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Purpose/Utility of Research

Promote Local-Scale Cumulative Risk Assessment (CRA)

1. EPA Regions (EJ, Engagement, Technical and Procedural Assistance)
2. Community Organizations (Data- and Value-Driven Assessments)
3. Evaluate stressors, responsibilities, purview, risk management options
4. Relative ranking of disparate stressors using novel risk assessment + decision analysis method
5. Develop cross-cutting solutions to multiple stressors

Highlights

Succinctly share the key messages relevant to program office and regional partners.

1. CCAT assessments include both data and expert/stakeholder values
2. Relative ranking of stressors is informative for prioritizing solutions
3. CCAT can house model results, citizen science measurements, and adverse outcome pathways to support CRAs
4. This method is generalizable and transferable: applicable to various situations, but tailored to each unique situation
5. CCAT informs decision-making, but it is the users who still have to make the decisions
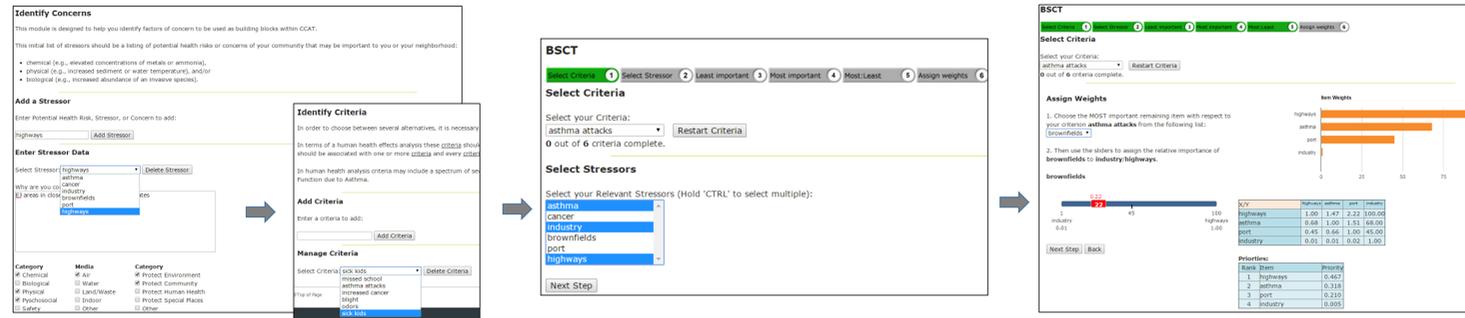
Intended End users

1. EPA Regions
2. Community Organizations
3. Academic Institutions w/Local Ties
4. Systems-Oriented Multi-Stressor Assessors

CCAT provides a novel methodology for ranking disparate stressors based on data and expert/stakeholder values. It also include partnership, scoping, and planning modules. Applications range from local scale initiatives, to Agency or Academic research involving multiple stressors and participants.

Connection to SHC Portfolio

- 2.2.1. Enhancing Community Public Health
- 2.2.3. Securing and Sustaining EJ
- 1.61 Decision Science & Support Tools
- 2.62 Community Public Health and Well-Being
- 4.61 Systems-Based Assessment Methods for Community Sustainability

Application & Translation

How has this work been used (be specific)?

Newport News, VA – engaged CARE community organization, Sierra Club, Region 3, and ORD to identify port, interstate, ship-building, and coal-storage stressors; developing action plan through 2015 for risk reduction strategies

Newark, NJ – collaborate with Region 2, Ironbound Community Corporation, and ORD to develop and include citizen science measurements into assessment of multiple stressors, outcomes, stakeholders, and potential solutions

Chicago, IL – work with Region 5, Univ. of Illinois, and CARE partnership to develop best practices and risk reduction strategies related to EJ and Superfund considerations

Charleston, SC – partnership with Region 4, SC Port Authority, Army Corps of Engineers, and ORD to develop predictive port AQ model and evaluate projections of development

How do you see this research being used by the Agency, scientific community, or community stakeholders inside or outside the Agency?

CCAT is a novel method that combines decision analysis and risk assessment to identify, evaluate, rank, and prioritize stressors and solutions. It can be used as a platform to integrate other models and measurements during a CRA, or to determine research and resource allocations.

Lessons Learned

Developed 10 Critical Steps for Local CRA

1. Define Purpose
2. Define Objectives
3. Engage Partnership
4. Define Roles and Responsibilities
5. Determine Scope
6. Identify Stressors and Assets
7. Rank Stressors
8. Prioritize Solutions
9. Summarize Analysis Plan
10. Evaluate Results of Risk Reduction Actions

Barzyk et al. (in press). Community, State, and Federal Applications to Cumulative Risk Assessment: Challenges and Opportunities for Integration. *IJERPH*.