

Agency: Department of Natural Resources**Project Title:****Project Type:** Information Systems and Technology

Alaska Aviation Safety Project Aeronautical Mapping

State Funding Requested: \$2,000,000**House District:** Statewide (1-40)

Future Funding May Be Requested

Brief Project Description:

Continued development of mapping and simulation products designed to improve the safety of industry operations.

Funding Plan:

Total Project Cost:	\$6,500,000
Funding Already Secured:	(\$2,000,000)
FY2015 State Funding Request:	<u>(\$2,000,000)</u>
Project Deficit:	\$2,500,000

Funding Details:

FY2014: \$1,000,000 GF FY2013: \$1,000,000 GF. FY2012: \$1,000,000 (GF); FY2011 \$750,000 (GF) FAA \$650,000; FY2010 \$400,000 (GF) NIOSH \$49,000, FAA \$175,000. Prior funding received when this project was under DMVA management includes \$300,000 of in-kind assistance from NASA plus the following capital funds: FY2008 - \$500,000 (GF); FY2007 - \$500,000 (GF); FY2006 \$500,000 (GF) & \$1,500,000 (NASA); FY2005 - \$2,980,000 (NASA); FY2004 - \$3,000,000 (NASA); FY2001 - \$300,000 (NASA).

Detailed Project Description and Justification:

The aeronautical mapping part of Alaska Aviation Safety Project (AASP) is an on-going project in collaboration with the Federal Aviation Administration (FAA); National Institute of Occupational Safety & Health (NIOSH); National Aeronautics & Space Administration (NASA); and National Oceanic and Atmospheric Administration (NOAA). The purpose of this project is to save and preserve human life. Additional stakeholders include the tourism and aviation industries as well as the traveling public.

According to the National Institute of Occupational Safety & Health (NIOSH) there were 1,319 commuter and air taxi crashes (statistics exclude General Aviation) between 1990--2004 in the US of which 351 (27%) were fatal, resulting in 1,027 deaths. In contrast Alaska accounted for 473 (36%) of the total US air crashes resulting in 211 deaths (21% of all US deaths). Based upon statistics provided by NIOSH, commercial pilots in Alaska experience greater than four times the risk of fatality while working over a 30-year career than do their counterparts working in the Lower 48 over the same career span.

NTSB statistics reveal there were more than 1,186 aviation accidents in Alaska between the years 2000 and 2009. Of those accidents, 107 were deadly causing 236 human fatalities. On average 24 people a year lost their lives to fatal air crashes in Alaska during this time period. In other words, over the past 10 years from 2000 to 2009, on average one person has been killed in an aviation related accident every two weeks. This is unacceptable, and in the grim statistics of the value of human life lost, this represents \$472M in damages due to lost life and indirect effects upon family and society according to the FAA. In 2010 there were 10 fatal aircraft accidents accounting for 18 fatalities.

Some of the issues affecting these high rates of aviation fatalities are:

- Extreme terrain and weather;
- Continuation of flights into poor visibility, causing a loss of situational awareness whereby a perfectly functional airframe is flown into terrain (Controlled Flight Into Terrain [CFIT]);
- A data disparity that exists between Alaska and the continental US (CONUS) which inhibits technological parity with the CONUS that could prevent CFIT from occurring in Alaska (accurate elevation/terrain data);
- Inexperienced pilots unfamiliar with Alaska flying;
- Pilot turn-over, and
- The old culture of bush flying (always get through).

Continued development of aeronautical map products for Alaska's primary routes is essential to the continued improvements in safe operations within the state. \$1.5 million of this request will be for the mapping component of this project.

Additionally \$500,000 will go to fund the states portion of Traffic & Atmospheric Information for General Aviation (TAIGA): In November 2010 the State of Alaska and NASA Ames Research Center entered into a collaborative umbrella space act agreement in accordance with the Space Act of 1958. The aeronautics annex of that agreement resides in DOT/PF-Aviation Division and has a nexus with the Alaska Aviation Safety Project.

A meeting of aeronautical stakeholders was hosted by the State of Alaska and NASA in February of 2011; Alaska was recognized as having many attributes conducive to NextGen research and development. NextGen refers to the Next Generation Air Transportation System (NGATS) envisioned in the national air space. The NGATS vision calls for a system-wide transformation leading to a new set of capabilities that will allow the system to respond to future needs of the Nation's air transportation. Existing system capacity and infrastructure will not accommodate anticipated growth in air transportation. Additionally, NGATS strives to improve efficiency and safety.

Traffic and Atmospheric Information for General Aviation (TAIGA) is a project identified as having regional and national ramifications with regard to the development and deployment of NextGen. While TAIGA references General Aviation (GA) its usefulness extends to parts and parties beyond GA. Taiga is also a northern biome found in Alaska.

The TAIGA system will collect, disseminate and display integrated weather, air traffic, prior wreckage, and terrain data utilizing Commercially Available Off the Shelf (COTS) devices that are affordable and can be utilized beyond the cockpit. Development of TAIGA is a State collaboration with NASA. NASA used prior AASP research to continue development of TAIGA and is now looking to the State of Alaska to complete the next phase, which will bring the project to the point where it can be deployed.

Project Timeline:

This phase of the project will continue acquisition and processing of data for the west/central part of the state where the intense aviation support of the Iditarod race occurs. Data acquired and processed in this phase will be available in the 2015-2016 timeframe.

Entity Responsible for the Ongoing Operation and Maintenance of this Project:

NA

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Has this project been through a public review process at the local level and is it a community priority? Yes No