

Development of Climate Change Indicators and Metrics

Progress Update for the Integrated
Monitoring Networks Workgroup

May 17, 2017

Project Overview

Project Goals

- Develop a suite of climate-related indicators that can be used to track and analyze trends, impacts, and progress towards advancing “climate resiliency.”
- Specifically, be able to track progress towards the climate resiliency goal in the 2014 Watershed Agreement:
“Increase the resiliency of the Chesapeake Bay watershed, including its living resources, habitats, public infrastructure, and communities, to withstand adverse impacts from changing environmental and climate conditions.”

Indicator Development Process

Step	Timeframe
Establish framework (categories, definitions, criteria)	May 2017
Compile lists of potential indicators and data sources	May-June 2017
Evaluate candidate indicators against the criteria	June-July 2017
Gather feedback and prioritize candidate indicators	August-October 2017
Develop implementation plan	Dec. 2017-January 2018
Develop the top three to six indicators	March-April 2018
Compile final results	May-July 2018



Proposed Framework for This Project, Part 1

- Standard process for developing indicators
- Agreed-upon definition of “indicator”:
 - Numerical value derived from actual measurements
 - Trends over time represent or draw attention to underlying trends in the condition of the environment or measure progress towards a desirable state or condition

Proposed Framework for This Project, Part 2

Look for three types of indicators:

Physical climate
trends



Ecological and societal
response



Programmatic progress
towards resilience



Proposed Framework for This Project, Part 3

“Must-have” criteria:

- Relevant topic
- Cover the Chesapeake region
- Multiple years of data
- Actual observations
- Credible methods
- Data quality and integrity
- Objective
- Uncertainty must be known
- Transparent and reproducible
- Feasible to develop
- Peer-reviewed data*

“Nice-to-have” criteria:

- Fit with other indicators
- Many measurement sites
- Downscaled data
- Long-term records (30+ years)
- At least annual frequency
- Consistent methods
- Low uncertainty
- No major limitations
- Understandable by non-scientists

Our Current Stage: Making Lists

- Master list of topics of interest
 - A “living document”
 - To be used as a guide
- List of existing indicators or proto-indicators
- List of data sources to consider
 - Particularly *monitoring networks* – i.e., ongoing programs that can support indicators that continue to be tracked over time

Request for Help from the IMN Workgroup

We have a partial draft list of monitoring networks. We'd love to get your input on...

1. Networks to add to the list (new rows)
 - Especially any that might help provide data for other topics on the initial master list
2. Rows to remove or merge (e.g., overlapping programs)
3. Spatial, temporal, and parameter details we haven't captured yet
 - Especially yellow highlighted cells
4. Notable strengths and weaknesses of each network

Process and Timeframe for Input

- Provide comments or additions in the Excel file
- Submit comments to Zoe Johnson
- Provide input by May 31

Comments or Questions?



Thank you!