

# GIS Tools for Assessing Scenic Values in the Coast of Maine

J. Kuester and M. Begley

## Introduction:

This is a project to assess the scenic value of locations in coastal Washington and Hancock Counties in Maine. Our task here was to construct GIS models that could be used to predict the areas that may be of the most scenic interest. Our models are made to be used with the criteria laid out for scenic assessment in Terrence DeWan's Scenic Assessment Handbook (DeWan, 2008). The project is being headed by the Washington County Council of Government and the Hancock County Planning Commission with support from the Maine State Planning Office Coastal Program.

## Methods/ Results:

This model acts as a way to predict what aesthetically pleasing water characteristics may be located within the sample area of coastal Washington and Hancock Counties. Using ArcGIS Model Builder, a model was constructed using hydrologic feature layers and wetlands layers obtained from the Maine Office of GIS database. This model assigns specific values to areas that exhibit what are deemed under the methodology to be pleasing characteristics. Points are assigned for water bodies of different sizes, whether they are associated with a scenic wetland, or if there is an island or islands within view. The model then adds these values together and displays them in a way that makes it easy to see what areas may be of interest to our scenic assessment. See Figure 1.

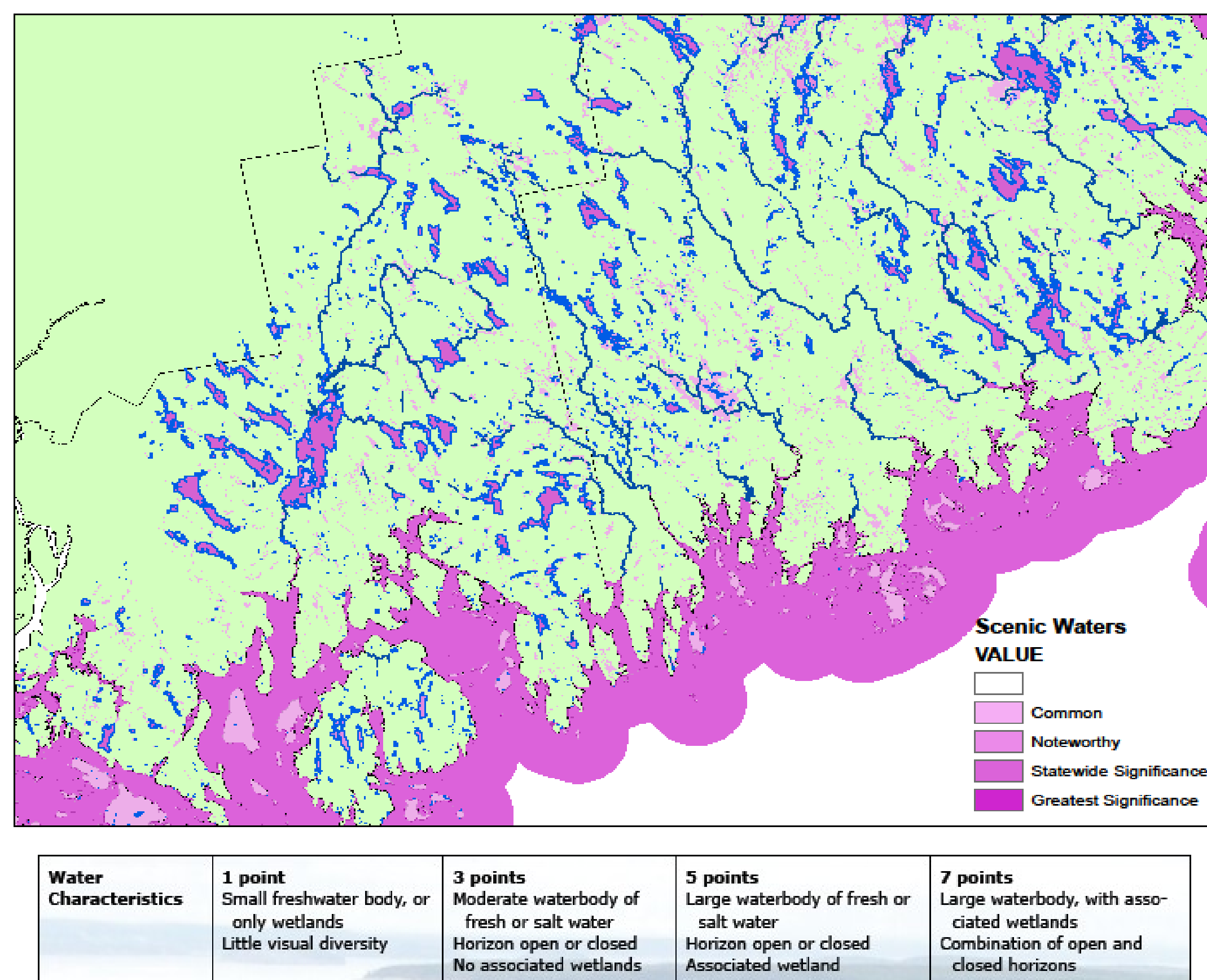
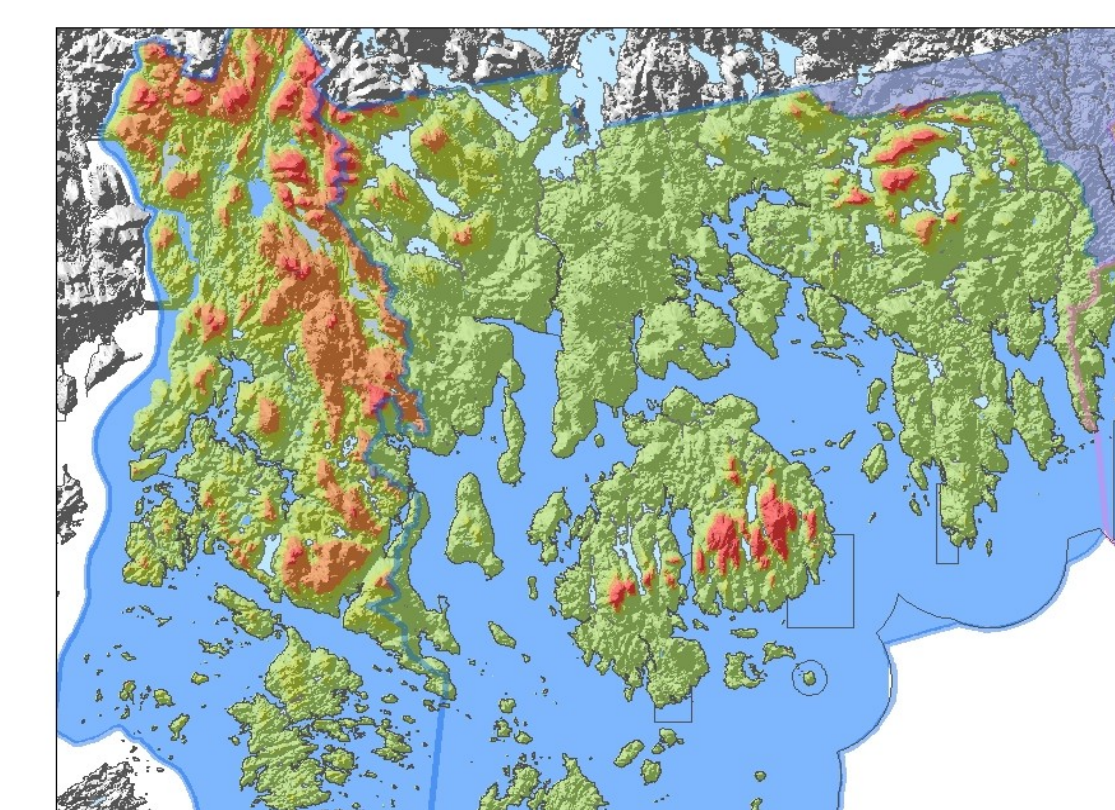
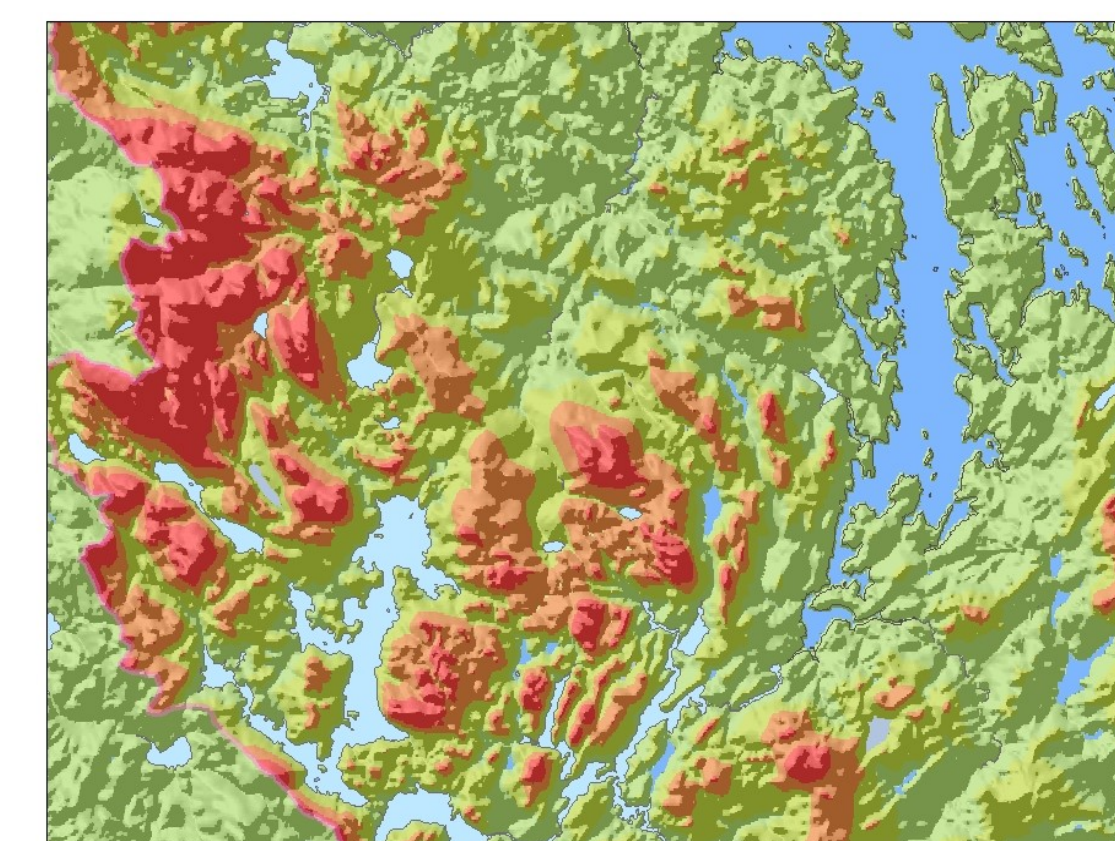


Figure 1. Map of water characteristics values and table of criteria (DeWan, 2008).



	ELEVATION	SLOPE	OPEN LAND
INDENTED SHORELINE	100'-200'	1 pt.	25-50 ac / filtered view
	200'-400'	3 pts.	>50 ac / filtered view
	>400'	6 pts.	25-50 ac / unobstructed
ISLAND-BAY COAST	300'-450'	1 pt.	50-100 ac / filtered view
	450'-600'	3 pts.	>100 ac / filtered view
	>600'	6 pts.	50-100 ac / unobstructed
CLIFFED COAST	100'-150'	1 pt.	50-100 ac / filtered view
	150'-200'	3 pts.	>100 ac / filtered view
	>200'	6 pts.	50-100 ac / unobstructed

Figure 2 (DeWan, 2008)

## Conclusion:

The output generated by the models rating water characteristics and physiography will aid our clients in determining what areas are valuable under the on-going scenic assessment of coastal Washington and Hancock County. This study is meant to be one part of a larger GIS assessment, and then field observations will ground truth and check the validity of the models. The models may be further refined with additional consultation with clients and community members about criteria for scenic value.

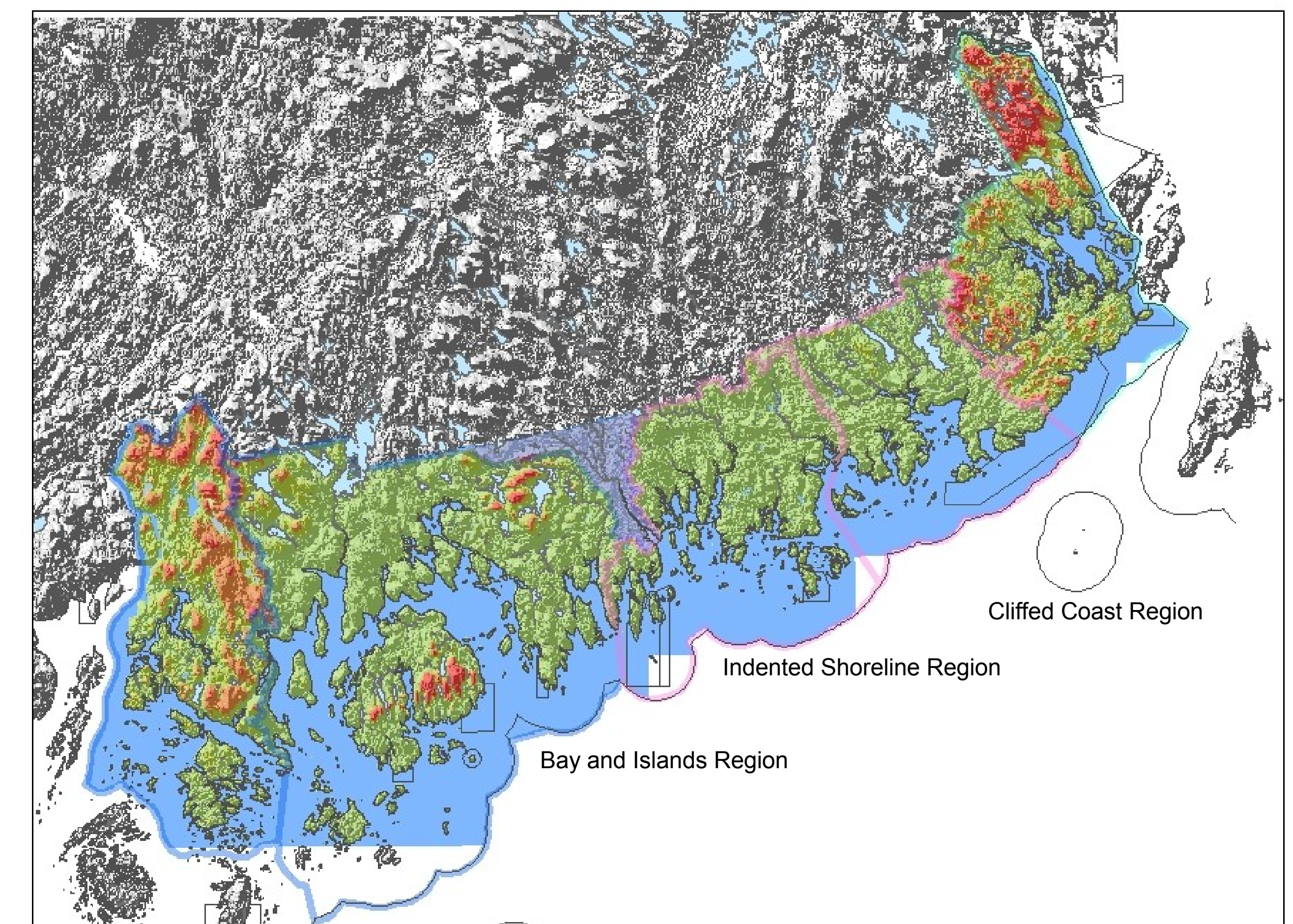


Figure 4. This map shows scenic values assigned based upon slope and elevation as specified by the Scenic Assessment Handbook (DeWan, 2008) and modified by clients. Maps at center offer a closer view.

**Elevation and Slope Model:** For the scenic assessment, our clients wanted to know where the most scenically valuable sites were based on the methodology defined in the Scenic Assessment Handbook by Terrence J. DeWan (2008) regarding elevation and slope. A rating scale was used to assess elevations and slopes, as outlined in the handbook, as modified by our client. Each county was sectioned off according to the parameters of the handbook into three main categories: indented shoreline, island-bay coast, and cliffed coast. The model reclassified a digital elevation model according to the ranking system for each category. The slope and elevation scores for each category were then added together to produce a grid showing ratings for the entire study area.

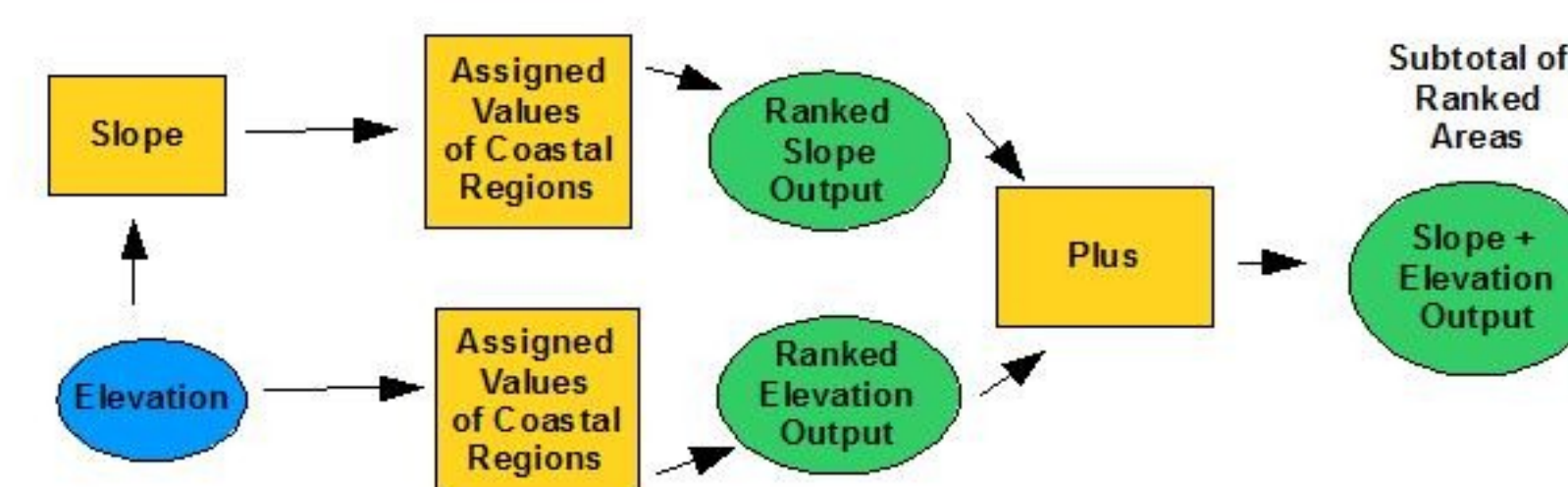


Figure 3. Simplified diagram of slope and elevation values model made with Model Builder, ArcGIS 9.3

## References

- DeWan, Terrence J. Scenic Assessment Handbook. Land Use Planning Program. Oct. 2008. State Planning Office Maine Coastal Program <[http://www.maine.gov/spo/coastal/docs/scenic\\_assessment/ScenicAssessmentRpt\\_LowRes.pdf](http://www.maine.gov/spo/coastal/docs/scenic_assessment/ScenicAssessmentRpt_LowRes.pdf)>.
- [http://upload.wikimedia.org/wikipedia/commons/2/25/Jordan\\_Pond\\_Acadia\\_National\\_Park\\_Maine\\_USA.jpg](http://upload.wikimedia.org/wikipedia/commons/2/25/Jordan_Pond_Acadia_National_Park_Maine_USA.jpg)
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- <http://www.lubecvacation.com/graphics/seaview2.jpg>