

Alaska Mapping Executive Committee

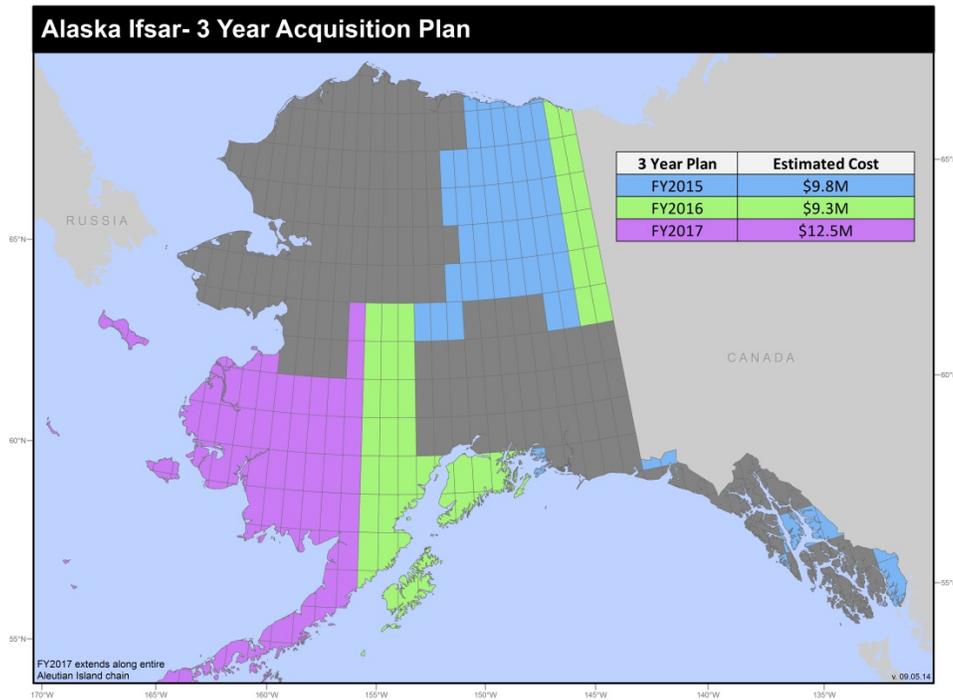
Alaska Mapping Budget Cross-Cut for Completion of IFSAR Elevation Data Acquisition
September 10, 2014

Background

The interagency Alaska Mapping Executive Committee (AMEC), chaired by the Department of the Interior Assistant Secretary for Water and Science, was established to implement and coordinate the Federal role in mapping the State of Alaska. The Committee has defined three priorities for Alaska mapping, and is considering adding an additional two. AMEC priorities are outlined in the APPENDIX. The mutual first priority of AMEC and the State of Alaska's Statewide Digital Mapping Initiative is the completion of statewide high-resolution IFSAR elevation data acquisition. The new 5-meter IFSAR data are 12 times more detailed than the current statewide USGS National Elevation Dataset at a resolution of 60 meters, and are essential to a broad range of mission-critical applications including landscape-level assessments, as documented in the USGS National Enhanced Elevation Assessment. AMEC has focused its efforts on the first priority as a starting point to improve Alaska Mapping. Likewise, this budget cross-cut addresses only the completion of IFSAR elevation acquisition. Funding strategies for the remaining priority layers will be addressed by AMEC subsequently.

To address the first priority for completion of IFSAR elevation data acquisition, the AMEC Technical Subcommittee drafted a new three-year acquisition plan, spanning Fiscal Years 2015 – 2017 to complete the remaining IFSAR collection. This plan was presented to the AMEC at the July 23, 2014, AMEC meeting in Washington, DC, where it was approved. The plan is subject to identification of funding.

AMEC Three-Year Plan Showing Target Funding to Complete Statewide IFSAR Elevation Data Acquisition (corresponds to "Target Funding" on budget cross-cut)



In accordance with GAO Report 13-94 recommendations to OMB and Federal Agencies to make coordination a priority to reduce duplication, AMEC has promoted partnerships among its agencies and the State to leverage funding and accelerate elevation data acquisition. As a result, coverage has improved from about 15% of the State at the inception of AMEC, to approximately 50.6%, including

Fiscal Year 2014 planned acquisition to date. However, at the current pace of funding, data acquisition will not be completed within or even close to the goal of 3 years.

Purpose of Ifsar Elevation Data Budget Cross Cut

The budget cross cut presents three funding scenarios for the remaining years of the ifsar elevation data acquisition plan. The purpose of the cross cut is to assist participating agencies with planning goals and to communicate the interest in and need for the completion of this effort across multiple Federal agencies. The projected budget numbers for each agency do not represent a commitment but rather serve as a tool for planning, coordination and communication. Actual budgets will vary from past averages and plans are subject to change.

Budget Scenarios for Ifsar Elevation Data

- **Planned** – Represents the actual amounts contributed by the agencies since 2010 together with planning numbers reported to AMEC for the remainder of the three-year plan. Given the current budget uncertainties, participating agencies have provided conservative estimates for FY15 – FY17 contributions.
- **Average** – Represents an average annual contribution of each participating agency for the remaining years of the plan, based on contributions made since 2010. This is conceptual and meant to portray what could be done with a “flat” budget given past investment levels, and does not take into account yearly variations. These are not commitments of the agencies, but a picture of the progress that might be made with budgets on par with the previous years.
- **Fully Funded** – Represents contributions that would be required to complete the plan, based on reported requirements of the agencies. This does not take into account the many requirements of other Federal agencies that are not participating. These numbers are not commitments of the agencies but a picture of the full amount needed to reach the AMEC goal within the three-year timeframe.

Benefits to Federal Government of Ifsar Elevation Data

While only a few Federal agencies commonly budget for and acquire geospatial data as part of their missions, many more are users of it. As part of the National Enhanced Elevation Assessment, 14 Federal agencies reported elevation data requirements in Alaska. The majority of their business uses have a requirement for ifsar data for the entire State. Several of these agencies participate in AMEC but are unable to contribute funding.

Business Uses for IFSAR Elevation Data Reported in the National Enhanced Elevation Assessment

Dept	Agency	Business Use	Functional Activity Reported
DHS	FEMA	Flood Risk Management	Flood Risk Analysis
DOC	NOAA	Flood Risk Management	Advanced Hydrologic Prediction Service Inundation Mapping
DOI	BLM	Natural Resources Conservation	Multi-Use Land Management in Alaska
	FWS	Wildlife and Habitat Management	National Wildlife Refuge System, Endangered Species, Fisheries and Habitat Conservation, Migratory Birds
	NPS	Natural Resources Conservation	Preservation and Protection of Natural and Cultural Resources
	USGS	Geologic Resources Assessment and Hazard Mitigation	Geologic Mapping
DOT	FAA	Aviation Navigation and Safety	Enroute Instrument Procedure Development
EPA	EPA	Natural Resources Conservation	Environmental Protection, Land Cover Characterization, and Runoff Modeling
		Water Supply and Quality	Broad Area Air and Water Quality Research
FCC	FCC	Telecommunications	Spectrum Management and Frequency Coordination
FERC	FERC	Homeland Security, Law Enforcement and Disaster Response	Flood Risk Mapping for Hydroelectric Dam Break Failures and Analysis
		Oil and Gas Resources	Pipeline Routing and Facility Siting
HHS	CDC	Health and Human Services	Human, Animal, and Environmental Health
NASA	NASA	Education K-12 and Beyond	Advanced Earth Science Mission Support
USDA	NRCS	Natural Resources Conservation	Conservation Engineering and Practices NRCS Specialized Mapping Applications
	USFS	Forest Resources Management	Forest Inventory and Assessment
		Infrastructure and Construction Management	Infrastructure Management
		Natural Resources Conservation	Wetlands Mapping and Characterization, Soils and Geology Inventory
		River and Stream Resource Management	Watershed Analysis
Wildfire Management, Planning and Response	Wildfire Management		

AMEC Budget Cross-Cut with 3 Funding Scenarios for Completion of Ifsar Elevation Data Acquisition for Alaska

		Previous Contributions						AMEC 3-YEAR PLAN			
		FY10 Actual	FY11 Actual	FY12 Actual	FY13 Actual	FY14 Actual	3 Budget Scenarios for outyears	FY15	FY16	FY17	Total FY10-FY17
							Target Funding	\$9,800,000	\$9,300,000	\$12,500,000	\$62,027,047
Agency Contributions and plans	BLM	\$216,230	\$20,000	\$0	\$141,139	\$262,000	Planned	\$150,000	\$0	\$0	\$789,369
							Average	\$127,874	\$127,874	\$127,874	\$1,022,990
							Fully Funded	\$792,661	\$1,262,000	\$2,148,528	\$4,842,558
	FWS	\$0	\$250,000	\$300,000	\$0	\$0	Planned	\$0	\$0	\$0	\$550,000
							Average	\$110,000	\$110,000	\$110,000	\$880,000
							Fully Funded	\$792,656	\$1,261,992	\$2,148,516	\$4,753,165
	NPS	\$98,091	\$147,143	\$178,533	\$30,000	\$0	Planned	\$0	\$0	\$0	\$453,767
							Average	\$90,753	\$90,753	\$90,753	\$726,027
							Fully Funded	\$135,477	\$215,694	\$367,214	\$1,172,151
	NRCS	\$98,090	\$227,287	\$728,095	\$450,000	\$450,000	Planned	\$650,000	\$650,000	\$650,000	\$3,903,472
							Average	\$390,694	\$390,694	\$390,694	\$3,125,555
							Fully Funded	\$792,661	\$1,262,000	\$2,148,528	\$6,156,661
	USFS	\$0	\$0	\$354,310	\$50,000	\$547,292	Planned	\$300,000	\$0	\$0	\$1,251,602
							Average	\$190,320	\$190,320	\$190,320	\$1,522,563
							Fully Funded	\$526,545	\$838,315	\$1,427,213	\$3,743,674
	USGS	\$999,995	\$870,276	\$3,066,402	\$3,608,512	\$2,893,166	Planned	\$2,764,000	\$2,764,000	\$2,764,000	\$19,730,351
							Average	\$2,287,670	\$2,287,670	\$2,287,670	\$18,301,362
							Fully Funded	\$2,760,000	\$2,760,000	\$2,760,000	\$19,718,351
	NGA	\$2,399,895	\$0	\$0	\$0	\$0	Planned	\$500,000	\$500,000	\$500,000	\$3,899,895
							Average	\$479,979	\$479,979	\$479,979	\$3,839,832
							Fully Funded	\$0	\$0	\$0	\$2,399,895
	ALASKA	\$1,874,918	\$0	\$4,998,388	\$2,550,000	\$2,617,285	Planned	\$4,000,000	\$1,700,000	\$1,500,000	\$19,240,591
	Annual Total	\$5,687,219	\$1,514,706	\$9,625,728	\$6,829,651	\$6,769,743	Planned	\$8,364,000	\$5,614,000	\$5,414,000	\$49,819,047
							Average	\$7,677,291	\$5,377,291	\$5,177,291	\$48,658,921
Fully Funded							\$9,800,000	\$9,300,000	\$12,500,000	\$62,027,047	
GAP = Shortfall of Target Funding							Planned	\$1,436,000	\$3,686,000	\$7,086,000	\$12,208,000
							Average	\$2,122,709	\$3,922,709	\$7,322,709	\$13,368,126

APPENDIX

AMEC Priorities

The full set of AMEC priorities includes the following: (note that the budget cross-cut addresses only priority #1 to complete statewide ifsar elevation data acquisition)

Priority #	Description	Goal	Funding Gap
1	Ifsar Elevation Data	Statewide coverage	\$12.2M
2	National Hydrography Dataset and Watershed Boundaries Dataset	Statewide, full revision	\$24M
3	Transportation	Statewide public data	\$1.2M
TBD	GRAV-D	TBD	\$4.6M
TBD	Coastal Mapping	TBD	\$10M

National Hydrography Dataset (NHD) and Watershed Boundaries Dataset (WBD) – The NHD is the surface water component of the USGS *National Map* and the primary repository for hydrography data in the United States. The WBD defines the areal extent of surface water drainage to a point based on hydrologic principles, accounting for all land and surface areas. The USGS and partners including the National Park Service, the U.S. Forest Service and the Alaska Department of Natural Resources, are currently collaborating to improve major errors in these datasets. However, full revision, estimated at \$20M for NHD, and \$4M for WBD, is needed to better enable mission critical applications of the AMEC member agencies and the broader community, including resources management, water quality and quantity management, pollution reporting and control, emergency operations, and others.

Transportation – Research and planning are ongoing with the Alaska Department of Transportation and the U.S. Census Bureau as the lead agencies, to produce and maintain a publicly available dataset, estimated at \$1.2M for completion. The data are useful to a variety of applications, including planning, routing, and navigation.

NOAA GRAV-D and Coastal Mapping – AMEC is currently considering the addition of these layers to the Committee priorities. GRAV-D data will be used to create an improved geoid for Alaska, greatly increasing the accuracy of geospatial data in the State, including the ifsar elevation data, NHD and all others. The Coastal Mapping effort will update coastlines for a variety of products and applications.

