responders and programme officers, who see the injuries, deaths and devastation in its rawest state and must coordinate interventions
- Climate experts, whose professional lives are spent cataloguing the growing evidence of decline
- Activists who may suffer from “pre-traumatic stress disorder” The poor and rural populations
- The vicariously traumatized

(Guest, 2014; Nicholls et al., 2014, Van Susteren, 2013).

# AGGRESSION AND VIOLENCE

- With rising temperatures comes rising rates of aggression (Bulbena, Sperry, & Cunillera, 2006; Raj, 2014).
- For each standard deviation of increased temperature or more extreme rainfall, studies show a 4% increase in conflict between individuals, and a 14% increase in conflict between groups (Hsiang et al., 2013).
- Increased acts of aggression including GBV, assaults, murders, and suicides, especially violent suicides.
- These findings are valid across all regions and among all ethnic groups
  Van Susteren L., Al-Delaimy W.K. (2020)

# Poll Question 2

## To be a Climate Activist I will need more training in:

a) Facts about Climate Change
b) Communication Skills
c) Policy Development

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# MITIGATION AND ADAPTATION

Mitigation should reduce vulnerability by reducing the probability or likelihood of adverse climate change impacts,

WHEREAS

Adaptation may also reduce the likelihood of such impacts (not by reducing climate change but by limiting some impacts) as well as work to reduce the sensitivity to impacts.

# MITIGATION AND ADAPTATION : SOME CHALLENGES

- The risk of pathologising common distress responses to abnormal events and also then underdiagnosing mental health effects of a changing climate;
- There is substantial scope with respect to the timing of the climate change effects on mental health, thus causal links become harder to determine;
- Attribution related to climate change and mental health is not well understood because of the complex interaction between mental health and other social determinants of health.
- Few empirical studies capture positive psychological consequences of extreme weather events, like feelings of compassion, altruism, sense of meaning, post-traumatic growth, or even increased acceptance of climate change and engagement with climate mitigation

# CLIMATE CHANGE MITIGATION “BEHAVIOUR ”

- Climate change mitigation refers to overarching efforts to reduce greenhouse gas emissions and enhance carbon sinks to slow the speed, scale, and magnitude of climate change
- Acting on the health consequences of climate change requires actions rooted in both mitigation and adaptation at all levels—from global to local—and from all sectors and individuals.
- Key climate change mitigation priorities include reducing energy demand

# CLIMATE CHANGE ADAPTATION

- Refers to interventions that respond to the effects of climate change by adjusting, moderating, and coping with the risks and impacts of climate change.
- Is affected by the capacity to adapt, which is the ability and willingness to respond to climate change
- Is determined by things like: governance, economics, infrastructure, technology, information and skills, institutions, and equity .

Examples :

- education
- capacity building
- preparation for extreme weather events.

# PSYCHOLOGICAL ADAPTATION

Psychological adaptation requires a set of responses:

- An acknowledgement of the grave threats and the consequential global crisis.
- Coping strategies to manage the feelings and thoughts that arise so that people can face up to  rather than avoiding the creeping problem of climate change.
- Behavioural and psychological engagement, in which people change and adjust their behaviour and lifestyle in order to reduce the threat and protect themselves.

# MENTAL HEALTH AND OUR CHANGING CLIMATE: IMPACTS, IMPLICATIONS, AND GUIDANCE (March 2017)

Tips to support individuals to build personal attributes and social support that will help to prepare for and recover from climate change–related mental trauma:

1. Build belief in one's own resilience.
2. Foster optimism.
3. Cultivate active coping and self-regulation skills.
4. Maintain practices that help to provide a sense of meaning.
5. Promote connectedness to family, place, culture, and community

# MENTAL HEALTH AND OUR CHANGING CLIMATE: IMPACTS, IMPLICATIONS, AND GUIDANCE (March 2017)

Tips to support communities for protecting well-being and to alleviate adverse mental health outcomes.

1. Assess and expand community mental health infrastructure.
2. Reduce disparities and pay attention to populations of concern.
3. Engage and train community members on how to respond.
4. Ensure distribution of resources and augment with external supplies.
5. Have clear and frequent climate–mental health communication.

# MENTAL HEALTH AND OUR CHANGING CLIMATE: IMPACTS, IMPLICATIONS, AND GUIDANCE (March 2017)

What individuals can do at home and in the community in their everyday lives to buffer against some of the projected impacts:

1. Make and practice household emergency plans.
2. Participate in mindset training to prepare for adversity and adaptation through increased awareness of our emotions.
3. Care for oneself through healthy habits.
4. Connect with family, friends, neighbors, and other groups to build strong social networks and communities

# MENTAL HEALTH AND OUR CHANGING CLIMATE: IMPACTS, IMPLICATIONS, AND GUIDANCE (March 2017)

What mental health and other professional leaders can do given their  unique positions to foster new levels of support for climate solutions:

1. Become a mental health–related climate-literate professional.
2. Engage fellow public and mental health professionals.
3. Advocate - Be vocal, model leaders within your communities.
4. Ensure messages are accessible, targeted, and culturally relevant.
5. Support national and international climate–mental health solutions

# Poll Question 3

## What do you think are the two biggest barriers preventing use of MHPSS services:

a) Stigma of mental health issues
b) Religious beliefs
c) Cost
d) Attitudes to help seeking
e) Availability of MHPSS providers

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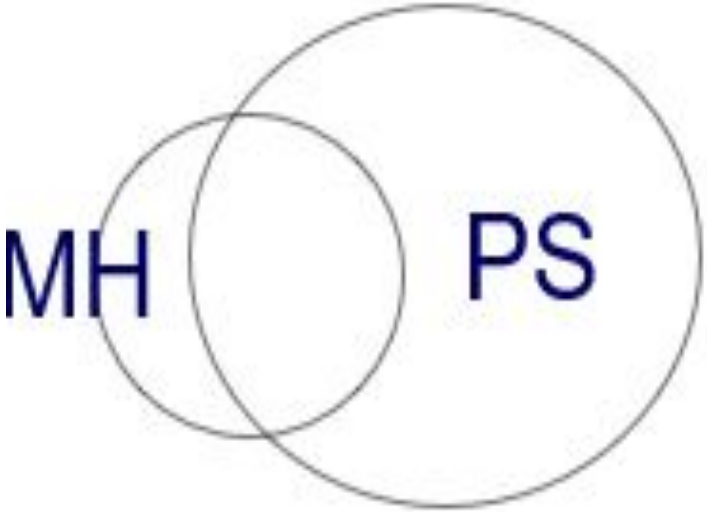
# MENTAL HEALTH AND PSYCHOSOCIAL SUPPORT




(a) protection or promotion of psychosocial wellbeing

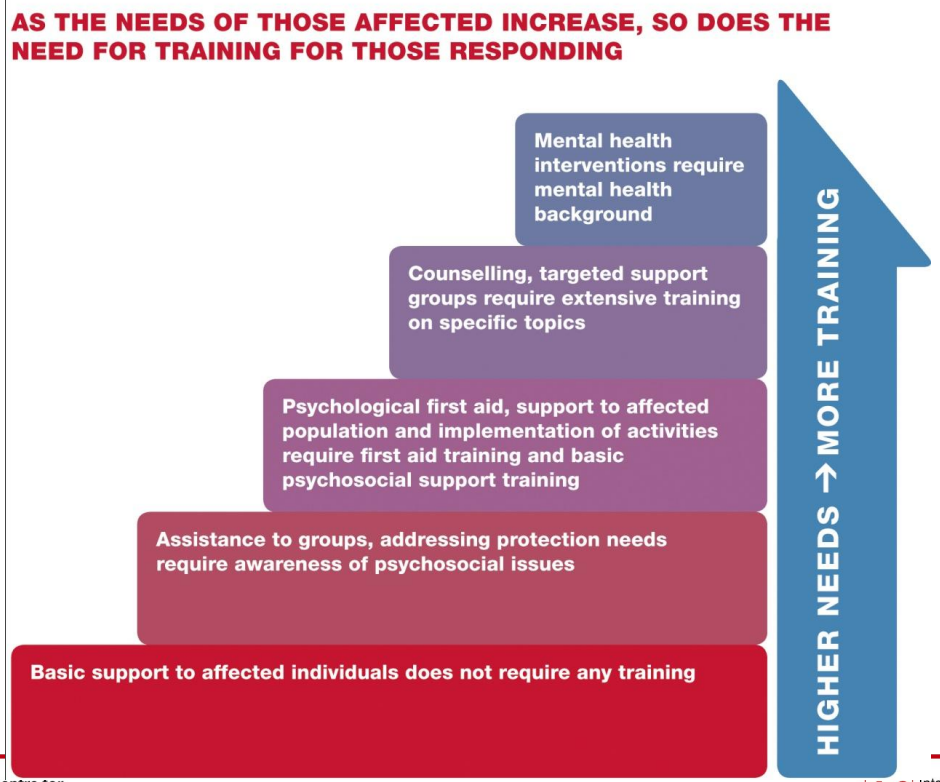
and/or

(b) preventing or treating mental condition



**Mental Health and Psychosocial Support, represents the outcome of a broad debate on psychosocial work, and also formed the context in which the guidelines of the *Inter-Agency Standing Committee*** were drawn up.

# Levels of helping



# CORE PRINCIPLES OF MHPSS

Human rights and equity

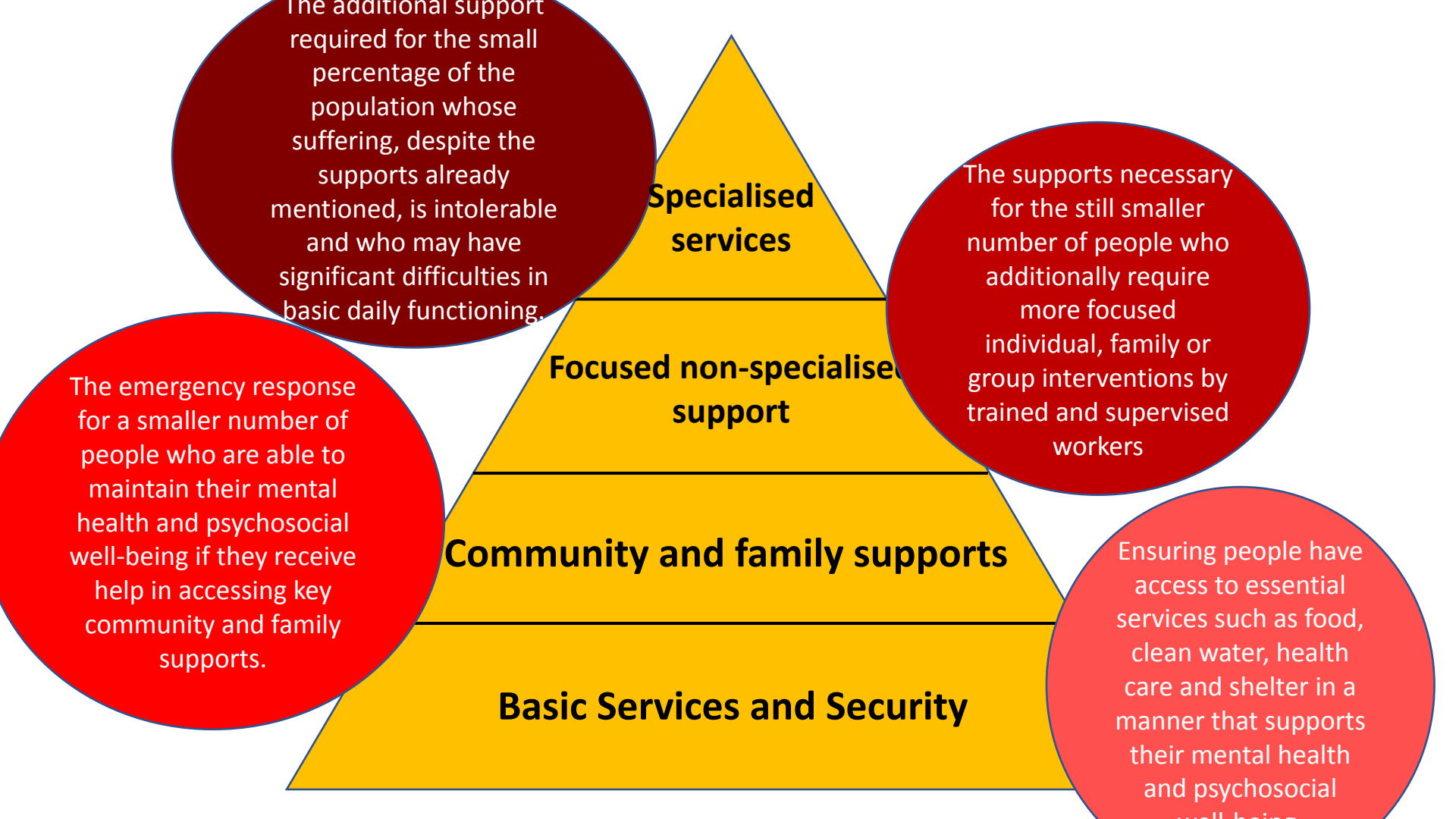
Participation

Do No Harm

Building on available resources and capacities

Integrated support systems

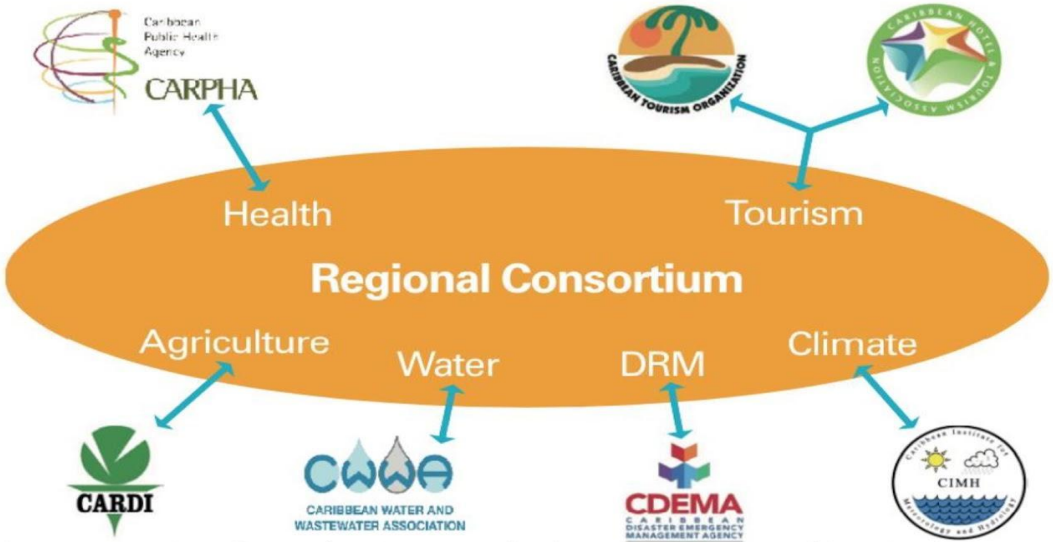
Multi-layered supports


The additional support required for the small percentage of the population whose suffering, despite the supports already mentioned, is intolerable and who may have significant difficulties in basic daily functioning.
Specialised services
The supports necessary for the still smaller number of people who additionally require more focused individual, family or group interventions by trained and supervised workers
Focused non-specialise support
The emergency response for a smaller number of people who are able to maintain their mental health and psychosocial well-being if they receive help in accessing key community and family supports.
Community and family supports
Ensuring people have access to essential services such as food, clean water, health care and shelter in a manner that supports their mental health and psychosocial
Basic Services and Security

| | |
|---|---|
| Prepare | •Learn about the crisis event.<br>•Learn about available services and supports.<br>•Learn about safety and security concerns. |
| Look | •Observe for safety.<br>•Observe for obvious urgent basic needs.<br>•Observe for serious distress reactions. |
| Listen | •Make contact and establish rapport<br>•Ask about needs and concerns<br>•Assess safety issues<br>• Help them feel calm. |
| Link | •Help people identify basic services needed.<br>•Help people identify “ next step solutions”.<br>•Give information re resources.<br>•Help people connect with the services and support. |

# REVIEW

## Regional Cooperation




Climate services for health are an emerging field of applied science, defined as "the entire iterative process of joint collaboration between relevant multidisciplinary partners to identify, generate and build capacity to access, develop, deliver, and use relevant and reliable climate knowledge to enhance health decisions" (WMO/WHO, 2016).

Figure 1. Consortium of Sectoral EWISACTs Coordination Partners – a group of six regional sector agencies and a regional climate service provider (CIMH) – committed to the co-design, co-development and co-delivery of user-specific and actionable climate information products.

# EU CARIFORUM

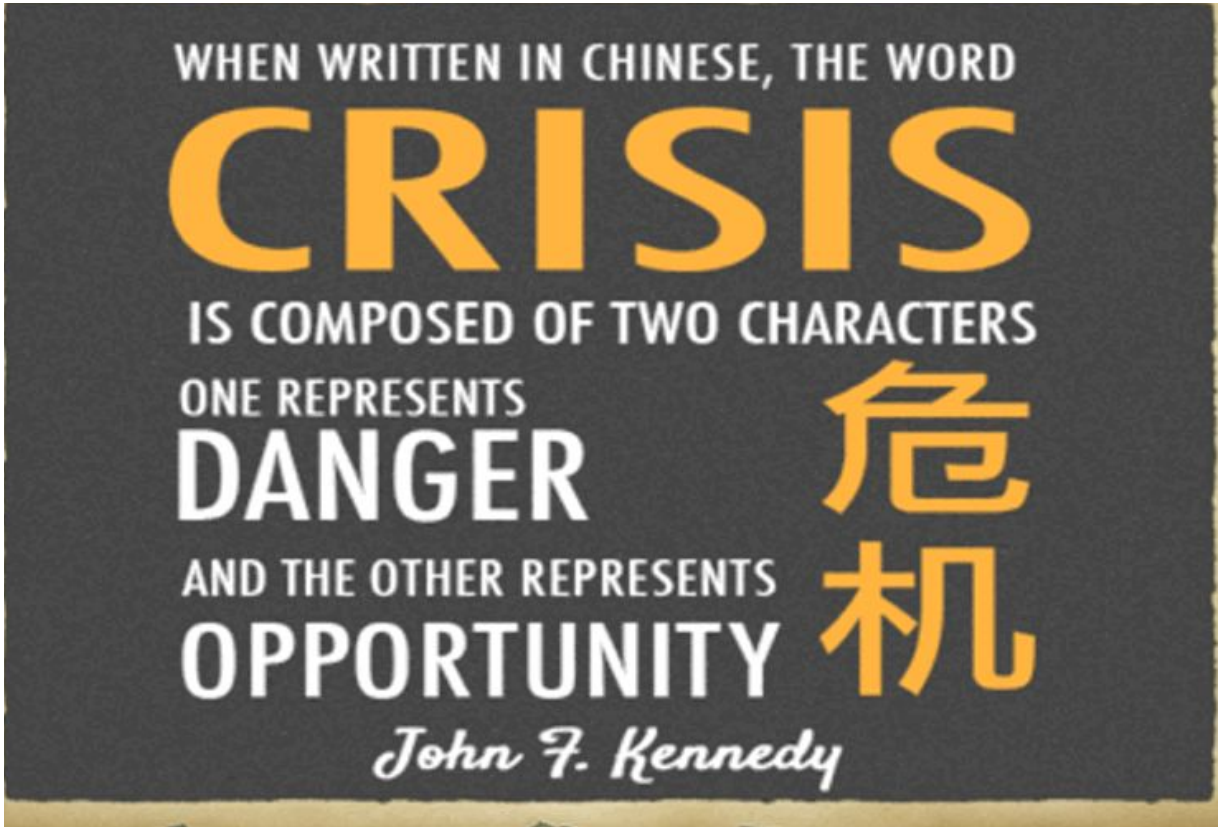
# Regional Initiatives: Some Examples

UNICEF return to Happiness
PAHO Self Care Videos
UNWomenToolkit
CDEMA UWI CANPA CAPSSIG Network
CANPA Capacity Building
Corporate Wellness Programs

# DATA NEEDED

“Not everything that counts can be counted…” (William Bruce Cameron).

# CLIMATE CHANGE AND MENTAL HEALTH



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# REVIEW PREVIOUS PRESENTATIONS

- **April 6th - Climate Change for the Health Professional**
  - **Maureen Lichtveld, MD: Dean, University of Pittsburgh Graduate School of Public Health**
- **April 13th - Extreme Weather Hazards: Hurricanes**
  - **William Hamilton, MD: The Bahamas Ministry of Health and Wellness**
- **April 20th - Water-and Food Related Illness (Flooding & Drought)**
  - **Celia Poon-King, FFPH: PAHO/WHO Consultant**
- **April 27th - Temperature Related Illness and Mortality**
  - **Pablo A. Mendez Lazaro, PhD: University of Puerto Rico-Medical Science Campus, Puerto Rico Climate and Health Research Group**
- **May 4th - Degraded Air Quality (Bush Fires & Urban Air Quality)**
  - **Andrea Sealy, PhD: The Caribbean Institute for Meteorology and Hydrology**
- **May 11th - Vector-borne and Zoonotic Disease**
  - **Christopher Oura PhD: University of the West Indies in Trinidad and Tobago School of Veterinary Medicine**