

MAINE GEOLIBRARY ORTHOIMAGERY PROGRAM



Maine's Aerial Photography Program Yields 4-12x Return on Investment

Produced for the Maine GeoLibrary Board by Applied Geographics, Inc., (AppGeo) with Sebago Technics

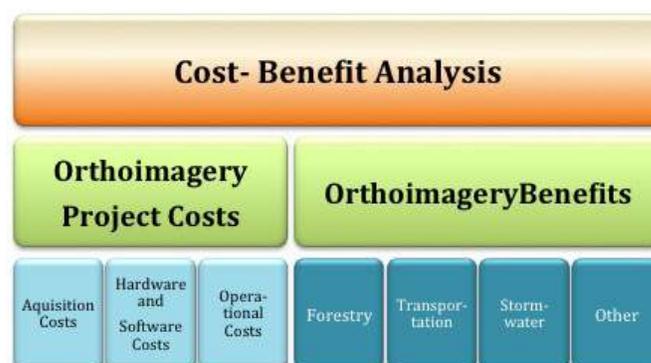
Orthoimagery is geometrically corrected aerial imagery that provides a comprehensive view of the earth's landscape and features. The business case for investing in a recurring statewide orthoimagery program for the State of Maine is clear:

- The economies of scale of a statewide program dramatically reduce the cost per participating organization in both the short and long term
- Collaboration between organizations provides orthoimagery at a lower cost, higher resolution, and on a better schedule – all of which improves the availability and usefulness of the data
- There is no suitable substitute for meeting the State's business and operational needs – commercial websites popular with citizens, such as Google Earth and Microsoft Bing, depend largely on publicly funded imagery as a resource

Based on a conservative analysis of just 3 of 13 sectors using aerial imagery, this investment still showed a return of over 400%.

A study was undertaken to quantify the benefits of the statewide orthoimagery program. The study identified thirteen statewide examples of how orthoimagery can be beneficial, but narrowed its scope to an in-depth treatment of only three use cases of statewide importance: Forestry; Stormwater; and Transportation.

The results, based only on these three use cases, make an economically compelling case for investment with net benefits totaling \$10 million on the low-end, to \$30 million on the high-end. This range compares very favorably to the expected costs for the corresponding five-year time period of \$2.4 million. **The resulting return on investment (ROI) is projected to be 421% to 1264% based on this range, which would exceed the returns on many other alternative financial investments.** If all thirteen use cases were similarly analyzed, it is safe to say that the total ROI would be substantially higher.



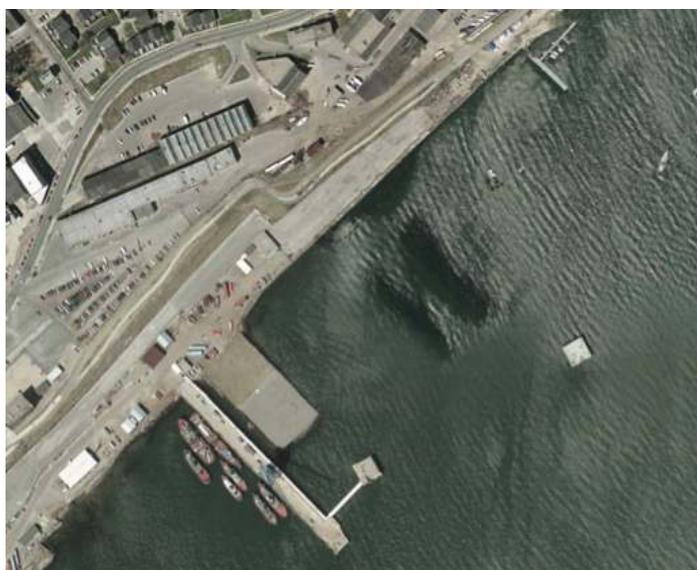
Conceptual diagram of Cost-Benefit Analysis components.

This analysis presents a strong case for the public sector investing in the statewide orthoimagery program proposed by the Maine GeoLibrary Board.

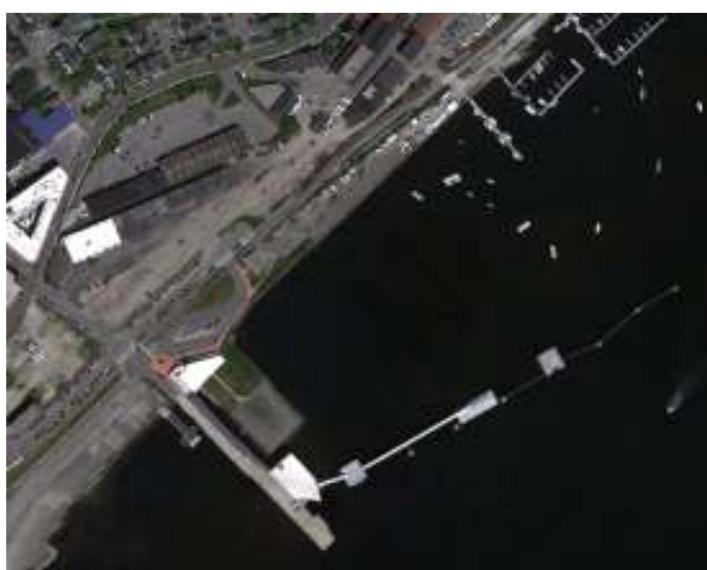
Cost-Benefit Analysis - "Low"	Year 1	Year 2	Year 3	Year 4	Year 5	TOTAL
Benefits "Low"	\$2,623,006	\$2,537,954	\$2,557,039	\$2,713,850	\$2,480,814	\$12,912,664
Costs	\$475,852	\$593,802	\$690,670	\$315,993	\$335,249	\$2,411,566
NET PRESENT VALUE	\$2,147,154	\$1,944,152	\$1,866,369	\$2,397,857	\$2,145,566	\$10,501,098
Return on Investment (ROI) "Low"	4.35 If this result is greater than "0" it is favorable for investment					

Cost-Benefit Analysis - "High"	Year 1	Year 2	Year 3	Year 4	Year 5	TOTAL
Benefits "High"	\$6,766,742	\$6,627,392	\$6,645,268	\$6,869,290	\$6,508,588	\$33,417,767
Costs	\$475,852	\$593,802	\$690,670	\$315,993	\$335,249	\$2,411,566
NET PRESENT VALUE	\$6,290,889	\$6,034,078	\$5,954,598	\$6,553,297	\$6,173,339	\$31,006,201
Return on Investment (ROI) "High"	12.86 If this result is greater than "0" it is favorable for investment					

The resulting return on investment (ROI) is projected to be 421% to 1264% based on this range, which would exceed the returns on many other alternative financial investments.



2003: Portland Seaport



2012: Portland Seaport Improvements

Importance of current aerial imagery as source for land use change detection.



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