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ANNOTATED BIBLIOGRAPHY SERIES IN SUPPORT OF COASTAL COMMUNITY HAZARD PLANNING—NORTHWEST ALASKA

QUINHAGAK, ALASKA

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This annotated bibliography is part of a series created to facilitate access to documents useful for coastal geohazard evaluation and community planning in Northwest Alaska. Below is a comprehensive list of community-specific information sources, each with full bibliographic information and an informative-style annotation that highlights content pertaining to the community of Quinhagak, Alaska. For a detailed description of the preparation and scope of this resource, please refer to this bibliography series' foreword. Any notable errors and/or omissions may be reported to the Coastal Hazards Program manager at the Alaska Division of Geological & Geophysical Surveys (DGGS).

Alaska Department of Commerce, Community & Economic Development (DCCED), accessed 2011, Division of Community & Regional Affairs (DCRA) Community Profiles [website]: State of Alaska Department of Commerce, Community & Economic Development.

http://www.commerce.state.ak.us/dca/profiles/profile-maps.htm

This website provides access to community profile maps for community-based planning. The maps are available in 24" by 36" and 30" by 42" formats. The Quinhagak maps were created in 2004 and 1991 based on land survey and/or interpretation of aerial imagery. Subsistence hunting grounds, habitat areas, community buildings and public facilities are delineated. Shoreline position and potential erosion zones are included in the map content. All maps have been sponsored by the Alaska Division of Community & Regional Affairs and contracted to local agencies for production.

Alaska Department of Natural Resources Division of Coastal and Ocean Management (DCOM), accessed February 2011, Alaska Coastal Management Program [website]: Alaska Department of Natural Resources Division of Coastal and Ocean Management.

http://alaskacoast.state.ak.us/Explore/Tour.html

This website outlines the Alaska Coastal Management Plans for each coastal district. It provides stewardship plans "to ensure a healthy and vibrant Alaskan coast that efficiently sustains long-term economic and environmental productivity."

Bristol Bay Native Association, *with* U.S. Department of Commerce, Economic Development Administration Indian Planning Grant, June 2003, Bristol Bay, Alaska—Comprehensive economic development strategy: Bristol Bay Native Association, Dillingham, Alaska, 79 p.

This plan represents 32 tribal councils of the Bristol Bay region of Southwest Alaska. The recent downturn of the region's fishing economy is of concern, causing restructuring of the salmon fishery. To be able to compete with farmed salmon industries, Bristol Bay must find ways to improve salmon quality, reduce harvesting costs, and reduce fishing effort.

The region has growing interest by area villagers to diversify into the area's growing tourism industry. There is also mineral potential in the area, with Northern Dynasty conducting economic feasibility studies on the copper deposits. The Southwest Alaska Vocational Technical Center in King Salmon has had an increasing number of villagers training for alternative jobs in the fields of carpentry, plumbing, and welding, and as electricians and operating engineers to land jobs.

Only seven of the 30 communities in the region have community economic development plans, which are prerequisites for most federal grant funding. The region is determined to overcome two economic barriers: To lower the high cost of living, and to reduce the high cost of transporting goods, materials, and people in and out of the region.

Immediate Action Workgroup (IAWG), Michael Black and Patricia Opheen, eds., March 2009, Recommendations to the Governor's Subcabinet on Climate Change: Immediate Action Workgroup, 162 p.

The Immediate Action Workgroup was established to address known threats to Alaskan communities caused by coastal erosion, thawing permafrost, flooding, and fires. This report is a follow-up to the recommendations made in April 2008 (in which Quinhagak was not mentioned), and provides recommendations for actions and policies to be implemented in 2009 and 2010. The community of Quinhagak has been recognized as receiving agency actions from the Division of Emergency Management. Flooding events for Quinhagak are also documented for 1979 and 2005.

Lower Kuskokwim Economic Development Council, June 2006, Lower Kuskokwim Economic Development Council comprehensive economic development strategy and area plan: Lower Kuskokwim Economic Development Council, Bethel, Alaska, 28 p.

This report presents an economic development strategy by the Lower Kuskokwim Economic Development Council (LKEDC). The purpose of this report is to identify a more stable and diversified economy, assist in creating employment opportunities, improve local economic conditions, and act as a catalyst for guiding and coordinating the efforts of individuals and organizations concerned with sustainable economic and natural resource development in the region. The main areas of economic development are the promotion of fisheries resources, tourism, and infrastructure development, job development, and the coordination of LKEDC services to local residents. Specific communication efforts, opportunities, and goals are listed for each subject, including watershed management.

Maynard and Partch, 1984, Capital improvements program briefing paper, Yukon–Kuskokwim needs assessment and regional plan: Alaska Department of Community & Regional Affairs (DCRA), 79 p.

This report identifies the multi-year capital improvement needs for 50 communities in the Yukon–Kuskokwim region. The region was chosen for study because of the rapid change from subsistence to cash-based economy. The capital improvements are summarized in tables for each community and are at a scale that will bring substantial benefits to the region.

Russell Cox, Sally, *of* Alaska Division of Community & Regional Affairs (DCRA), 2011, Alaska climate change impact mitigation program [powerpoint]: Alaska Division of Community & Regional Affairs, Anchorage, Alaska, 28 p.

This is a powerpoint presentation about the Alaska Climate Change Impact Mitigation Program (ACCIMP) presented by Sally Cox, a planner with the Alaska Department of Commerce, Community & Regional Development. Communities that have been identified for community planning grants under this program are Kivalina, Shishmaref, Koyukuk, Unalakleet, Shaktoolik, and Newtok. Communities identified as receiving hazard-impact assessment grants are Atmautluak, Kipnuk, Elim, Nightmute, Nelson Lagoon, and Quinhagak.

Tetra Tech *for* Immediate Action Workgroup: Advisory Group of the Governor's Climate Change Sub-Cabinet, June 2010, Imperiled community water resources analysis: Anchorage, Alaska, Tetra Tech, 47 p.

This report summarizes climate-related threats to water and wastewater infrastructure in Alaskan communities including those at risk from flooding, saltwater intrusion, loss of surface water supply, erosion, and sedimentation of the source region. The primary objectives of the analysis were to:

1. *Identify and select study group communities whose water infrastructure is threatened*
2. *Collect information on the threatened water infrastructure for the study group communities*
3. *Analyze information to determine the climate-related impacts to study group community water infrastructure. (p. 2)*

A general community profile is available in the report that outlines the socioeconomic, geologic, and climatic setting, provides an overview of the existing water resources, and includes a brief history of documented historical impacts to existing water infrastructure in Quinhagak. Quinhagak was identified as one of 25

communities likely to face climate-change-related impacts to their water infrastructure. The local water pump is at risk from river channel migration. The water quality is changing because of the location of the community well infiltration pump. This has caused the need for a more extensive water filtration procedure.

U.S. Army Corps of Engineers, accessed 2011, Civil works floodplain management services [website]: U.S. Army Corps of Engineers, Alaska District.

http://www.poa.usace.army.mil/en/cw/fld_haz/floodplain_index.htm

This website provides flood-hazard data for communities throughout Alaska. A link is provided to a flood hazard-specific bibliography, maintained by the U.S. Army Corps of Engineers. Standard flood data is not available for Quinhagak, but survey information of relative flooding elevations are available as of July 1994.

U.S. Government Accounting Office (GAO), 2003 [2004], Alaska Native villages—Most are affected by flooding and erosion, but few qualify for federal assistance: U.S. General Accounting Office Report GAO-04-142, 82 p.

http://www.gao.gov/products/GAO-04-142

This study was conducted to provide recommendations to Congress that would improve how state and federal agencies respond to flooding and erosion in Alaska. This was done by:

1. *Determining the extent to which these villages were affected.*
2. *Identifying federal and state flooding and erosion programs.*
3. *Determining the current status of efforts to respond to flooding and erosion in nine villages.*
4. *Identifying alternatives that Congress may wish to consider when providing assistance for flooding and erosion (from "Highlights" section).*

The recommendations provide alternatives to current actions taken during flooding and erosion responses by including federal agencies and the Denali Commission. The adoption of policies by the Denali Commission would guide investments in infrastructure for Alaska Native villages affected by flooding and erosion. Quinhagak was recognized as one of the 184 Alaska Native Villages affected by flooding and erosion.

Vaught, Douglas, November 2006, Quinhagak, Alaska—Wind resource report: Eagle River, Alaska, V3 Energy LLC, 22 p.

This report outlines the parameters for wind resources at Quinhagak, Alaska. Data was collected from five sensors, three 40 anemometers, one 200P wind vane, and one 110S Temp C. Data were analyzed from 2005–2006 and interpolated for gaps due to icing of sensors. Winds were determined to be directional from the north and south with lesser south to southeast wind components. The power-producing winds were more strongly oriented southeast and, to a lesser extent, northwest. Quinhagak was determined to be Class 3 category for wind generation, with a Channel 1 average wind speed of 6.41 m/s (at 30 meters).

Wise, James L., Albert L. Comiskey, and Richard Becker, 1981, Storm surge climatology and forecasting in Alaska: Anchorage, Alaska, Arctic Environmental Information and Data Center, University of Alaska, 26 p.

The objective of this study was to improve the quality of life and the security of property in flood-susceptible coastal areas by enhancing the decision-making process for human activities and development. This study compiles historical climate data to develop a surge forecast regression equation.

The offshore shape of the sea floor in the lower Kuskokwim and Bristol Bay area is identified as conducive to the formation and enhancement of storm surges. One storm profile, recorded during 1979, is specific to Quinhagak.

Wise, James L., Lynn D. Leslie, and Joseph C. Labelle; Samuel F. Powel, ed., *for* U.S. Department of Transportation U.S. Coast Guard Office of Engineering and Development, October 1987, An oceanographic and climatological atlas of Bristol Bay: Arctic Environmental Information and Data Center, University of Alaska, Anchorage, Alaska, report no. CG-D-13-88, 185 p.

This report was written in the case of an oil spill in Bristol Bay, Alaska. Detailed sections are included for oceanography, meteorology, climatology, and ice information. The environmental conditions summarized are meant to help on-the-scene emergency coordinators with possible magnitude and direction in which an oil spill would flow, if one were to occur.