Statement for the 2018 Arctic Observing Summit

A collaborative, community-based Arctic observing network to address coastal exposure to climate risks in Alaska's North Slope

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Acknowledging that knowledge about cost-effective methods for collaborative decision support research is incomplete (e.g. DeLorme et al. 2016), documenting stakeholder interaction to provide a window into the decision support research process (e.g. Lathrop et al. 2012, 2014, 2017; Stephens et al. 2015; DeLorme et al. 2016; DeLorme et al. 2017) and analyzing the process in terms of likeliness of decision support outcomes (e.g. Ford et al. 2013; Wall et al. 2017) is the state-of-the-art. Applying effective stakeholder interaction design with local Arctic communities including the semi-directive interview (cf. Huntington 1998), Brady's recent doctoral research was an effort to link local communities in Alaska's North Slope to the Arctic observing network (AON) via a coastal exposure to climate risk web map developed in collaboration with the North Slope Borough and its residents (Brady 2018; NSF # 1523191). The research was a "bottom-up," ecosystem services approach to AON design (cf. Eicken et al. 2009, 2016a; ADI 2012) that included community mapping workshops with subsistence hunters and other stakeholders to identify coastal exposure risks using hard copy maps, and a web map usability workshop with North Slope land use managers. Figure 1 below illustrates the sustained collaborative research design to evaluate stakeholder exposure risk priorities and usability perceptions. The dissertation identified links to the AON by comparing the collaborative web map research process and product to AON design approaches (cf. ADI 2012), U.S. federal observing activities (cf. Jeffries et al. 2007), and AON societal benefit areas (cf. IDA 2017). In addition to identifying coastal places needing environmental monitoring to support sustainable subsistence and industrial land uses, the collaborative research process and product have the potential to link local community stakeholders and land use decision makers to the AON via the North Slope Borough's official land use web map. The next step in this sustained collaborative research is to share the current findings with the AON research community to begin to establish the local community-AON link in practice.

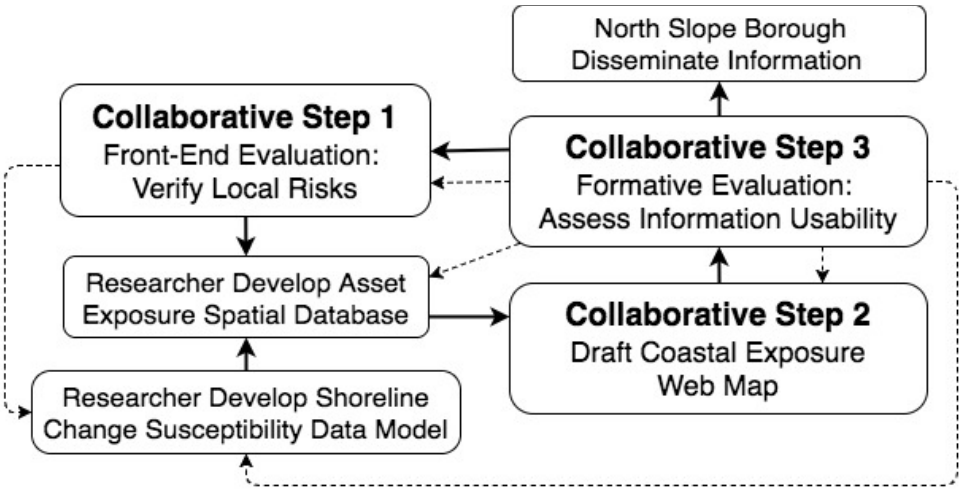

Figure 1. Collaborative Coastal Exposure Web Map Research Process (Brady 2018)
The research design included three collaborative research steps, two non-collaborative research tasks before Step 2, and one North Slope Borough non-collaborative information dissemination task after Step 3.The solid arrows indicate the direction of successive research steps, which are in an infinite loop, and dotted arrows indicate feedback direction from study participants during evaluation steps 1 and 3. Each collaborative step was designed with attention to effective participatory methods. The dissertation analyzed the web map research process and product to identify links to the Arctic observing network.

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