

Appendix C

ELEVATION UNCERTAINTY

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C-1. Low and High Estimates of the Area of Land Close to Sea Level: Washington, D.C.¹ (square kilometers)

		Meters above Spring High Water																			
		low	high	low	high	low	high	low	high	low	high	low	high	low	high	low	high				
		0.5		1.0		1.5		2.0		2.5		3.0		3.5		4.0		4.5		5.0	
		-----Cumulative (total) amount of Dry Land below a given elevation-----																			
Washington, D.C.	0.0	1.6	3.0	2.8	4.4	4.1	5.8	5.5	7.4	7.0	9.3	8.9	11	11	13	13	15	14	16	16	18
Wetlands	Tidal	-----Cumulative (total) amount of Nontidal Wetlands below a given elevation-----																			
Washington, D.C.	0.5	0.03	0.05	0.05	0.07	0.07	0.1	0.09	0.12	0.12	0.14	0.13	0.16	0.15	0.19	0.18	0.24	0.2	0.3	0.28	0.32
		Cumulative (total) amount of land below a given elevation																			
Dry Land		2	3	3	4	4	6	5	7	7	9	9	11	11	13	13	15	14	16	16	18
Nontidal Wetlands		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
All Land	0	2	3	3	5	5	6	6	8	8	10	9	12	11	14	13	15	15	17	17	19

1. Low and high are an uncertainty range based on the contour interval and/or stated root mean square error (RMSE) of the input elevation data. Calculations assume that half of the RMSE is random error and half is systematic error. For a discussion of these calculations, see Annex 3 of this report.

SOURCE: "District of Columbia" by J.G. Titus. See report at <http://risingsesa.net/ERL/DC.html>

C-2. Likelihood of Shore Protection in Washington, D.C., High and Low Estimates of the Land within One Meter above Spring High Water¹
(square kilometers)

	Likelihood of Shore Protection				Nontidal Wetlands	Total ²
	Certain	Likely	Unlikely	No Protection		
	low high	low high	low high	low high	low high	low high
Washington, D.C.	2.3 3.6	0.1 0.2	0.4 0.5	0 0	0.05 0.07	2.9 4.5

1. Low and high are an uncertainty range based on the contour interval and/or stated root mean square error (RMSE) of the input elevation data. Calculations assume that half of the RMSE is random error and half is systematic error. For a discussion of these calculations, see Annex 3 of this report.

2. Total includes the five categories listed as well as a small amount of low land the authors did not analyze.

C-3. Likelihood of Shore Protection in Washington, D.C., High and Low Estimates of the Land within Two Meters above Spring High Water¹

(square kilometers)

	Likelihood of Shore Protection											
	Certain		Likely		Unlikely		No Protection		Nontidal Wetlands	Total ²		
	low	high	low	high	low	high	low	high	low	high		
Washington, D.C.	4.6	6.4	0.2	0.3	0.6	0.7	0	0	0.09	0.12	5.6	7.6

1. Low and high are an uncertainty range based on the contour interval and/or stated root mean square error (RMSE) of the input elevation data. Calculations assume that half of the RMSE is random error and half is systematic error. For a discussion of these calculations, see Annex 3 of this report.

2. Total includes the five categories listed as well as a small amount of low land the authors did not analyze.

C-4. Area of Land by Elevation by Shore Protection Likelihood, High and Low Estimates: Washington, D.C.¹

Elevation relative to Spring High Water (m)	Area (square kilometers)															
	Dry land: likelihood of shore protection								Dry Land	Non Tidal Wetlands	All Land					
	Shore Protection Certain		Shore Protection Likely		Shore Protection Unlikely		No Shore Protection					Not Considered				
	low	high	low	high	low	high	low	high	low	high	low	high	low	high		
0.5	1.3	2.4	0.07	0.14	0.3	0.4	0	0	<0.01	<0.01	1.6	3.0	0.03	0.05	1.7	3.0
1.0	2.3	3.6	0.1	0.2	0.4	0.5	0	0	<0.01	<0.01	2.8	4.4	0.0	0.1	2.9	4.4
1.5	3.4	4.9	0.2	0.3	0.5	0.6	0	0	<0.01	<0.01	4.1	5.8	0.07	0.10	4.1	5.9
2.0	4.6	6.4	0.2	0.3	0.6	0.7	0	0	<0.01	<0.01	5.5	7.4	0.09	0.12	5.6	7.6
2.5	6.0	8.0	0.3	0.4	0.7	0.9	0	0	<0.01	<0.01	7.0	9.3	0.12	0.14	7.2	9.4
3.0	7.6	9.7	0.4	0.5	0.8	0.9	0	0	<0.01	<0.01	8.9	11	0.1	0.2	9.0	11
3.5	9.3	11	0.5	0.6	0.9	1.0	0	0	<0.01	<0.01	11	13	0.15	0.19	11	13
4.0	11	13	0.5	0.6	1.0	1.1	0	0	<0.01	<0.01	13	15	0.18	0.24	13	15
4.5	13	14	0.6	0.7	1.1	1.2	0	0	<0.01	<0.01	14	16	0.2	0.3	14	17
5.0	14	16	0.7	0.8	1.2	1.3	0	0	<0.01	<0.01	16	18	0.28	0.32	16	18

1. Low and high are an uncertainty range based on the contour interval and/or stated root mean square error (RMSE) of the input elevation data. Calculations assume that half of the RMSE is random error and half is systematic error. For a discussion of these calculations, see Annex 3 of this report.