Climate Change Workshop – Sticky Note Working Session

June 8, 2015

Action Step

Participatory Partner (Who)

Potential Funding/Funding Need/Issue

Needs clarification

Monitoring and Assessment

1. Define Goals and Establish Baseline
    a. Consolidate Available Data
        i. Set up a system to catalog current information and add continuous periodic updates. Who will do this, the WG?
        ii. Identify climate inputs for CBP Watershed Model and incorporate those parameters into the Baseline (2016 MPA), related to #4
        iii. Make NPS Climate Monitoring Data Protocols and Reports available to the group. Who: NPS (Marian Norris)
        iv. Evaluate availability of social science data and aggregate existing studies of relevance
        v. Chesapeake Bay National Estuarine Research Reserve has data collected related to climate
    b. Where is the funding?
        i. Climate WG prioritizes and provides funding to get this done.
    c. Ongoing Science, assessing best available
        i. STAC to update 2008 CC and the Chesapeake Bay Report and state of the science
        ii. Possibility of new CBSSC coordinator to help conduct/document existing data and research
        iii. Possible funding through NERRs for integrated assessment of existing data
    d. Outcome Needs
        i. Collate climate data needs identified in all management strategies
        ii. Include baselines for specific 'keystone' ecological indicators of Bay Health, ex. SAV (VIMS?)
        iii. ID key CC variables for each management strategy
        iv. Identify other key CC variables not addressed by management strategies
        v. First need to establish what key indicators should be monitored. Climactic, aquatic, terrestrial data. What about C storage?
        vi. Form network around terrestrial habitat?
        vii. After evaluation of existing data and other management strategies, identify gaps and needs
2. Develop conceptual monitoring, modeling, and assessment model
    a. Develop/compile list of climate change indicators (ecological)
    b. ID existing monitoring, modeling, and assessment. This should identify gaps.

c. Establish social impact indicators for tracking and datasets (health, economic, etc.)
d. Establish a model design/mechanism for acknowledging existing models that may be utilized
e. Identify and build monitoring components around specific or key indicators
f. Apply changes in physical habitats, ex. Salinity, sea level, sediment that can be easier to measure to important ecological factors
g. Coordinate with CBSSC. Who: members in CBSSC (ex. Marian Norris)
h. Create a matrix that shows climate linkages with each management strategy
i. Climate WG to develop process for GIT/CC integration
j. Develop CBP climate change web/mapping/data portal

3. Prioritize Climate Impacts
    a. Identify Priorities
        i. ID gaps that also affect communities and the economy
        ii. Use NACCS
    b. Rank Priorities
        i. Prioritize 2 to 3 gaps and work through process to close them
        ii. Prioritize gaps by highest impact/highest likelihood
        iii. Combine prioritization of socio-economic as well as ecological impacts via combined points system?
    c. Find Liaison/Rep for each priority
        i. Identify/create a GIT Climate Change liaison to work with each GIT to prioritize climate impacts affecting ability to achieve goal
4. Design Monitoring and Modeling Plan
    a. ID ways to efficiently integrate with current modeling efforts
    b. Access vulnerability and resiliency of coastal community and ecosystems to target future efforts. MD/TNC Coastal Resiliency Assessment
    c. Make NPS impact modeling products available to the group, (Marian Norris)
    d. Identify a point of contact to collect/host GIS information related to the data being collected, so regional trends can be assessed through maps
    e. Coordinate with CBSSC. Who: members in CBSSC, ex. Marian Norris
    f. STAC Workshop?
5. Assess Trends and Conduct Assessments
    a. Data synthesis/sharing
        i. NCCOS Climate Project in collaboration with CBNERR, can provide analysis of trends in the Bay
        ii. Coordinate sharing NPS vulnerability assessments with the group. Who: NPS (Marian Norris)
        iii. Synthesize state (MD, DE, and others) climate change impact assessments
        iv. Identify current monitoring protocol for on-the-ground projects that will assess climate impacts/resiliency success
    b. Use data synthesis for analysis
        i. Present climate trends in context with other challenges, i.e. growth and development and meeting other regulations and community goals
6. Develop a Research Agenda
    a. Coordinating Needed Research
        i. Engage science community to help fill identified gaps
        ii. Coordinate with individual labs or researchers' priorities/goals
        iii. Use CBNERRs (both MD & VA) as sites for place based research

b. Identifying Research Needs
    i. MD to provide a prioritized list of CC research needs from its CC action plan
    ii. STAC? Can be independent of MS cycle?
    iii. Coordinate with CBSSC. Who: Members of workgroup who are in CBSSC, ex. Marian Norris

7. Reassess Priorities and Revise Goals
    a. CC coordinator to work annually with each GIT to reassess annual priorities
    b. CC WG to host annual workshop to review progress, reassess priorities
8. Undertake Public, Stakeholder and Local Engagement
    a. Engagement process steps
        i. Identify existing regional or municipal climate resiliency plans and begin an inventory of best practices and federal resiliency plans
        ii. Partner with organizations already conducting stakeholder outreach, such as regional groups and outreach organizations (Sea Grant, Eastern Shore Land Conservancy)
        iii. Establish priority audiences and organizational contacts
        iv. Potential new NOAA Mid-Atlantic Coastal Storms Program in 2015 could provide rules to stakeholders regarding data utility
        v. Track public knowledge and attitudes to support engagement efforts, including baselines – Climate Communication Consortium?
    b. Specific groups to engage through
        i. Have an NGO partner do this?
        ii. Solicit input from MWCOG members
        iii. Provide additional opportunities for stakeholder engagement through NPS interpreting materials and programs
    c. Engagement priorities/tactics
        i. Engage local stakeholders to identify science-driven solutions or opportunities for local monitoring efforts (local partners/CoastSmart)
        ii. Data collection from volunteers? Public interest/involvement, & cheap data?
        iii. Incorporate stakeholders' economic needs/priorities. Ex. Oyster fisheries, tourism, etc.
        iv. Establish pilot project with handful (3-5?) of communities to test model
    d. Communications Tools and Methods
        i. Create a climate resiliency dashboard to track CBP efforts over time
        ii. ID key stakeholder groups (farmers, fishermen, etc.) and develop specific communications on impacts which are most relevant to them
        iii. Coastal Training Program through MD DNR/CBNERR

Adaptation

1. Compile and Assess Current Efforts and Lessons Learned
    a. Work initially from list in appendix. ID what is known by level of confidence. Focus on what is already known/observed
    b. Identify a central data/project – showing web-space (CAKE, CBP, etc.) or ASAP
    c. USFS working on network of CC forest management demo sites
    d. Go over list of species and resources vulnerable to CC. What do we do know/do now?

e. MD will share current efforts, including policy, tools, products, and scientific understanding
f. Annual/Bi-annual workshop (National Adaptation Forum?)
g. How will these be compiled on a continual basis? Who? How will it be accessible?

2. Assess Climate Impacts and Vulnerabilities
   a. Evaluate climate change mitigation/adaptation benefits of water quality BMPs for forest, Ag, and urban sectors
   b. Identify climate hotspot areas that threaten the bay and local communities or infrastructure for monitoring
   c. Define likely current and future monitoring needs by geography, habitat type, and BMP type
   d. Develop or pursue funding for CC vulnerability tools or data layers: fisheries tools, SLR tools, SAV, wetlands
3. Review and Revise Conservation, Restoration, and Protection Goals and Objectives
   a. Ensure specific and revised CC goals are part of 2015-16 forest Action Plans
   b. Develop CC conservation analysis matrix to enable analysis of existing management goals. Who: EPA and CBP?
4. Establish Adaptation Outcome Priorities
   a. Prioritize adaptation/mitigation nexus projects
5. Increase the Institutional Capacity of the CBP to Prepare for and Respond to Climate Change
   a. Could this be supported by the NOAA Planning Grant?
   b. Create and host a community of practice workshop. Who: CBP
6. Implement Priority Adaptation Actions
   a. Identify how lessons learned from priority actions will support the feedback loop
   b. Encourage use of approved CC projections specifically in restoration and resiliency on the ground projects. Ex: living shore lines
   c. Implement 1-2 on the ground adaptation/resiliency projects. Who: TBD
7. Track adaptation action effectiveness and ecological response
   a. Advocate for more money to track medium to long term project effectiveness
   b. Track public/local stakeholder opinion of actions as well as eco response
8. Increase Local Engagement
   a. Frequent of continuous dialogue could be important
   b. Engage beyond environmental departments
   c. Link to #9 public and stakeholder engagement
   d. Improve sustainable operations of local agencies through green infrastructure, procurement, and energy savings. Set goals or contests?
9. Undertake Public and Stakeholder Engagement
   a. State/county/local park systems?
   b. Pilot project with physically and socially vulnerable communities on resilience. GMU, Climate Community Consortium of MD, and others.
   c. CBNERR
   d. See also Monitoring and Assessment Engagement (crossover)
   e. Each NPS park is scheduled to have a climate change vulnerability assessment which have interpretive components. We can incorporate Bay information. Who: NPS
10. Foster a Larger Discussion on the Linkage Between Climate Impacts and Diversity
    a. Incorporate Social Vulnerability, ex. Town of Oxford Project
    b. MD to add a “diversity climate change” filter to BMP targeting efforts
    c. EPA Environmental Justice Screening Tool

d. Consider Equity Implications of Impacts and Adaptation Projects
e. Pilot project with diverse communities vulnerable both physically and socially on resilience. GMU/Climate Comm. Consortium of MD/others

11. Increase Regional Collaboration
    a. NWF vulnerability assessments. Identify cross-state assessments
    b. Combine with #5, add USDA Climate Hubs
    c. Connect with LCC's and Brook Trout venture to identify collective goals and overlap in mission and priorities
    d. NOAA Choptank Habitat Blueprint Area?
    e. Host regional workshops to build capacities at the local level and create regional networks (also applies local decision makers to #8) – NGO
    f. Use of new NOAA Mid-Atlantic Coastal Storms program to encourage regional discussions and collaboration
12. Conduct Targeted Education and Outreach
    a. Collaborate with NOAA Mid Atlantic Coastal Storms Program to create and disseminate in formational materials for stakeholders in the Bay
    b. Collaborate with the Climate Communication of Consortium of MD on developing Bay – specific climate resilience messaging
    c. Pilot project with physically and socially vulnerable communities on resilience – GMU/CCC of MD/others
    d. Partner with GMU science communication program and center for climate change communication
    e. NPS units incorporate Climate Adaptation information into interpretive materials and programs, as appropriate. Who: NPS?
    f. Coastal training program
    g. Partner with GMU science communication programs and teacher training to promote small scale pilot projects
    h. Design outreach based on surveyed interests/concerns of specific local community groups
    i. Connect with DC-CUSP (NSF projects)