



Help Great Lakes Communities Assess Climate Risks, Opportunities, and Vulnerabilities - A Logic Model Overview

What is the current situation?	Current Projects (organized by categories chosen at the logic model meeting)	Inputs - What will the program need to invest?	Outputs - What activities/products will the program include?	Outputs— Participation Who will the program reach?	Outcomes/Impact Short Term Results (based on individual learning)	Outcomes/Impact Midterm Results (based on individual actions)	Outcomes/Impact Long Term or ultimate impact Change in a condition
<p>1. What are the threats to communities? Climate change impacts:</p> <ul style="list-style-type: none"> Precipitation will fall in heavier, more frequent storm events which will increase runoff, especially in spring and winter → nonpoint source pollution, flooding, combined sewer overflows, droughts, sedimentation Increased fluctuations of lake levels may increase erosion and periodically expose formerly submerged lands → shoreline management, dredging Local, regional, national, global supply/demand for water management presents myriad challenges → water shortages Increased stress on Ecosystem sustainability – high & low lake levels <p>2. What should be Great Lakes Sea Grant's program priorities? Integrate climate change into planning activities at the federal, state, local levels by focusing on the following priority water resource issues:</p> <ul style="list-style-type: none"> Dredging & Sedimentation Harmful Algal Blooms (HABs) Ports & Harbors Public Access Infrastructure (parks, docks, marinas etc.) Public Health (beaches) AIS Coastal Community sustainability & econ development <p>Focus adaptation efforts on decision-makers and professionals in the following sectors:</p> <ul style="list-style-type: none"> Land Use Planning Community planners & Engineers Elected & Appointed officials Resource managers <p>Guiding principles:</p> <ul style="list-style-type: none"> Focus on restoring and promoting ecosystem resiliency and community adaptive capacity Target issues at the scale (local, state, national) where implementation is most feasible and will achieve highest impact Pursue no regrets, low hanging fruit policies, policies that achieve both mitigation and adaptation, and policies that achieve multiple benefits Avoid reinventing the wheel – incorporate adaptation efforts into work already being done Focus on more cost-effective, proactive adaptation rather than reactive adaptation. Be careful about linking efforts explicitly to climate. Will linking it advance progress or could it hurt? This will depend on the specific community and audience. Climate change adaptation strategies/BMPs address overarching water resource management issues (are not unique to climate). Climate change risks treated as same in existing set of risks faced by decision makers. <p>Mission—Communities are resilient to changing climate.</p>	<p>1. WORKSHOPS / TRAININGS</p> <ul style="list-style-type: none"> PA – Lake Erie NEMO program (slowed down a lot due to lack of funding) NOAA Great Lakes Collaboration - GLC4 Modules MN – LID/Green Infrastructure workshop (CCCAI Project) IISG/CMAP – water conservation municipal outreach (using tools) ?? - Full cost pricing for water & wastewater presentation/workshops IISG Planning with POWER OH – CCCAI Climate Webinars <p>2. PRESENTATIONS</p> <ul style="list-style-type: none"> IISG – presentation on Green Infrastructure study/practices for stormwater IISG/CMAP – water conservation municipal outreach (using tools) MI – presentation on community planning for climate change in the Great Lakes region for public officials and Sea Grant educators (CCCAI project) MI – Conference on climate change adaptation for communities (CCCAI project) MN – presentation on climate change and water quality/stormwater ?? – Full cost pricing for water & wastewater presentation/workshops <p>3. MANUALS, FACTSHEETS, BROCHURES</p> <ul style="list-style-type: none"> Guidebook to Stormwater BMPs under altered GL climate (also addresses climate change implications for stormwater management) for public officials – MISG (CCCAI project) <p>4. TOOL DEVELOPMENT / INVENTORY / APPLICATION</p> <ul style="list-style-type: none"> Add section on climate adaptation to Clean Marina certification IISG benchmarking for full cost pricing Some model ordinances on GL coastal setbacks published – WI SG through SG Legal Program IISG/CMAP water conservation municipal outreach (using tools) 1A GLOS needs survey and focus groups 1B GLOS LaMP/RAP managers needs survey 1CDEF PA CCCAI workshop planned for Aug/Sept 2010 will include needs assessment 1E Public health needs survey / GLOS needs assessment for public officials 1F MN Grand Marais community readiness project (via OR SG SARP) – address understanding, attitudes and various strategies and barriers 1G GLOS needs assessment for boaters on St Lawrence 1 & 2 SARP 2F (see#1) MN Grand Marais Community Readiness Project 3 & 4 C SARP Port / Harbor infrastructure OH CCCAI Climate needs surveys <p>5. ONLINE RESOURCES</p> <ul style="list-style-type: none"> ?? – Some topics are covered on webinars at coastalclimatewiki.org Other state programs have webinars on climate <p>6. MAPPING ASSISTANCE</p> <ul style="list-style-type: none"> PA- Presque Isle Watershed plan – list completed, now started work on Lake Erie watershed plan MN Lake Superior community resource inventory – online community maps for planning SARP – Toledo, OH and Duluth MN <p>7. PARTICIPATING IN PLANNING</p> <ul style="list-style-type: none"> IL-IN Sea Grant involvement in NIRPC's climate change committee for 2040 regional comp. Plan IL-IN SG involvement in regional water supply plan (CMAP) and water conservation toolbox (NIRPC) IL-IN SG involvement in Chicago wilderness climate change adaptation plan for nature MN NEMO Program WI SG working with WI initiative on climate change impacts (WICCI) to develop adaptation strategies with resource managers WI work with Bayfield on climate change adaptation plan GLOS- Adaptive management needs Assessment Assess Climate Change risks, opportunities, and vulnerabilities How do local officials make decisions? What information do they need and when? Barriers to adaptation of new information? 	<p>1. Expertise/time of:</p> <ul style="list-style-type: none"> Sea Grant educators, specialists, communicators Elected municipal officials (see Participation column) Municipal personnel (see Participation column) Regional planning organizations/agencies/partnerships Sea Grant Legal Program University faculty NGO leaders NOAA employees involved in climate science and adaptation projects NOAA Coastal Training Program & Old Woman Creek NERR <p>2. Money (for training, travel, salary, equipment, conducting state events, etc.)</p> <p>3. Materials/curriculum (references, manuals, project books, etc.)</p> <p>4. Equipment</p> <p>5. Facilities</p>	<p>1. Workshops / Trainings /Webinars</p> <p>2. Presentations /Powerpoints</p> <p>3. Manuals, factsheets, and brochures (E.g., Adapt/disseminate existing NEMO manuals for Great Lakes regional use)</p> <p>4. Tool inventory and development</p> <ul style="list-style-type: none"> Vulnerability assessments Benchmarking tools, audits (e.g. comprehensive plan climate-proofing audit), certification programs (e.g., add climate adaptation chapter to Clean Marina certification) Model ordinances and regulatory language (e.g., coastal setbacks, groundwater areas overlay zones, wetlands protection ordinances) Prepare case studies of communities already preparing for climate change BMP effectiveness comparisons including cost Grant resources for implementing BMPs <p>5. Online Resources – web access to #2-4</p> <p>6. Mapping Assistance (e.g., provide GIS support for vulnerability assessments)</p> <p>7. Participation in community planning by meeting face-to-face meetings, convening groups, and connecting people</p> <p>8. Develop a pre/post checklist of climate adaptation BMPs</p> <p>9. Define what is ment by community (geographic entity, group of people with common interest, oe what ????)</p> <p>ID needs of target population</p> <p>ID need for risk assessment tools</p> <p>Communicate needs to tool developers</p> <p>Coordinate tool development and field testing</p> <p>Market tool/application</p> <p>Train large populations re: tool assessment</p> <p>Assess cost/benefit of strategy</p> <p>Assist target populations in drafting adaptation plans</p>	<p>Municipal* personnel</p> <ul style="list-style-type: none"> Planning and zoning Drain / water resources commissioners Emergency management Water Utilities and Public works: engineers, water treatment, wastewater treatment <p>Elected municipal* officials</p> <ul style="list-style-type: none"> Mayors city/village managers township supervisors city councils planning commissions <p>Citizens</p> <p>Regional planning organizations/agencies/partnerships</p> <p>NGOs (e.g., watershed councils)</p> <p>Consultants (e.g., engineers, planners contracted by municipalities)</p> <p>Professional organizations (e.g., American Planning Association state chapters, American Public Works Association state chapters)</p> <p>*municipal = village, township, city, county</p> <p>Fisheries managers – (Frank)</p> <p>Resource managers – (Leslie) LaMPs/RAPs</p> <p>Port Authorities- (Dale)</p> <p>Coastal managers – (Heather E., Heather S., Rochelle, & Frank)</p> <p>Public Health Officials – (Sonia)</p> <p>Communities (Jesse – SCDD)</p> <p>Recreation/Tourism (Dave White)</p>	<p>By 2013, 25% of communities understand how to assess their vulnerability to climate change.</p> <p>By 2013, 25% of communities will be aware of climate adaptation plan training (100% will have access).</p> <p>By 2013, 25% of community planners/policy makers are aware of BMPs to address vulnerabilities.</p> <p>The outputs developed by the program will ensure that community and infrastructure planners and decision makers...</p> <ul style="list-style-type: none"> Understand climate change implications for their sector (See Climate literacy LM) Understand the range of future climate conditions that should be planned for in their sector (See Climate literacy LM). Know where to access climate change science Understand why communities should prepare for changes now instead of react to them later (pay now vs pay later) Understand the concept of a climate ready community or sector Know where to access information, tools, and trainings for conducting vulnerability assessments Are aware of the steps in conducting a vulnerability assessment as part of a climate preparedness plan. Understand how to define and assess their sector's vulnerability to altered climate scenarios (see Vulnerability LM) Understand links between land use, stormwater runoff, water quality and climate and know watershed management principles Are aware of land use planning BMPs including stormwater ordinances, zoning overlays and development regulations to protect natural resources Are aware of stormwater BMPs including green infrastructure, LID, grey infrastructure retrofits (see Stormwater LM) Are aware of water conservation and wastewater mgmt BMPs including full cost pricing, demand side strategies, 'fit for purpose' strategies , Have access to case studies of communities of different sizes and contexts already assessing vulnerability or already implementing BMPs Know where to find resources necessary for public outreach regarding the need for infrastructure investment based on best science of climate model probabilities and risk factors Recognize investments that increase operational resiliency in a climate change impact context <p>Evaluation Metrics</p> <ul style="list-style-type: none"> Number of attendees to trainings, workshops Number of web hits to online resources Number of downloads of online resources Number of individuals with one-on-one interaction with educators Number of communities represented by the individuals reached in the above bullets <p>By 2012, inform the development of risk/opportunity tools</p> <p>By 2012, coordinate field testing of tools for assessing risks and opportunities</p> <p>CCCAI > results for MN, WI, IL-IN, MI, OH, PA, & NY</p>	<p>By 2015, 20% of communities will conduct vulnerability assessments. See also Climate Resilient Communities logic model.</p> <p>By 2015, 40% of communities receive adaptation plan training allowing them to access and use data and tools for climate adaptation training and response. See also Climate Resilient Communities logic model.</p> <p>By 2015, 15% of communities will develop plans, ordinances, or adopt new ideas or information to address their vulnerabilities, by incorporating climate data climate change scenarios into plans. See also Climate Resilient Communities logic model.</p> <p>The outputs developed by the program will ensure that community and infrastructure planners and decision makers can...</p> <ul style="list-style-type: none"> Assess climate related vulnerabilities Consider climate-related impacts and conditions into their decision-making process. Adopt land use planning BMPs to protect natural resources key for climate change preparedness (e.g., groundwater recharge area overlay zones, wetlands protection ordinances) Adopt land use planning, stormwater management and water conservation BMPs Incorporate predictive GIS models of future climate scenarios to effect change in municipal codes and on-the ground development patterns. Undertake public information campaigns and water conservation events/workshops <p>Evaluation Metrics</p> <ul style="list-style-type: none"> Number of communities that have conducted vulnerability assessments (formally or informally) Number of communities that receive adaptation plan training (through workshops, online modules, one-one-one interaction) Number of communities that have adopted/implemented BMPs <p>Community = municipality, municipal department, utility, organization, etc.</p> <p>By 2013, 30% of target populations use tools / assessments to inform decision making.</p> <p>By 2014, 30% of target populations conduct coat/ benefit analysis of adaptation strategies.</p>	<p>By 2020, 20% of Great Lakes communities will:</p> <ul style="list-style-type: none"> have climate adaptation plans be climate-ready certified (or drought-ready or stormwater ready) (See stormwater LM) <p>To reduce their hazard risk, loss of life and property and recovery time associated with climate change scenarios.</p> <p>Stakeholders are climate literate and able to undertake policy and planning processes addressing adaptation to climate change.</p> <p>Stakeholders will engage in land use planning addressing climate change vulnerability and water resource protection. There is a reduction of nonpoint source pollution such as sediment, pathogens, nutrients, toxic contaminants in Great Lakes Basin watersheds.</p> <p>Stakeholders will incorporate system vulnerability assessments into mid and long range water resource planning.</p> <p>Water and wastewater utilities are climate ready and sustainable, using cost effective operational, water demand management and supply strategies. Water suppliers are engaged with their communities about water conservation; communities use water more efficiently; water resource stewardship in the face of climate change.</p> <ul style="list-style-type: none"> Climate proof land use plans and regulations Develop a climate ready utilities Participate in climate ready certifications Incorporate climate change into existing plans Integrate climate uncertainties into water planning (demand, supply conditions) to address long term water availability <p>Evaluation Metrics</p> <ul style="list-style-type: none"> Number of communities with adaptation plans Number of communities that are certified ready <p>By 2015, 30% of target populations will implement adaptation plans in the Great Lakes utilizing information gained from risk / vulnerability opportunity assessments.</p> <p>By 2015, 10% of target communities will ask for national action on energy policy to reduce carbon emissions.</p> <p>By 2015, 10% of target communities will make low carbon choices more viable and/or attractive.</p> <p>By 2015, 10% of target communities will recognize the dredging issue as a concern and partner with or support the small harbor coalition.</p>

Assessment of stakeholder needs is ongoing and iterative