AMERICA BRIDGE PROJECT
Real-World, Project-Based STEM Programs for Alaska Schools

Turning Real-time Professional Activities into Engaging Learning Experiences

The Association of Alaska School Boards' Consortium for Digital Learning has partnered with Trillium Learning through the America Bridge Project to offer innovative learning opportunities for Alaska schools. America Bridge projects integrate multiple disciplines and are designed to develop real-world workforce readiness skills throughout grades K-12. Student teams interact with high level professionals from more than 20 private, governmental and educational organizations worldwide to conduct joint, collaborative research activities through project-based learning. Using state-of-the-art equipment and software, students collect and help analyze data that is evaluated and utilized by partnership mentors. Each project is designed to incorporate real-time, real-world dynamic content into the curriculum, for synchronous and asynchronous blended learning delivery.

Dynamic Collaboration with Professionals

These are some of the projects currently underway with active partner organizations and mentors that are now available to Alaska schools:

Aviation Safety
Using flight simulations, students assist NASA engineers in co-development and quality testing of new aviation safety software to aid Alaska pilots.
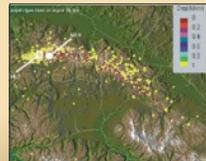
GIS - Aerial Mapping with the UAV
Students use Unmanned Aerial Vehicles to collect geographic information system data for digital mapping, trends analysis, and documenting changes.
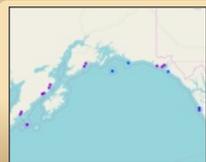
Kodiak Launch Complex
With NASA's World Wind Satellite Tracking and Ground Station Tools, students track satellites and perform mission operations simulations.

Earthquake Forecasting
Utilizing multifunction sensor arrays, students will collect and analyze data used for research by the new Global Earthquake Forecasting System.

Tsunami Marine Debris Monitoring
Students will use NOAA computer models and UAVs to determine debris location, accumulation and effects, then help plan for its removal.

Whale Tracking: Behavior and Ecology
While developing strategies to reduce whale contact with fisheries, students will track tagged whales using NASA's World Wind 3D geospatial platform..

How Your School District Can Participate

Blended professional development (face-to-face and online) is built into each project to support the teaching staff and to ensure positive student outcomes.

Option 1: Real-time Project Design and Train the Trainer
This professional development experience prepares teachers to train others on how to build an online Geographic Information System (GIS) course. Offered as beginning, intermediate and advanced levels of instruction, with intermediate and advanced level participants able to access NASA's World Wind 3D online geospatial mapping tools.

Option 2: Project Development and Implementation
Foundational elements of GIS and NASA World Wind geospatial mapping tools are explored in greater depth in relation to selected projects. Student project participants build foundational career skills that help to support employment goals.

Option 3: Creating Functional Real-time Data Sets
GIS-related programming teaches students how to use collected data to create 3D geospatial map layers. The combination of GIS and computer programming knowledge is a highly marketable skill set in many emerging STEM-related fields.

Project Pricing
Foundational package price range is $15-30,000 per project or school annually, plus equipment and travel for in-person workshops, dependent on project complexity. Each project is tailored to support local requirements. Actual costs are determined by the number of participating schools and the level of professional development delivered. A Project Manager will act as liaison to partner organization project mentors, deliver teacher professional development, and provide ongoing in-person and online project support. Assistance will also be provided to determine best technologies needed for each project. Equipment options may include UAVs, sensor arrays, probes, NASA research software, mobile computing devices, etc.

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