Emily Bialowas, Izaak Walton League of America
Liz Chudoba, Alliance for the Chesapeake Bay

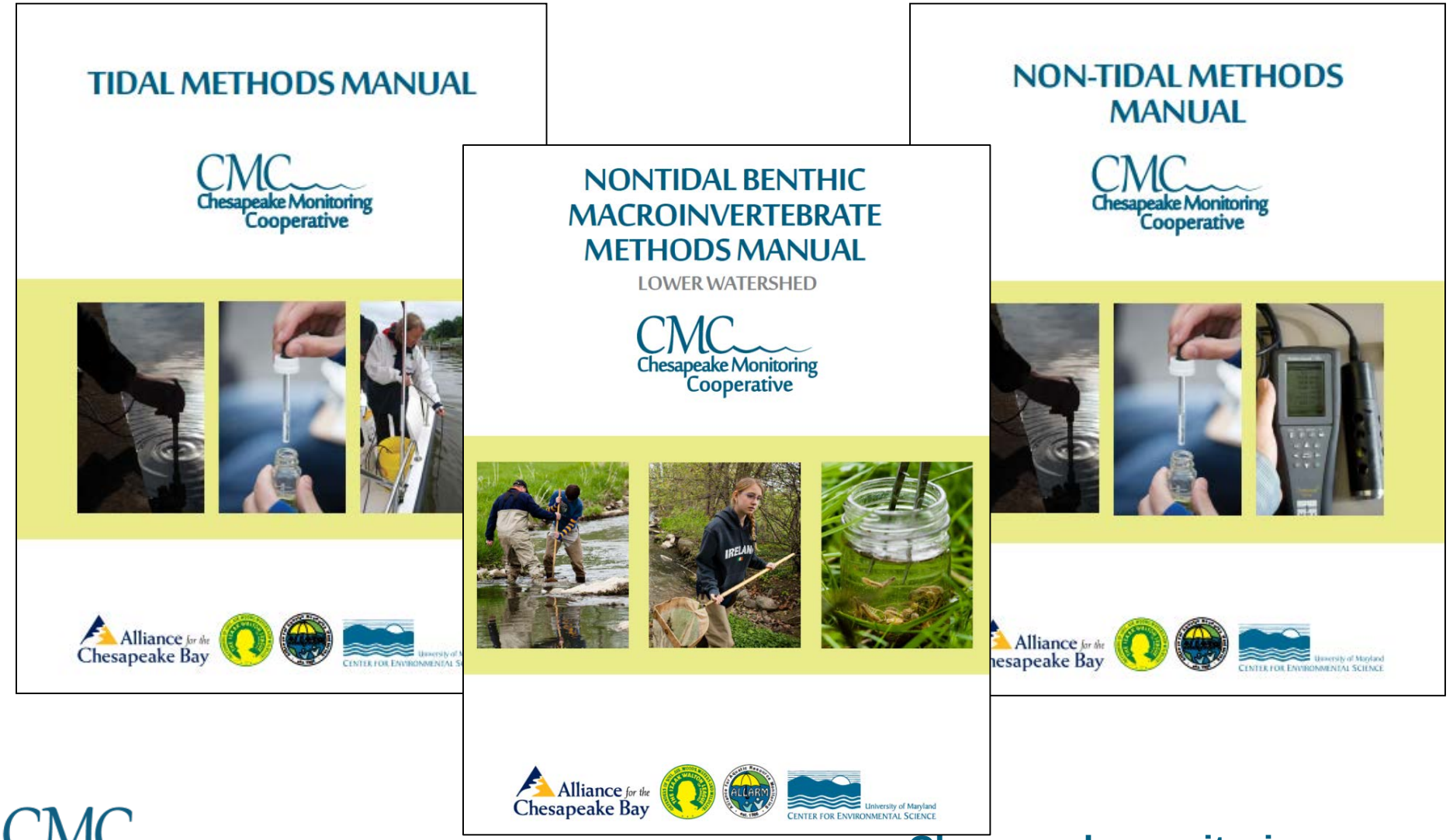
Technical Support Resources

- Quality Assurance Project Plans – Tier 1 & 2
- Standard Operating Procedures (SOPs) – Tier 1 & 2
- User-friendly Methods Manuals
- Indicator Fact Sheets
- Prioritization Report: How volunteer and nontraditional monitoring can help fill data gaps in the Chesapeake Bay Watershed

Let's take a quick look!

Photos courtesy of the Chesapeake Bay Program

User Friendly Method Manuals



User Friendly Method Manuals

How the manual is organized

NOTE

There are notes highlighted in yellow (like this one) to remind you of important things such as safety, replicates, and best practices. Be sure to read these and take note of their contents.

Each method will have a few options for how to approach sampling. You will need to work with your monitoring coordinator to define which one works for your monitoring plan.

In order to help you pin point what piece of a method you will be using, there are visual buttons to help you quickly find what you need.

Blue circular buttons represent the tool that you will use to collect your sample, including directly in the waterway, a bucket, a probe, or with a sampling pole.

Purple hollow circles represent the platforms from which you will be collecting your samples, including wading in the waterway, from a boat, from a bridge, and from a dock. If you are sampling from the shore, try to take note of the method for wading into the waterway and apply those concepts to your sampling.

TOOLS

Probe Sampling pole Bucket

Direct collection Secchi disk

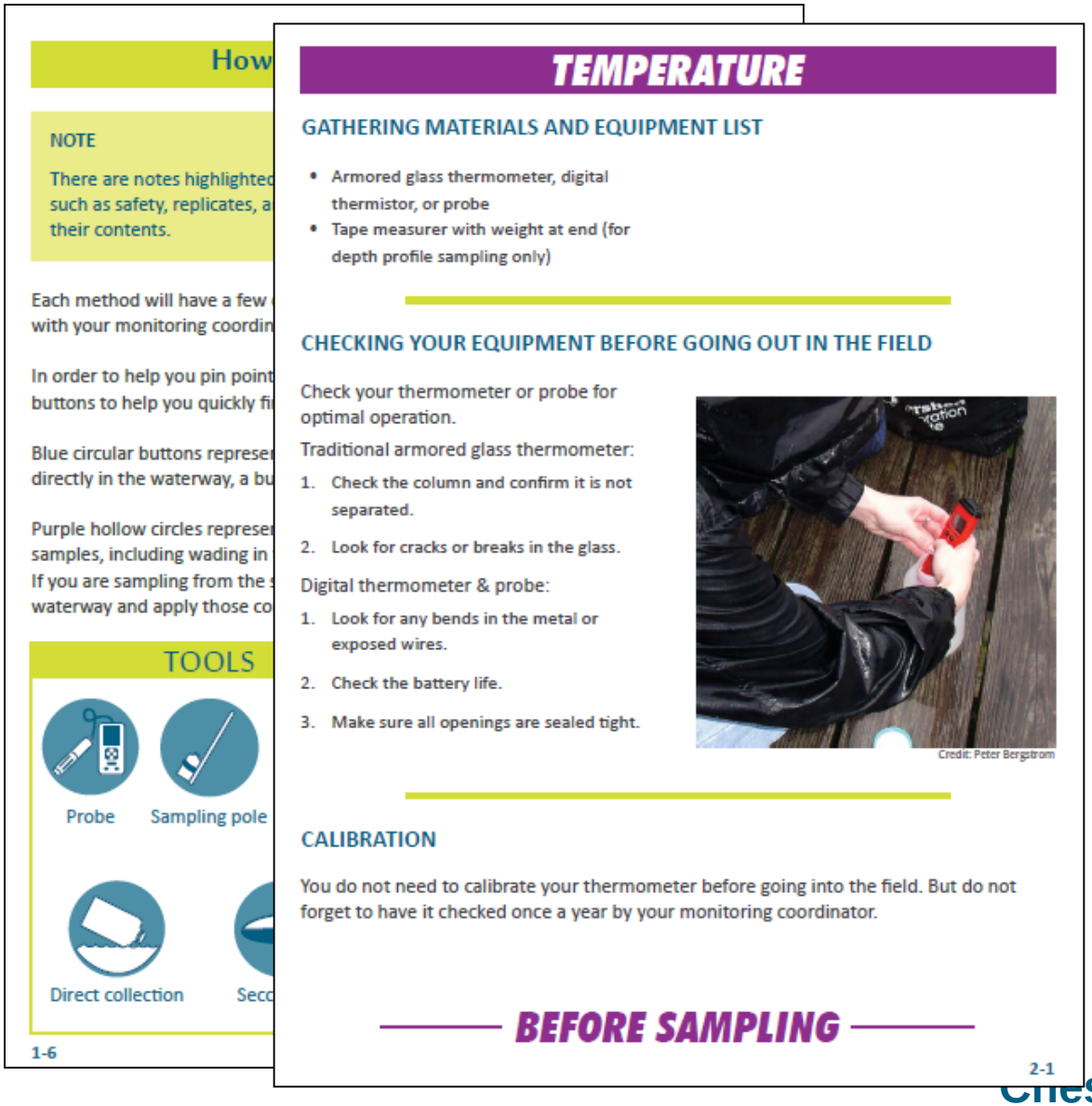
PLATFORMS

Boat Dock

Bridge Wade in

1-6

User Friendly Method Manuals



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TEMPERATURE

GATHERING MATERIALS AND EQUIPMENT LIST

- Armored glass thermometer, digital thermistor, or probe
- Tape measurer with weight at end (for depth profile sampling only)

CHECKING YOUR EQUIPMENT BEFORE GOING OUT IN THE FIELD

Check your thermometer or probe for optimal operation.

Traditional armored glass thermometer:

1. Check the column and confirm it is not separated.
2. Look for cracks or breaks in the glass.

Digital thermometer & probe:

1. Look for any bends in the metal or exposed wires.
2. Check the battery life.
3. Make sure all openings are sealed tight.

Credit: Peter Bergstrom

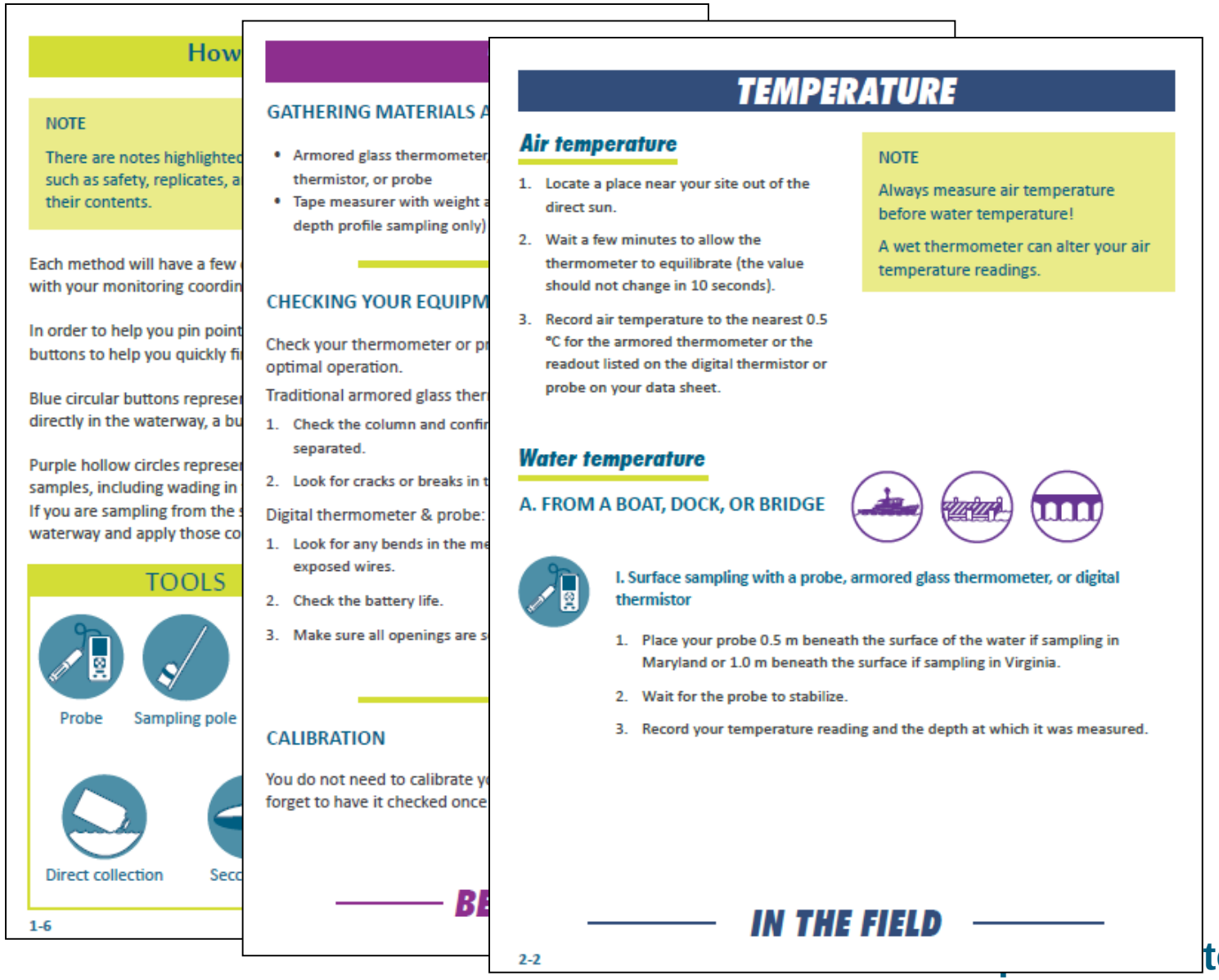
CALIBRATION

You do not need to calibrate your thermometer before going into the field. But do not forget to have it checked once a year by your monitoring coordinator.

BEFORE SAMPLING

2-1

User Friendly Method Manuals



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BE

TEMPERATURE

Air temperature

1. Locate a place near your site out of the direct sun.
2. Wait a few minutes to allow the thermometer to equilibrate (the value should not change in 10 seconds).
3. Record air temperature to the nearest 0.5 °C for the armored thermometer or the readout listed on the digital thermistor or probe on your data sheet.

NOTE

Always measure air temperature before water temperature!

A wet thermometer can alter your air temperature readings.

Water temperature

A. FROM A BOAT, DOCK, OR BRIDGE

I. Surface sampling with a probe, armored glass thermometer, or digital thermistor

1. Place your probe 0.5 m beneath the surface of the water if sampling in Maryland or 1.0 m beneath the surface if sampling in Virginia.
2. Wait for the probe to stabilize.
3. Record your temperature reading and the depth at which it was measured.

IN THE FIELD

2-2

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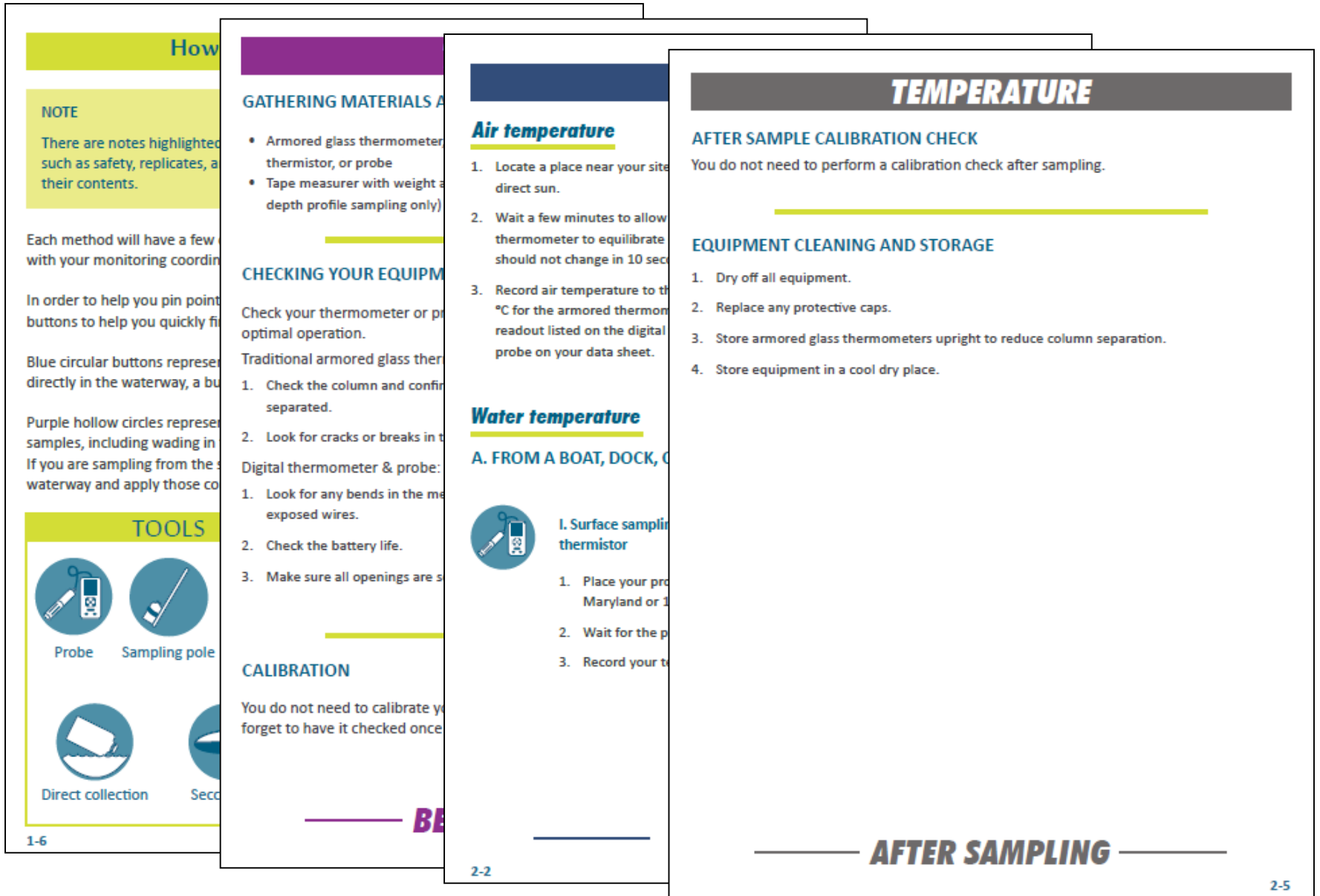
User Friendly Method Manuals



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AFTER SAMPLE CALIBRATION CHECK

You do not need to perform a calibration check after sampling.

EQUIPMENT CLEANING AND STORAGE

1. Dry off all equipment.
2. Replace any protective caps.
3. Store armored glass thermometers upright to reduce column separation.
4. Store equipment in a cool dry place.

AFTER SAMPLING

2-5

Technical Support Services

- Study Design Workshops
- Water Quality and Benthic Macroinvertebrate Monitoring Trainings, Certifications, and Re-certs
- Benthic Macroinvertebrate Order Level Identification
- Equipment and Equipment Suggestions
- QA trouble shooting
- Data Interpretation and Report Card Workshops
- Data Verification & Quality Control
- Support for Data Cleaning and Data Uploads

Photos courtesy of the Chesapeake Bay Program

On Boarding

New Monitoring Groups – the CMC service provider works with each group to conduct a Study Design workshop, Training workshops and equipment selection.

OR

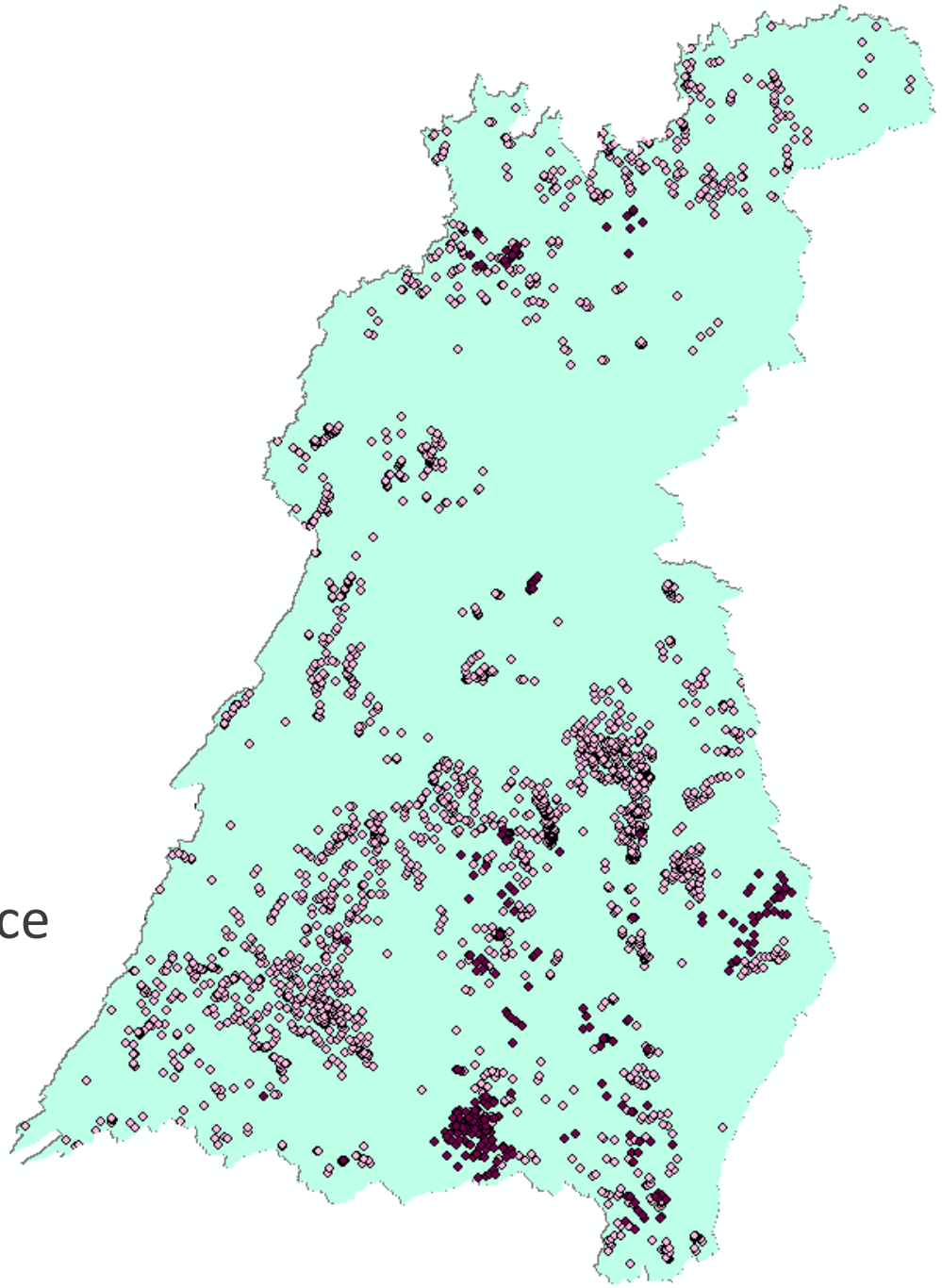
Existing Monitoring Groups – the CMC service provider works with each group to review current quality assurance and standard operating procedures to determine Tier level.

Where we are now

- Study Design Workshops
  - 6 completed
- Water Quality Monitoring Training
  - 11 completed
- Macroinvertebrate Training
  - 11 completed
- Data Interpretation Workshops
  - 2 completed

Where we are

- ALLARM (Umbrella Group)
- ACB (Umbrella Group)
- IWLA (Umbrella Group)
- Chesapeake Bay Foundation
- Chesterfield WaterTrends
- Henrico Area Water Quality Samplers
- James River Association
- Nanticoke Watershed Alliance
- Peninsula Chapter Master Naturalists



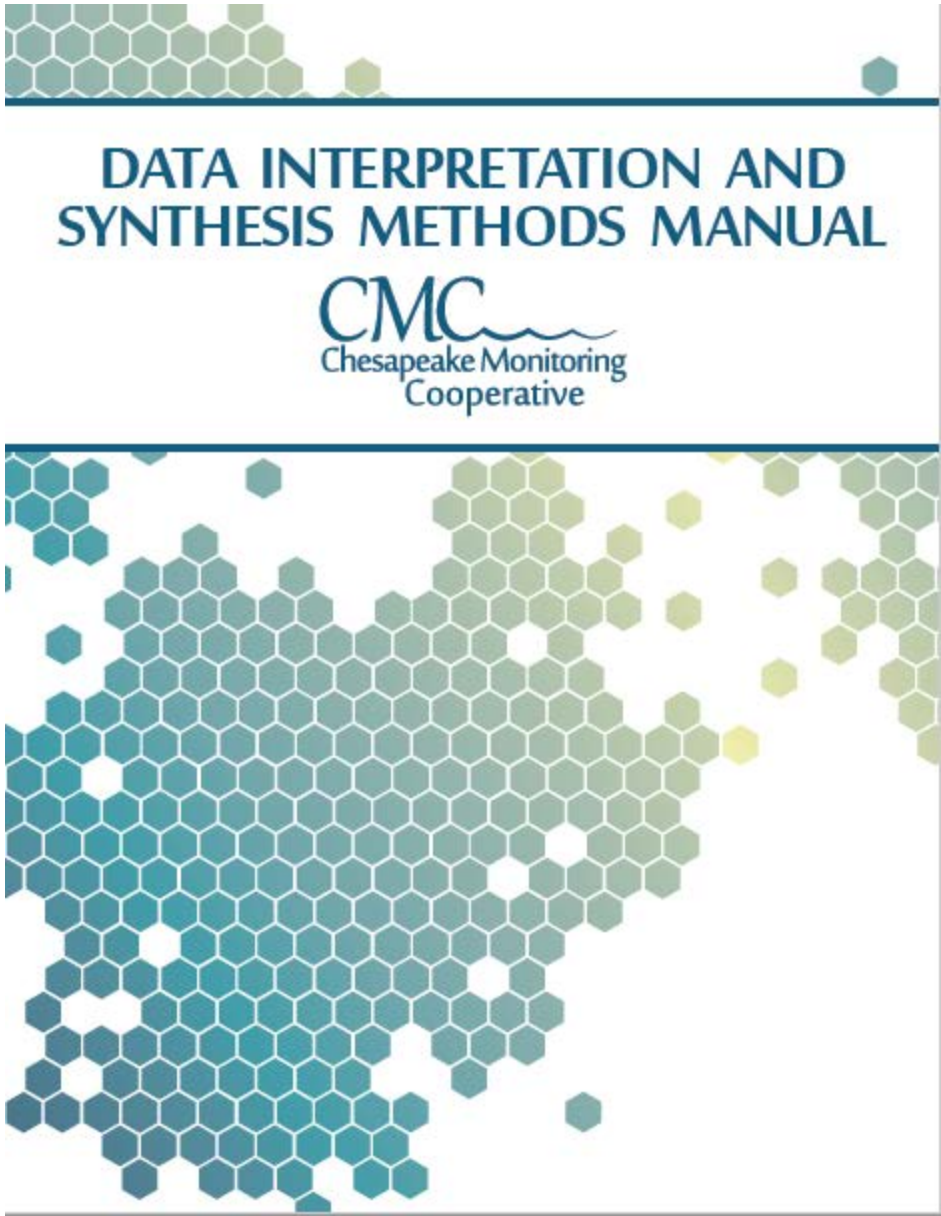
Where we are now

Tier III Groups

- Nanticoke watershed alliance is the first approved Tier III Group.
- BlueWater Baltimore is next in line.
- Next up, South River Federation and MDE shellfish sampling.

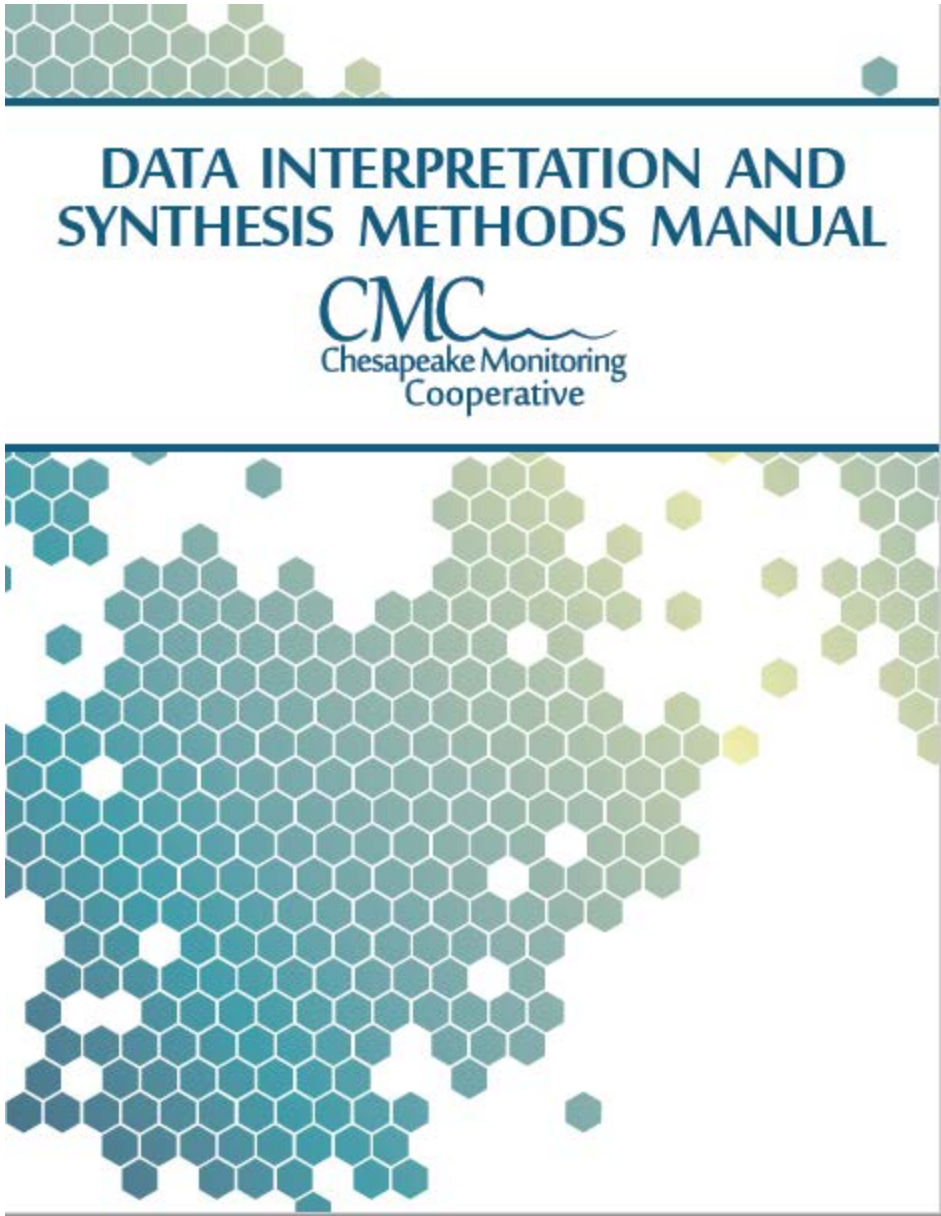
Data Interpretation Manual

- Data Interpretation:
  - Explaining what your data means
  - Kinds of Data
  - Accuracy and Precision
  - Cleaning Your Data
  - Statistics
  - Data Tables
  - Graphs
  - Figures



Data Interpretation Manual

- Data Synthesis:
  - Visualizing and storytelling
  - Data Visualization
  - Report Cards
  - Tidal Indicators
  - Nontidal Indicators
  - Data Cleaning
  - Communicating Science Effectively



Data Interpretation Workshop

- Future Updates to Manual and the workshops
- Assisting groups with their data and science communication work
- Education and communication goals

What's Next

- CMC Data Explorer
  - Benthic Data
  - Public-facing data access
- Ongoing work to align benthic data with the needs of the Chessie BIBI
- Ongoing trainings
- Data Interpretation workshop improvements


Questions?
Credit: Chesapeake Bay Program