

## Scientific and Technical Working Group Meeting

September 9, 2022

2:00-4:00 pm

By ZOOM

Meeting ID: 851 7754 1250

Passcode: 153143

### Meeting Objectives:

- Review definitions for selected terms in the CSNA
- Discuss the key points to include in the 2022 Annual Report (a) state-of-the science, and (b) 2022 recommendations for science

*Times shown are approximate*

1. Welcome, Introductions, and Roll Call  
*Peter Goodwin, STWG Chair*
2. Approval of May Meeting Summary
3. Introduction to Kayle Krieg, 2022 Maryland Sea Grant Science Policy Fellow for the STWG
4. Status of the update of Maryland's GHG Reduction Plan and other Commission Activities  
*[Mark Stewart and Chris Beck, MDE] (10 minutes)*
5. Update of Maryland's stormwater regulations to account for climate change.  
*[Dr. Lee Currey, Director, Water and Science Administration, MDE] (20 minutes)*
6. MCCC and Climate Justice.  
*[Dr. Alan Anderson, STWG Liaison to CJ Team] (10 minutes)*
7. Big Science Ideas: Tree Burial for Carbon Sinks *[To be confirmed]*  
*[Dr. Ning Zeng, X-Prize finalist, University of Maryland] (10 minutes)*
8. Review of draft definition of selected terms in CSNA:  
*Refer to read-ahead materials [Chris Beck] (20 minutes)*
9. Key points to highlight in Annual Report of relevance to Maryland (from AR6 report and other recent important papers) *(30 Minutes)*
10. Public Comment. *[5 minutes]*
11. Summary of Action Items and Closure [Nemazie] *[5 minutes]*

August 24, 2022

### Science and Technical Working Group

**Re: September Meeting: Addressing Commission Requests**

This is an update of the MCCC STWG activities and a summary of requests received from MDE and the Commission.

### Task 1: Review Definitions Used in the Climate Solutions Now Act of 2022 (CSNA)

You are probably aware that the Maryland Legislature passed CSNA and the Governor allowed the bill to pass without veto or modification sustaining the bi-partisan approach to addressing climate in Maryland. This puts Maryland in line with other states with ambitious GHG reduction plans but Maryland's interim goal of 60% reduction by 2031 leads the nation. STWG will review draft working definitions being prepared by MDE.

### Task 2: 2022 MCCC Annual Report

As in previous years, we will develop the 'state-of-the science' summary to be integrated into the Annual Report. This year, it is planned to focus the Annual Report on (a) recommendations from 2021 that were not implemented, and (b) new recommendations arising in 2022.

The Annual Report will be brief but with actionable recommendations. The science synthesis section should be succinct - about 2 pages plus references. We will therefore focus on the IPCC AR6 reports plus any sentinel papers with relevance to Maryland that you identify. There will also be about 2-5 recommendations which should focus on implementable actions in 2023.

The IPCC Synthesis Report had been due to be released in September 2022. Unfortunately, this has been delayed until late 2022 or [early 2023](#). There are recently released updated reports for Working Group 1 and Working Group 3 which we can use for the basis of our brief summary.

All sections of the Annual Report will be reviewed by the Climate Justice Team (Dr. Anderson serves as our liaison to this team and will provide advice in the preparation of our sections).

The Draft Annual Report is due to the Commission by October 20. To ensure MDE has time to integrate our sections and time for review by the CJ Team, we will submit our sections by October 1, 2022.

### Relevant Papers and Activities Relevant to the MCCC Activities

Please forward any additions to the 2022 list attached below to myself or Chris Beck. Of particular note since our last meeting are the ASCE Manuals of Practice on Objective Resilience.

Next STWG Meeting

In order to meet the deadline for these tasks, the next STWG meeting will be virtual and on Friday September 9, 2022: 2:00-4:00pm. A draft agenda is attached - please let me or Chris Beck (christopher.beck@maryland.gov) know if you have any additions to the Agenda by COB September 6, 2022. Advance reading materials for Item (8): *Definition of Terms* will be distributed to you by September 2nd.

Thank you for your contributions and time in supporting the efforts of the Commission. I look forward to seeing you on September 9th.

Sincerely

A handwritten signature in blue ink that reads "P. Goodwin". The signature is written in a cursive style with a large initial "P" and a clear "Goodwin".

Peter Goodwin  
Chair, STWG

## **2022 Publications of Relevance to the Maryland Commission on Climate Change**

### **General Interest**

IPCC Working Group II Sixth Assessment Report: Climate Change 2022 - Impacts, Adaptation and Vulnerability: <https://www.ipcc.ch/report/ar6/wg2/>

American Society of Civil Engineers  
Responding to Code Red  
Civil Engineering January 2022. 36-45

Impacts of Future Weather and Climate Extremes on United States Infrastructure: Assessing and Prioritizing Adaptation Actions  
Book authored by the ASCE Task Committee on Future Weather and Climate Extremes. December 2021.

Which racial/ethnic groups care most about climate change?

<https://climatecommunication.yale.edu/publications/race-and-climate-change/>

Professor Matt Fitzpatrick (UMCES) on the shifting climate of America's cities.

<https://www.bostonglobe.com/2021/06/29/metro/boston-has-seen-baltimore-style-heat-june-it-might-be-preview-summer-come/>

The tool is available at:

<https://www.umces.edu/futureurbanclimates>

Location of Maryland's Air Monitoring Stations

<https://mde.maryland.gov/programs/Air/AirQualityMonitoring/PublishingImages/MonitoringNetwork.png>

NOAA National Integrated Heat Health Information System

<https://nihhis.cpo.noaa.gov/>

NOAA analysis of new climate normals

<https://www.noaa.gov/news/new-us-climate-normals-are-here-what-do-they-tell-us-about-climate-change>

Maryland's Coast Smart Climate Ready Action Boundary (CRAB) Tool

<https://mdfloodmaps.net/CRAB/>

## Policy

Inequitable patterns of US Flood risk in the Anthropocene.

O.E.J. Wing et al.

[Nature Climate Change](https://www.nature.com/natureclimatechange) | VOL 12 | February 156 2022 | 156–162 | [www.nature.com/natureclimatechange](https://www.nature.com/natureclimatechange)

Opportunities for U.S. State Governments and in-Region Partners to Address Ocean Acidification through Management and Policy Frameworks. Turner, J. et al., August 1, 2021

<https://www.tandfonline.com/doi/full/10.1080/08920753.2021.1947126>

## Science

EPA. Climate Change Indicators

<https://www.epa.gov/climate-indicators>

Special Section. *Science*. 18 June 2021. p1224-1299. Fallback Strategies: Planning for Climate-Induced Relocation.

Wang, J., Chen, Y., Tett, S.F.B. *et al.* Anthropogenically-driven increases in the risks of summertime compound hot extremes. *Nat Commun* **11**, 528 (2020).

<https://doi.org/10.1038/s41467-019-14233-8>

## Technology

Maryland Energy Innovation Accelerator: Creating Investible Clean Energy Businesses

October Newsletter and signup for updates

<https://mdeia.org/>

Decarbonizing the Power Grid

<https://www.redoxblox.com>

Developing a Research Agenda and Research Governance Approaches for Climate Intervention Strategies that Reflect Sunlight to Cool Earth

<https://www.nationalacademies.org/our-work/developing-a-research-agenda-and-research-governance-approaches-for-climate-intervention-strategies-that-reflect-sunlight-to-cool-earth>

International Energy Agency.

Dramatic action is required in the next decade to have any hope of achieving a net-zero goal by 2050, IEA said. Where electric vehicles now account for 5% of global automobile sales, they will need to represent 60% of new automobile purchases in 2030. Annual renewable installations, which hit a record 280 gigawatts last year, will need to exceed 1,000 GW. And energy efficiency improvements will need to grow by 4% annually, roughly three times their current rate. Read the article:

<https://www.scientificamerican.com/article/net-zero-emissions-by-2050-are-possible-landmark-report-says/>

Future World Vision: Mega City 2070

[futureworldvision.org](https://futureworldvision.org) (available after February 22, 2022).

## **Engineering**

American Society of Civil Engineers (August 2022)  
Objective Resilience: Policies and Strategies  
Manual of Practice 146

Objective Resilience: Objective Processes  
Manual of Practice 147

Objective Resilience: Technology  
Manual of Practice 148

Objective Resilience: Applications  
Manual of Practice 149  
Further details available [at ASCE](#):

## **Human Health**

Maryland Climate and Health Program webpage:  
[https://health.maryland.gov/phpa/OEHFP/EH/Pages/climate\\_change.aspx](https://health.maryland.gov/phpa/OEHFP/EH/Pages/climate_change.aspx)

Maryland Environmental Public Health Climate Adaptation Tracker:  
<https://maps.health.maryland.gov/climatechange/>

## Webinars and Other Events

### *Webinars*

*Workshop: Exploring Best Practices for Large-scale Marsh Persistence and Restoration in the Chesapeake Bay.*

October 6, 2022. Virtual and In-person

*Maryland Sea Grant and Chesapeake Bay Sentinel Site Cooperative*

*Collaborative activities on blue carbon in Maryland*

*Living Shorelines in Practice - Enhancing Coastal Resilience*

<https://drive.google.com/file/d/18grfKQesGi6yHGoKpmI61iRZ0kYCS64v/view>

<https://mde.maryland.gov/programs/Air/ClimateChange/MCCC/STWG/Blue%20Carbon%20in%20Maryland%20presentation.pdf>

*Collaborative activities on blue carbon in Maryland: Living Shoreline webinar*  
*Living Shorelines in Practice - Enhancing Coastal Resilience*

*Coastal Adaptation Report Card. 2021*

<https://www.youtube.com/watch?v=v4ivioWna94&t=20s>

[https://virginia.planning.org/conferences-and-meetings/mid-atlantic-planning/?utm\\_medium=email&utm\\_source=govdelivery&utm\\_term=](https://virginia.planning.org/conferences-and-meetings/mid-atlantic-planning/?utm_medium=email&utm_source=govdelivery&utm_term=)

Mitigating Climate Change - NSF 2021 Workshop

<https://web.cvent.com/event/c630ff92-7038-4d79-904d-09f0d8331622/summary>

*Recordings:*

### **Adaptation For All**

is available at: <https://nlintheusa.com/adaptation-for-all/>

### **Flood Resilience in the Year Ahead: Opportunities for the New Congress**

is available to watch here: <https://www.youtube.com/watch?v=dI91vyl6GYw>