The Prevalence and Significance of Offset Magma Reservoirs at Arc Volcanoes

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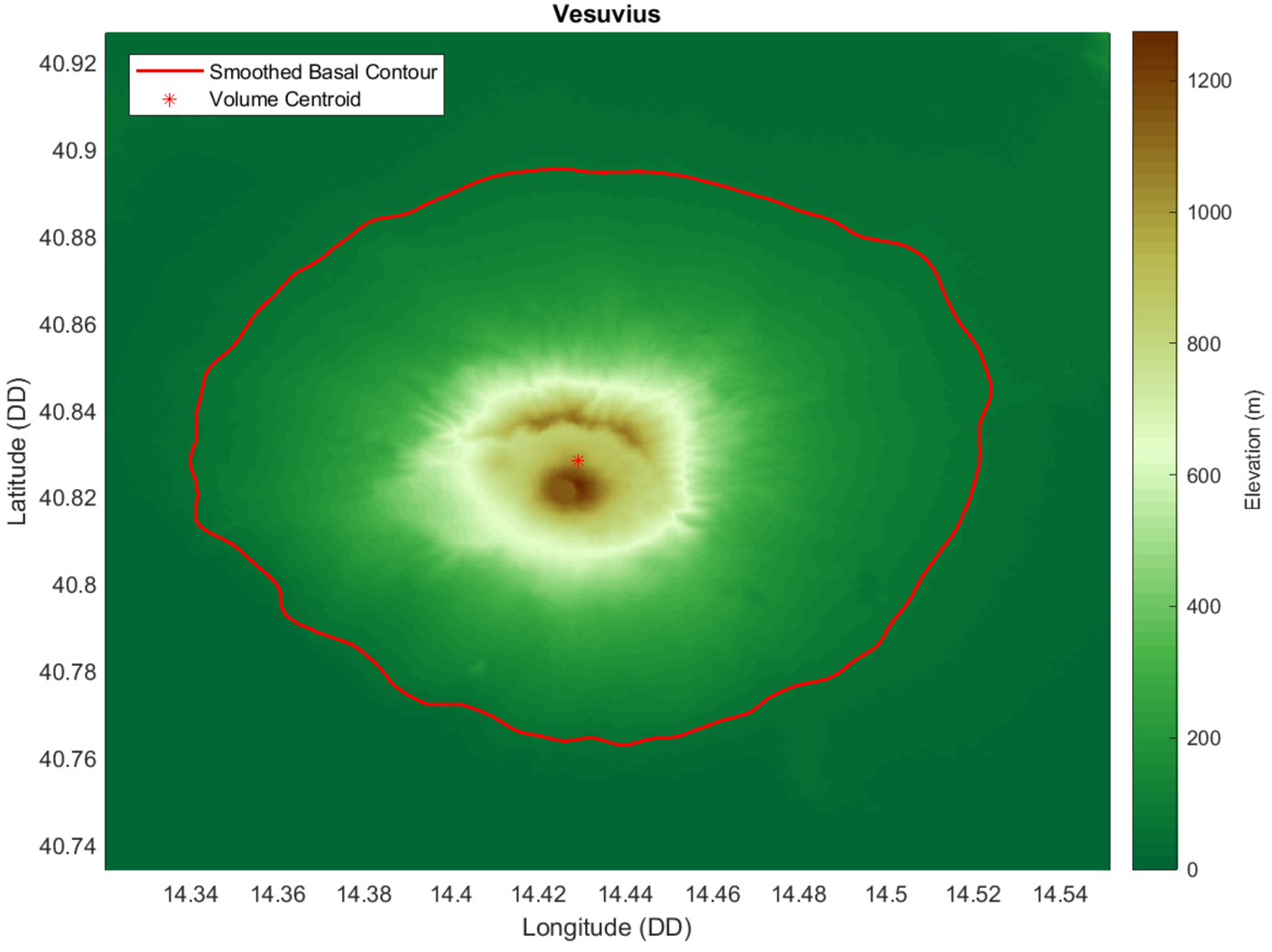
supplemental file:

Volcanic edifice bounds and centroid locations

Note1: The Google Earth file associated with this article contains shapefiles for edifice bounds and centroid positions

Note2: volcanoes with unquantified volumes are not included here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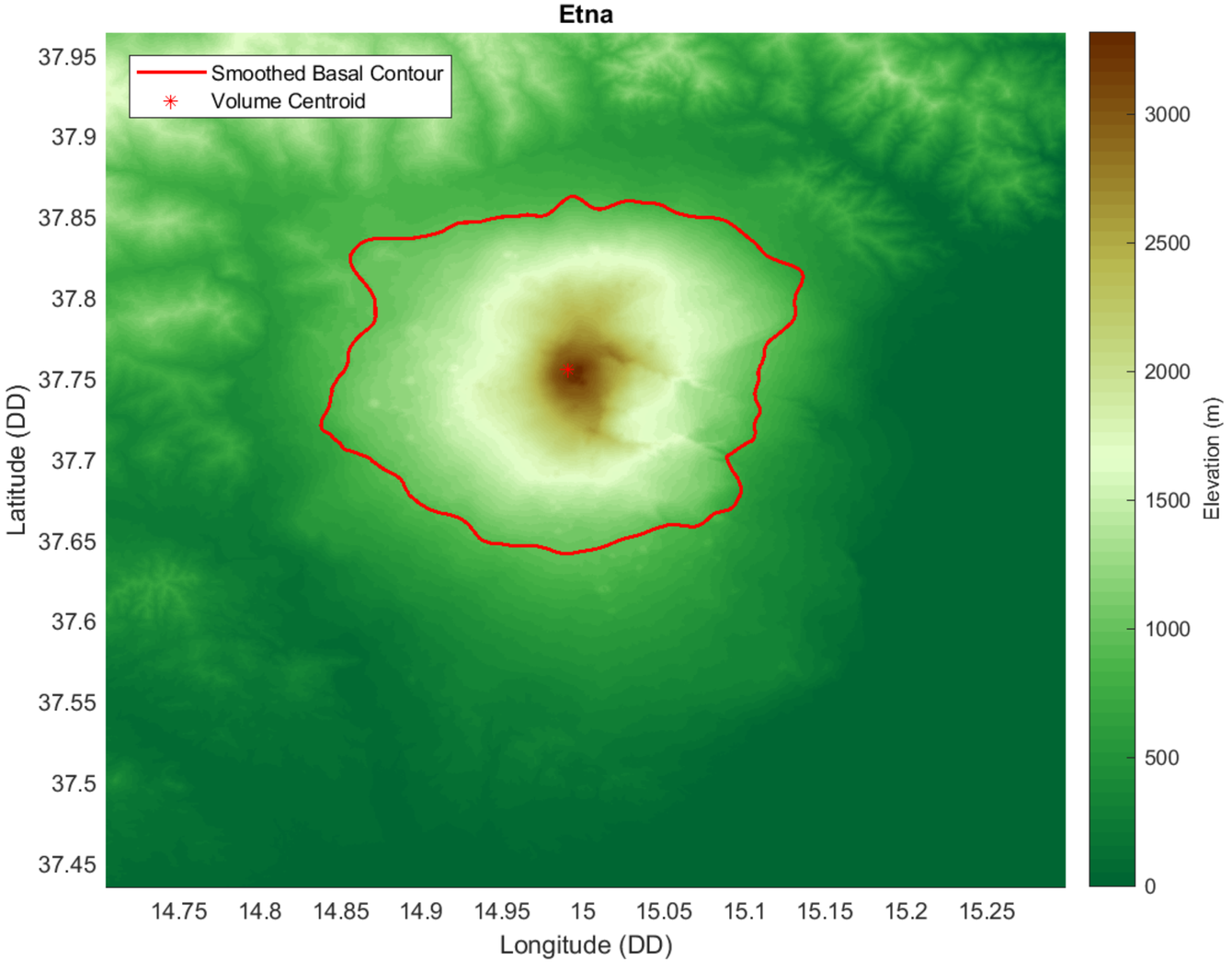
Smoothed Basal Contour
Volume Centroid
40.92
40.9
40.88
40.86
40.84
40.82
40.8
40.78
40.76
40.74
Latitude (DD)
14.34
14.36
14.38
14.4
14.42
14.44
14.46
14.48
14.5
14.52
14.54
Longitude (DD)
1200
1000
800
600
400
200
0
Elevation (m)


Etna
Smoothed Basal Contour
Volume Centroid
37.95
37.9
37.85
37.8
37.75
37.7
37.65
37.6
37.55
37.5
37.45
Latitude (DD)
14.75
14.8
14.85
14.9
14.95
15
15.05
15.1
15.15
15.2
15.25
Longitude (DD)
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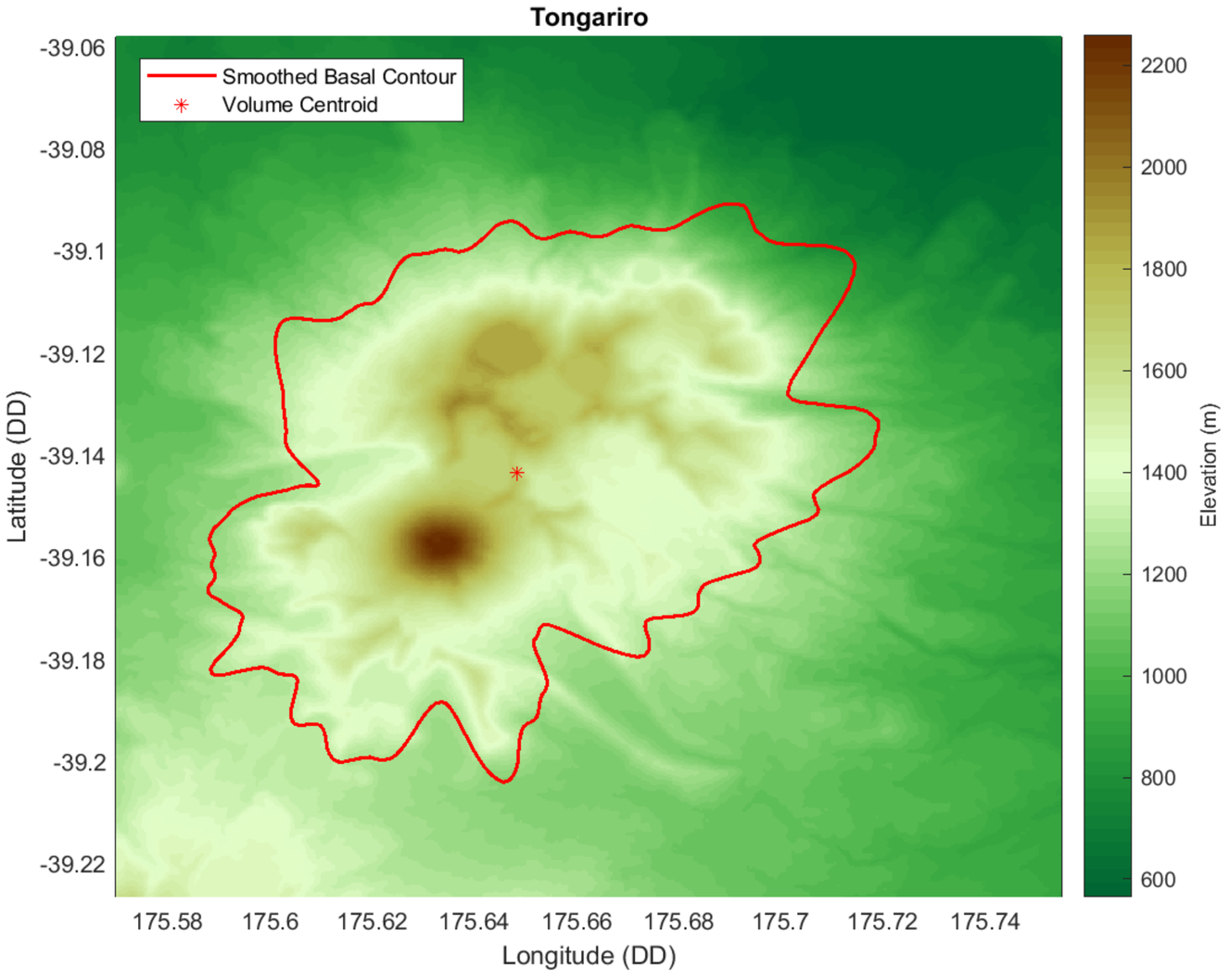
2500
2000
1500
1000
500
0
Elevation (m)


Tongariro
Smoothed Basal Contour
Volume Centroid
-39.06
-39.08
-39.1
-39.12
-39.14
-39.16
-39.18
-39.2
-39.22
Latitude (DD)
175.58
175.6
175.62
175.64
175.66
175.68
175.7
175.72
175.74
Longitude (DD)
2200
2000
1800
1600
1400
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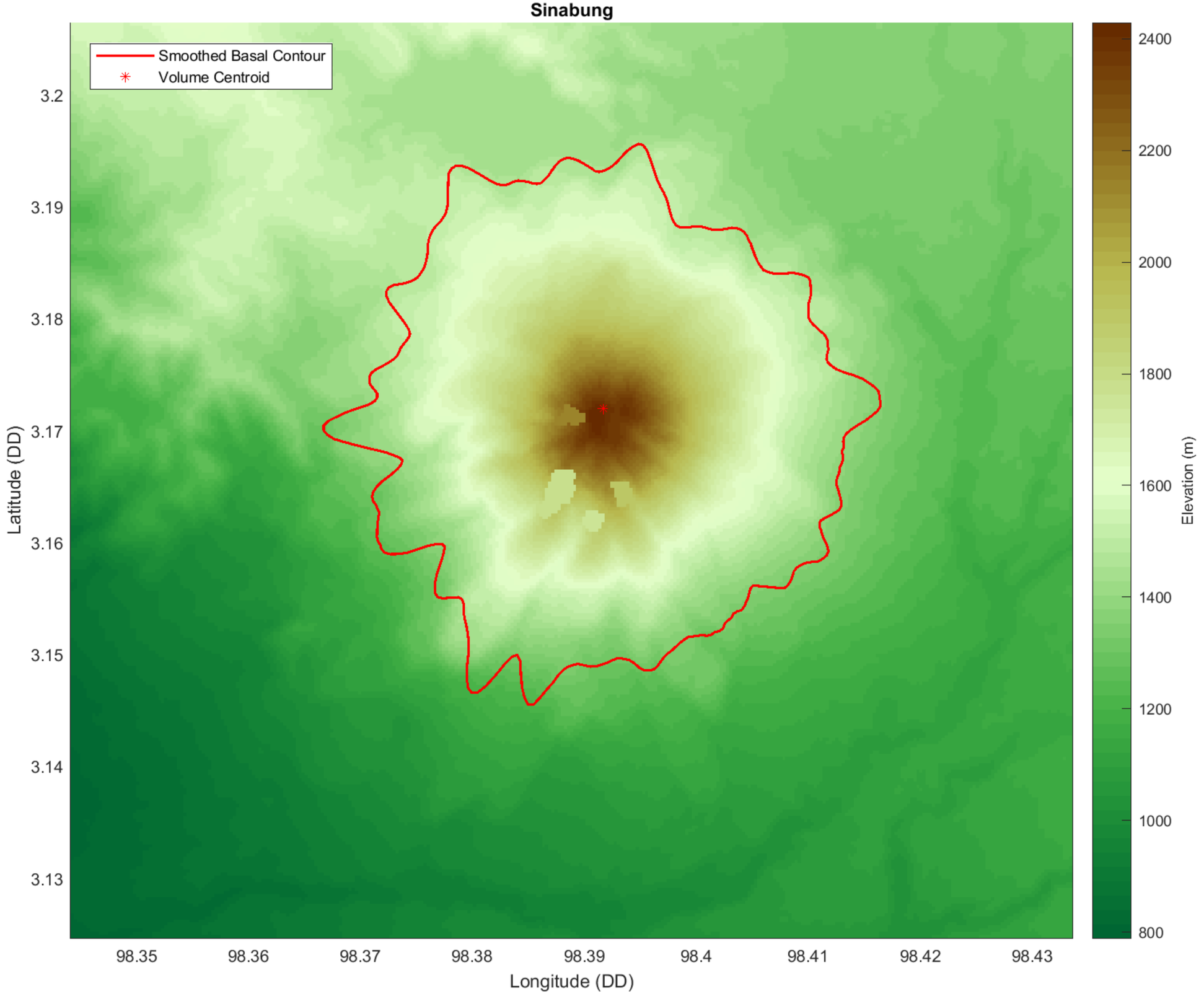
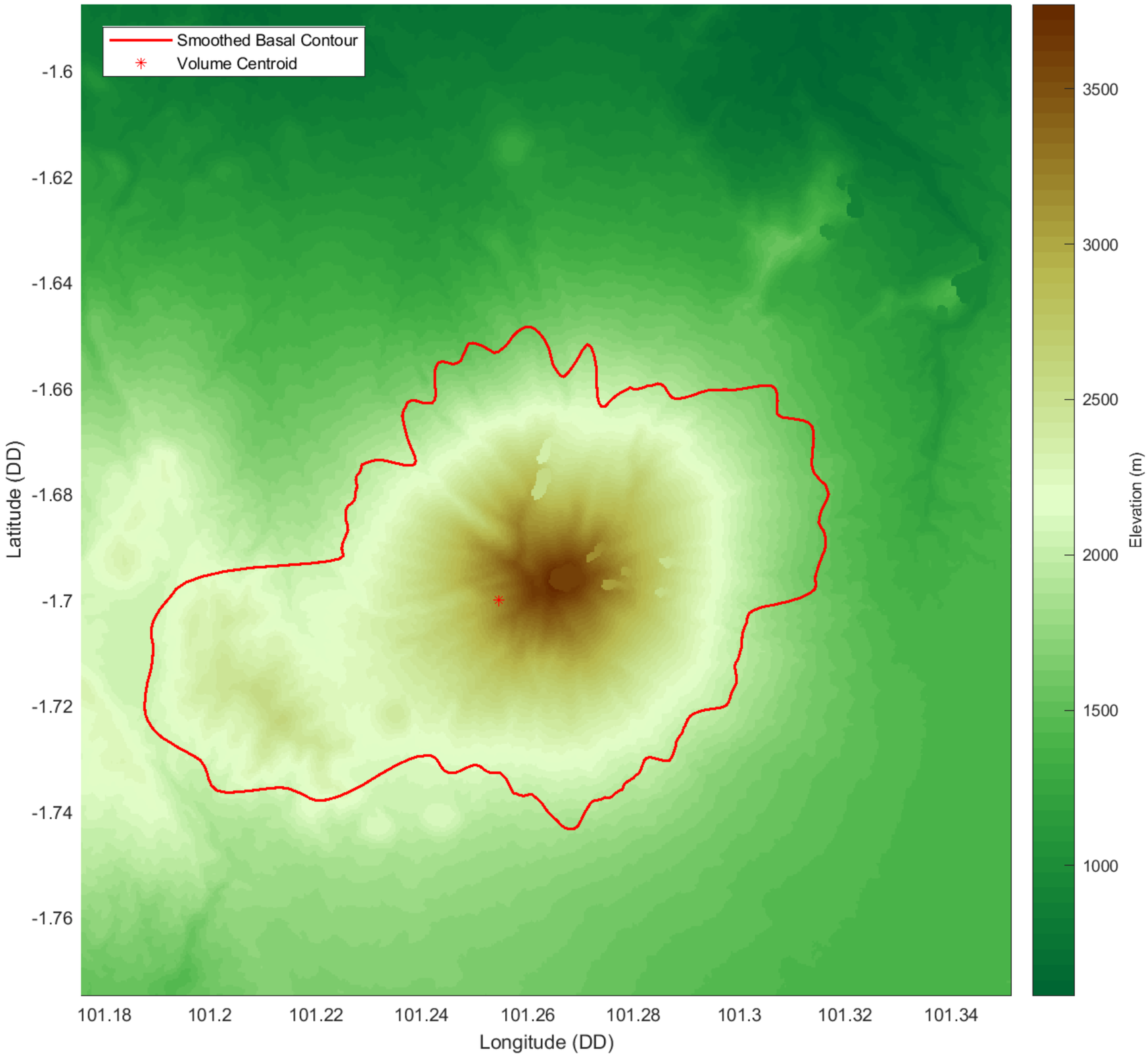
1000
800
600
Elevation (m)



Sinabung
Smoothed Basal Contour
Volume Centroid
3.2
3.19
3.18
3.17
3.16
3.15
3.14
3.13
Latitude (DD)
98.35
98.36
98.37
98.38
98.39
98.4
98.41
98.42
98.43
Longitude (DD)
2400
2200
2000
1800
1600
1400
1200
1000
800
Elevation (m)


Kerinci
Smoothed Basal Contour
Volume Centroid
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-1.62
-1.64
-1.66
-1.68
-1.7
-1.72
-1.74
-1.76
Latitude (DD)
101.18
101.2
101.22
101.24
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101.3
101.32
101.34
Longitude (DD)
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3000
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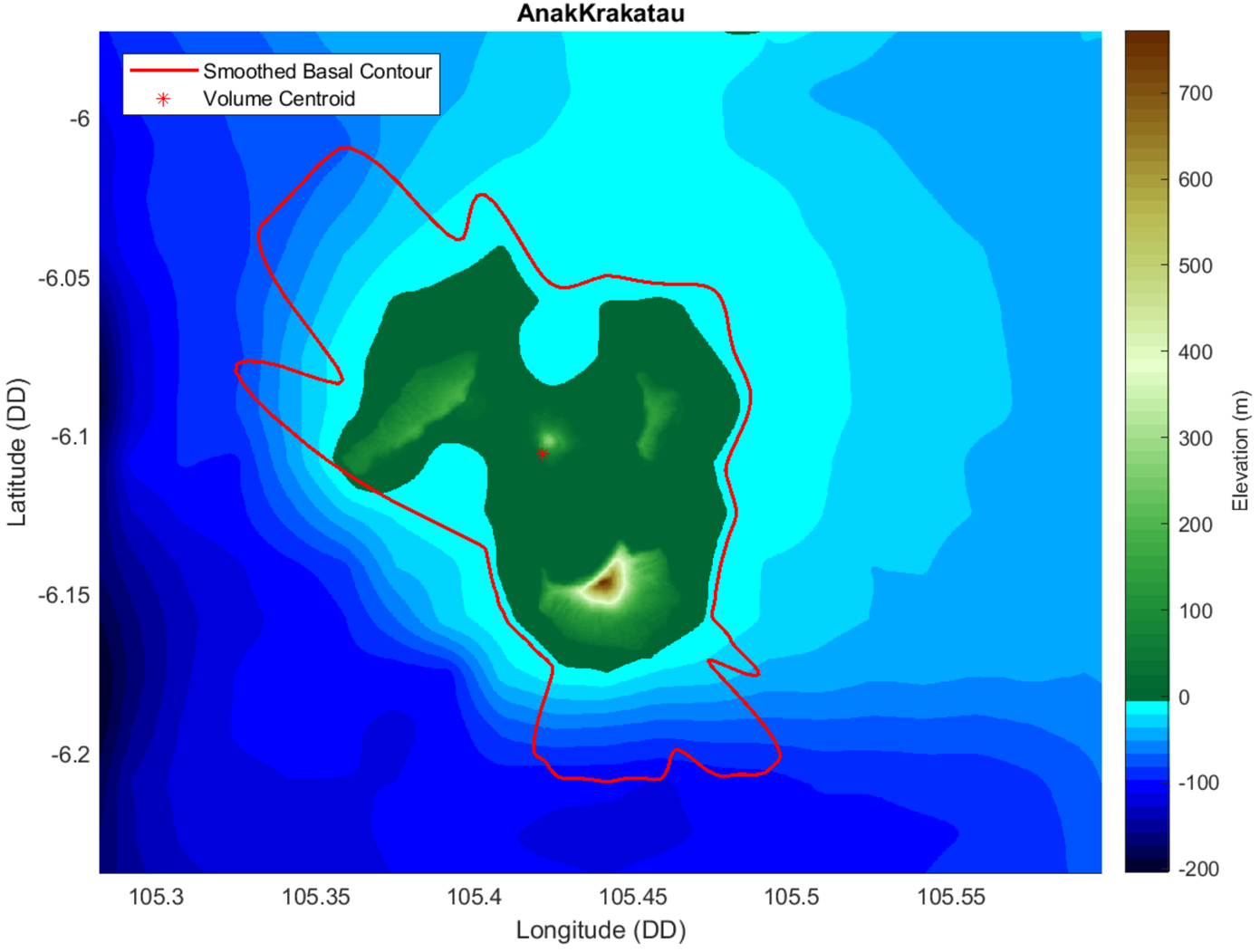
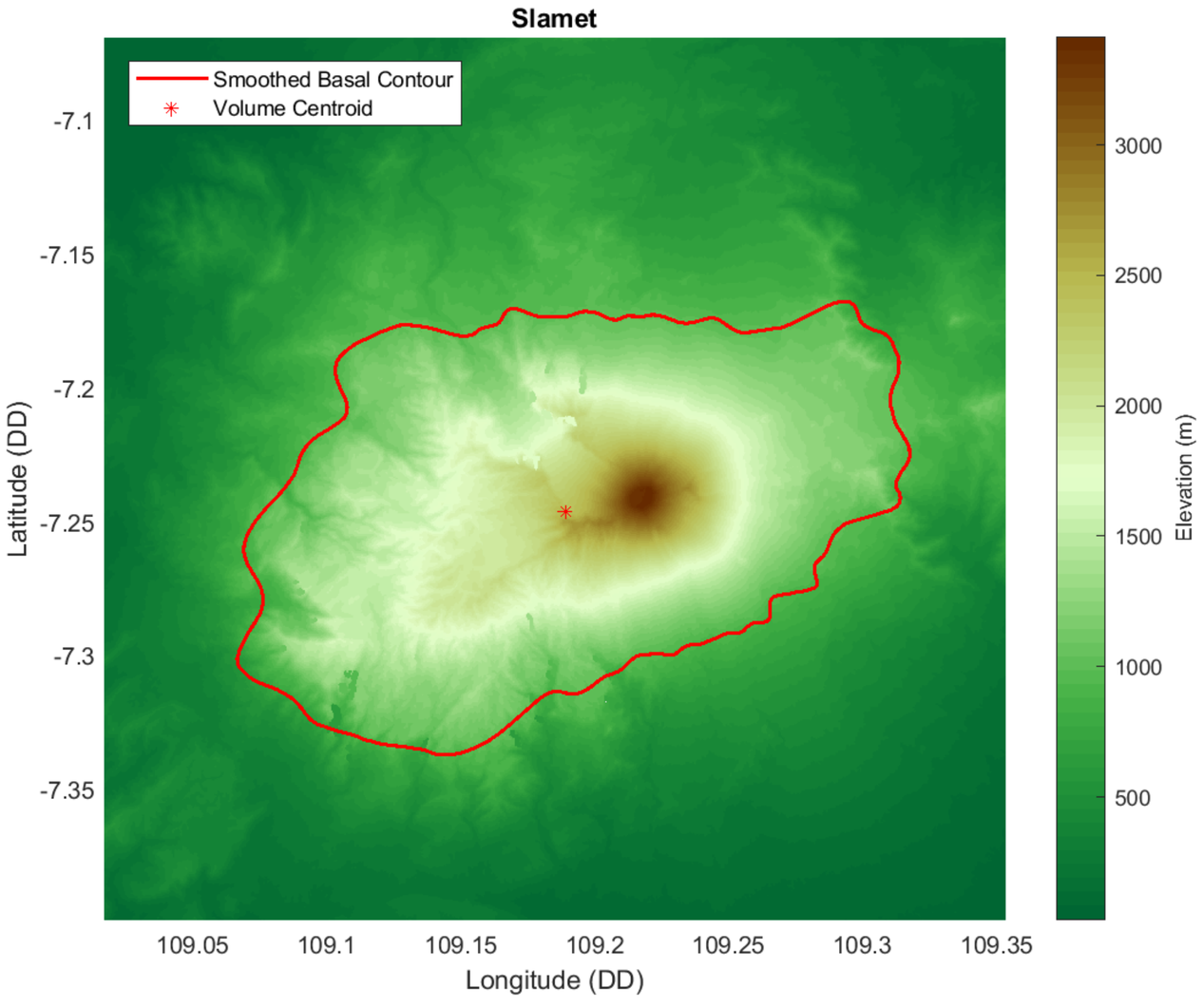
2000
1500
1000
Elevation (m)


AnakKrakatau
Smoothed Basal Contour
Volume Centroid
-6
-6.05
-6.1
-6.15
-6.2
Latitude (DD)
105.3
105.35
105.4
105.45
105.5
105.55
Longitude (DD)
700
600
500
400
300
200
100
0
-100
-200
Elevation (m)


Slamet
Smoothed Basal Contour
Volume Centroid
-7.1
-7.15
-7.2
-7.25
-7.3
-7.35
Latitude (DD)
109.05
109.1
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109.25
109.3
109.35
Longitude (DD)
3000
2500
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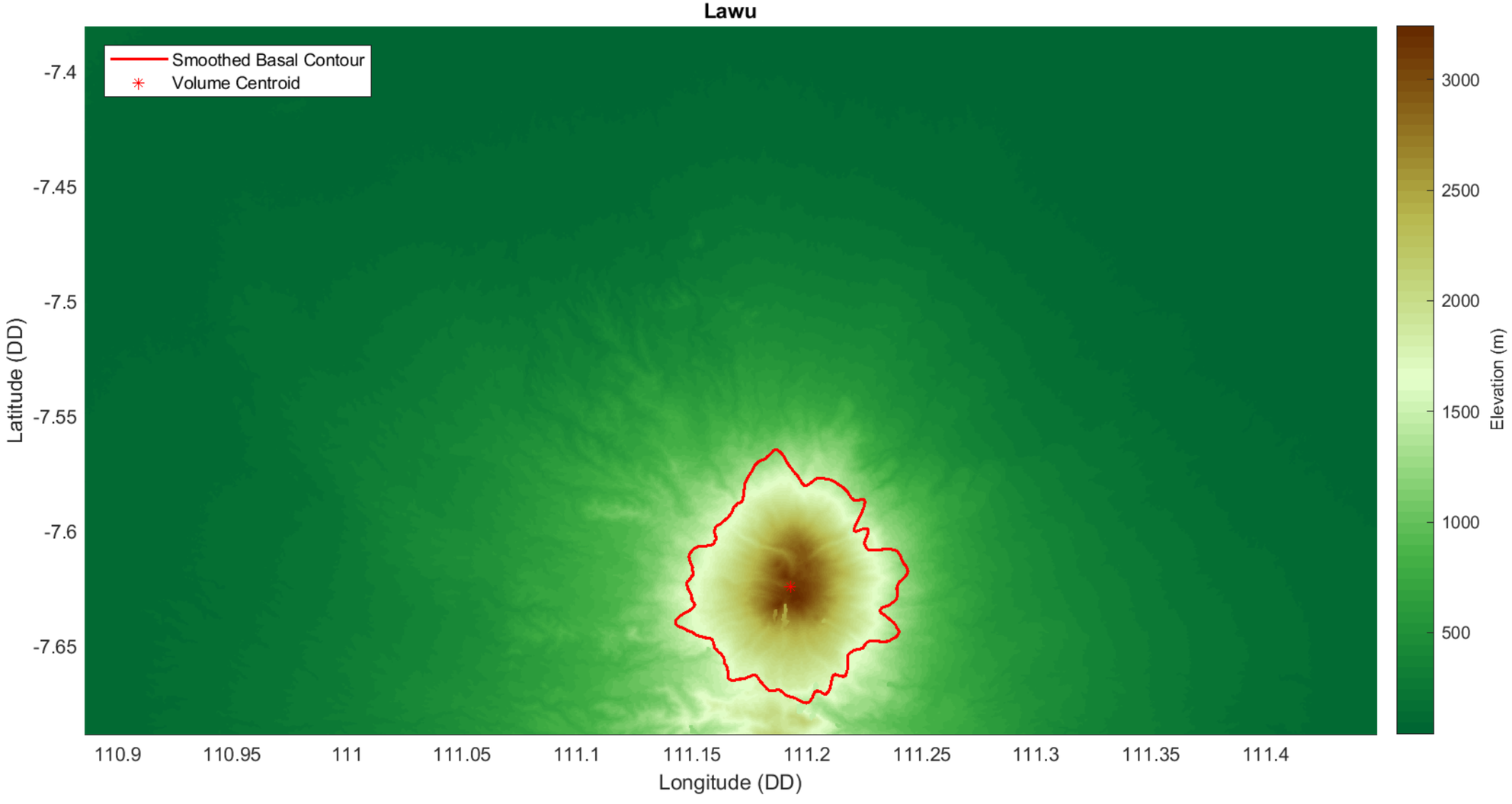
1500
1000
500
Elevation (m)


Lawu
Smoothed Basal Contour
Volume Centroid
-7.4
-7.45
-7.5
-7.55
-7.6
-7.65
Latitude (DD)
110.9
110.95
111
111.05
111.1
111.15
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111.3
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111.4
Longitude (DD)
3000
2500
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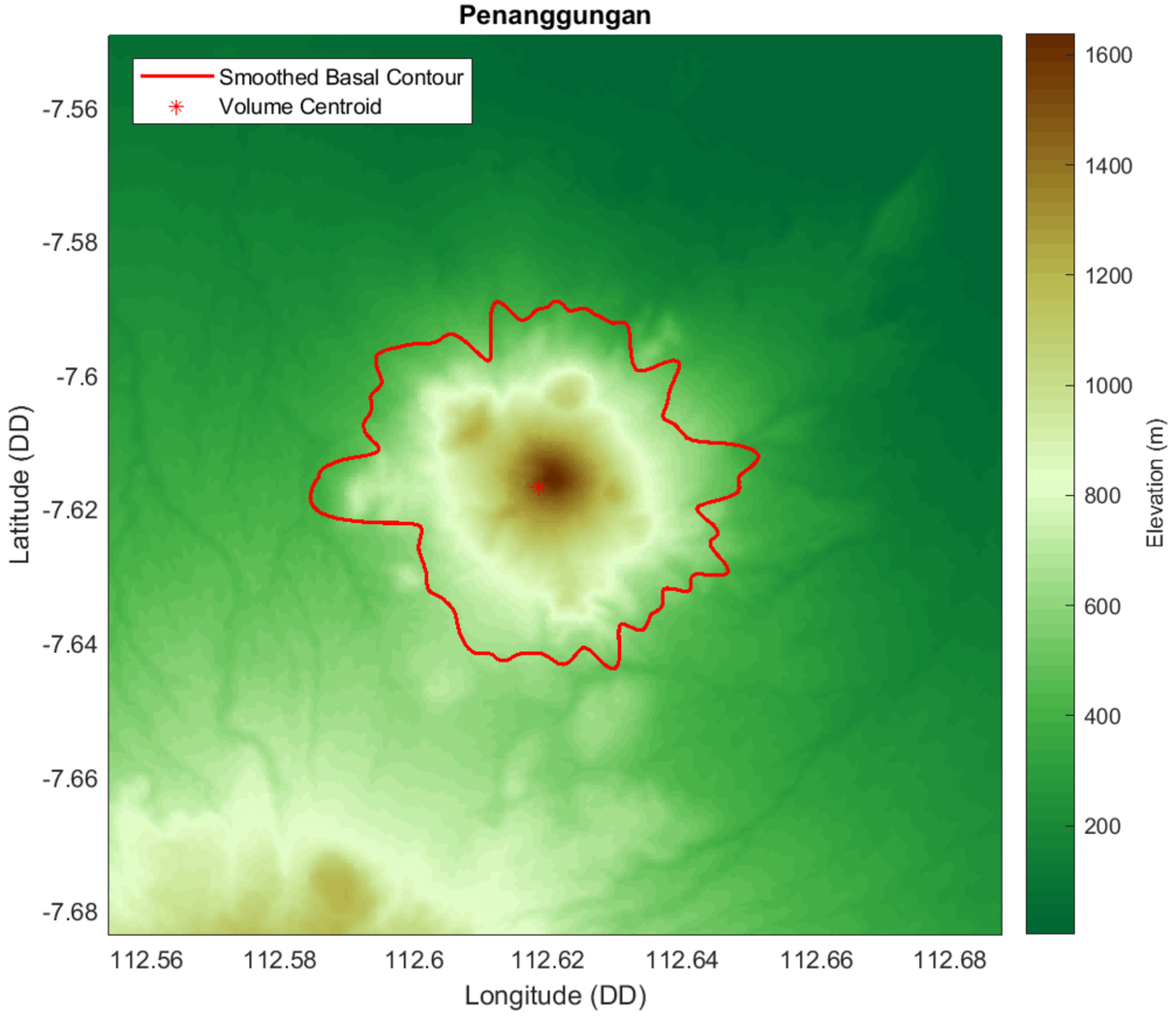
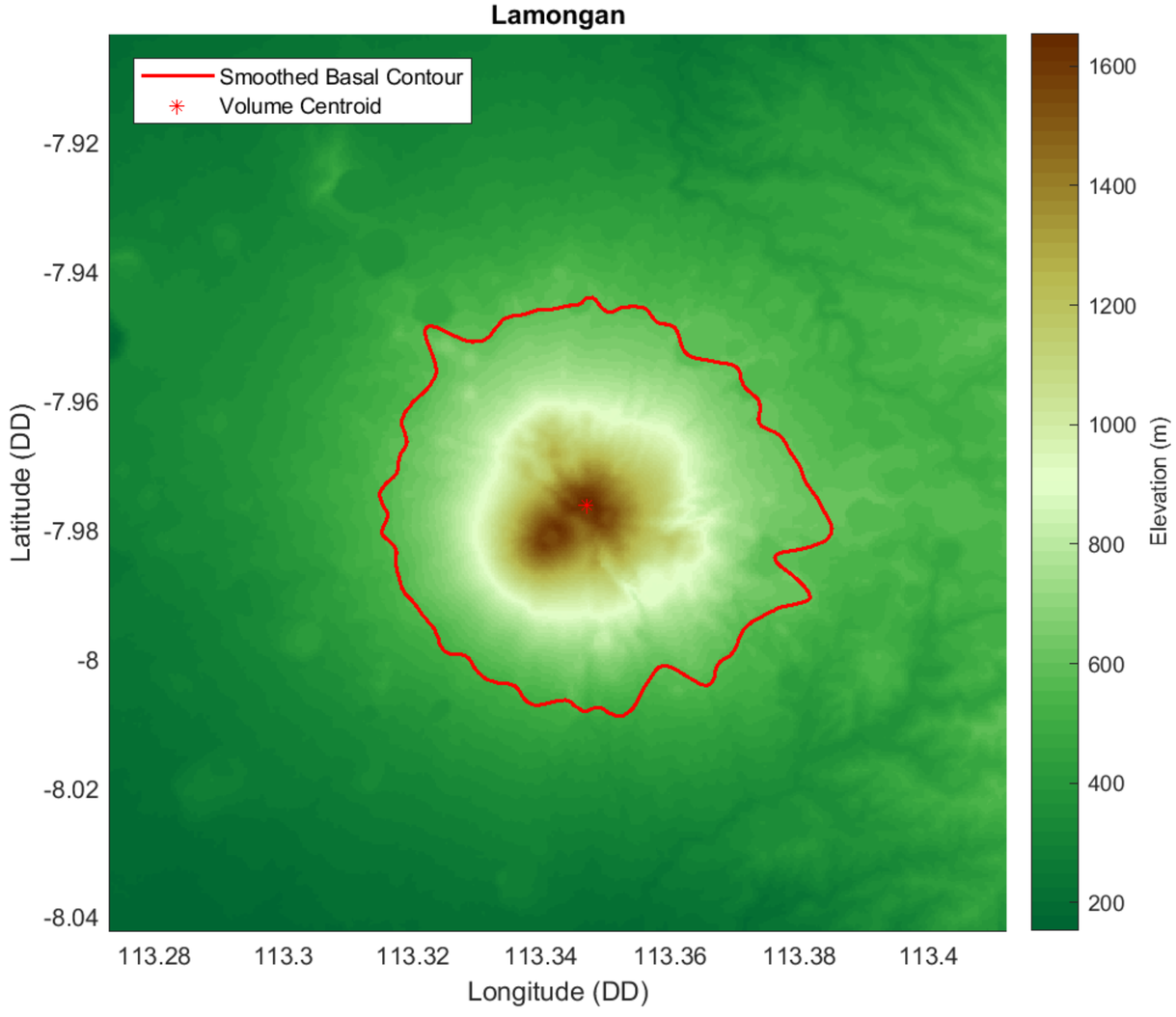
1500
1000
500
Elevation (m)


Penanggungan
Smoothed Basal Contour
Volume Centroid
-7.56
-7.58
-7.6
-7.62
-7.64
-7.66
-7.68
Latitude (DD)
112.56
112.58
112.6
112.62
112.64
112.66
112.68
Longitude (DD)
1600
1400
1200
1000
800
600
400
200
Elevation (m)


Lamongan
Smoothed Basal Contour
Volume Centroid
-7.92
-7.94
-7.96
-7.98
-8
-8.02
-8.04
Latitude (DD)
113.28
113.3
113.32
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113.4
Longitude (DD)
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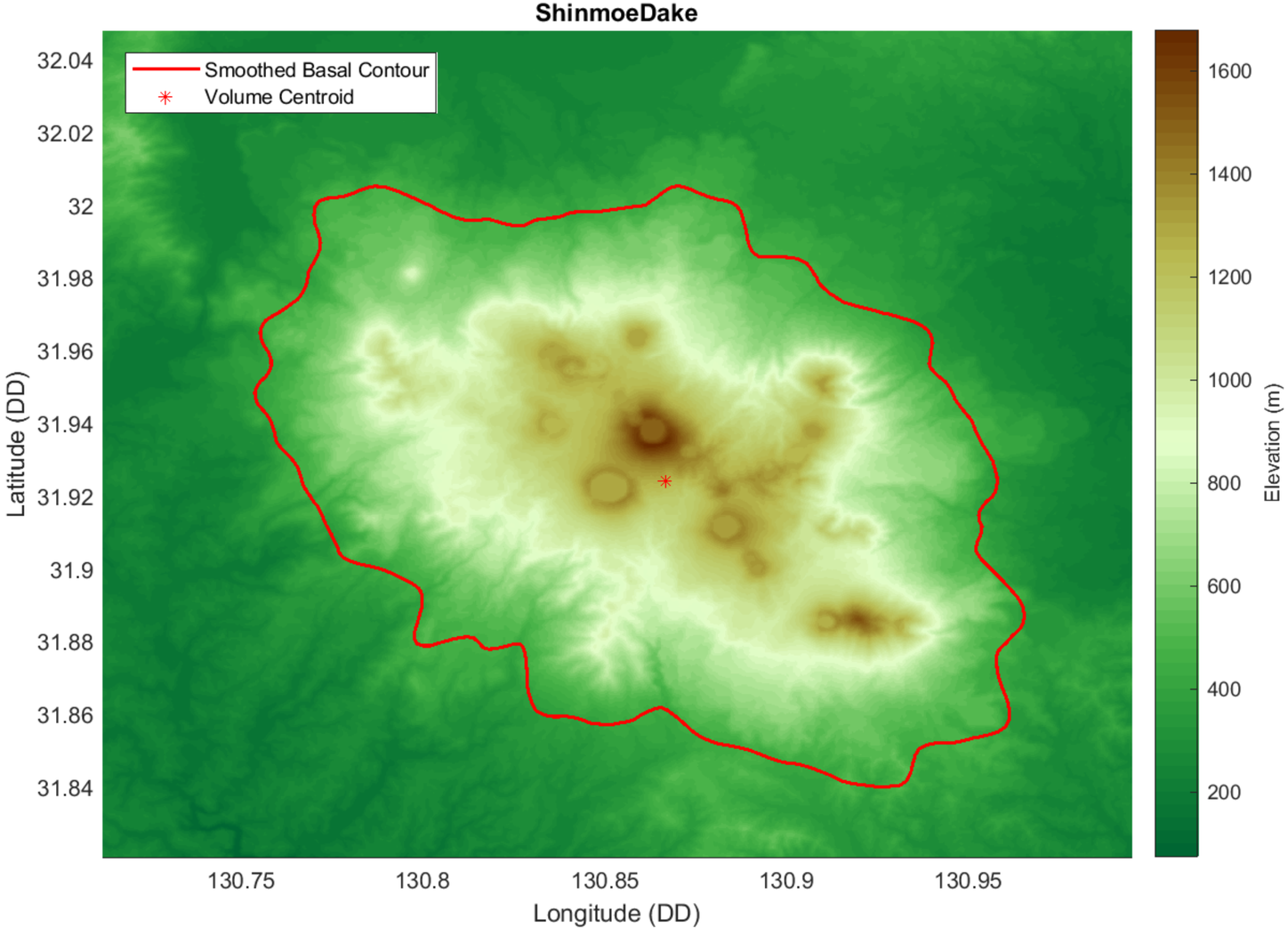
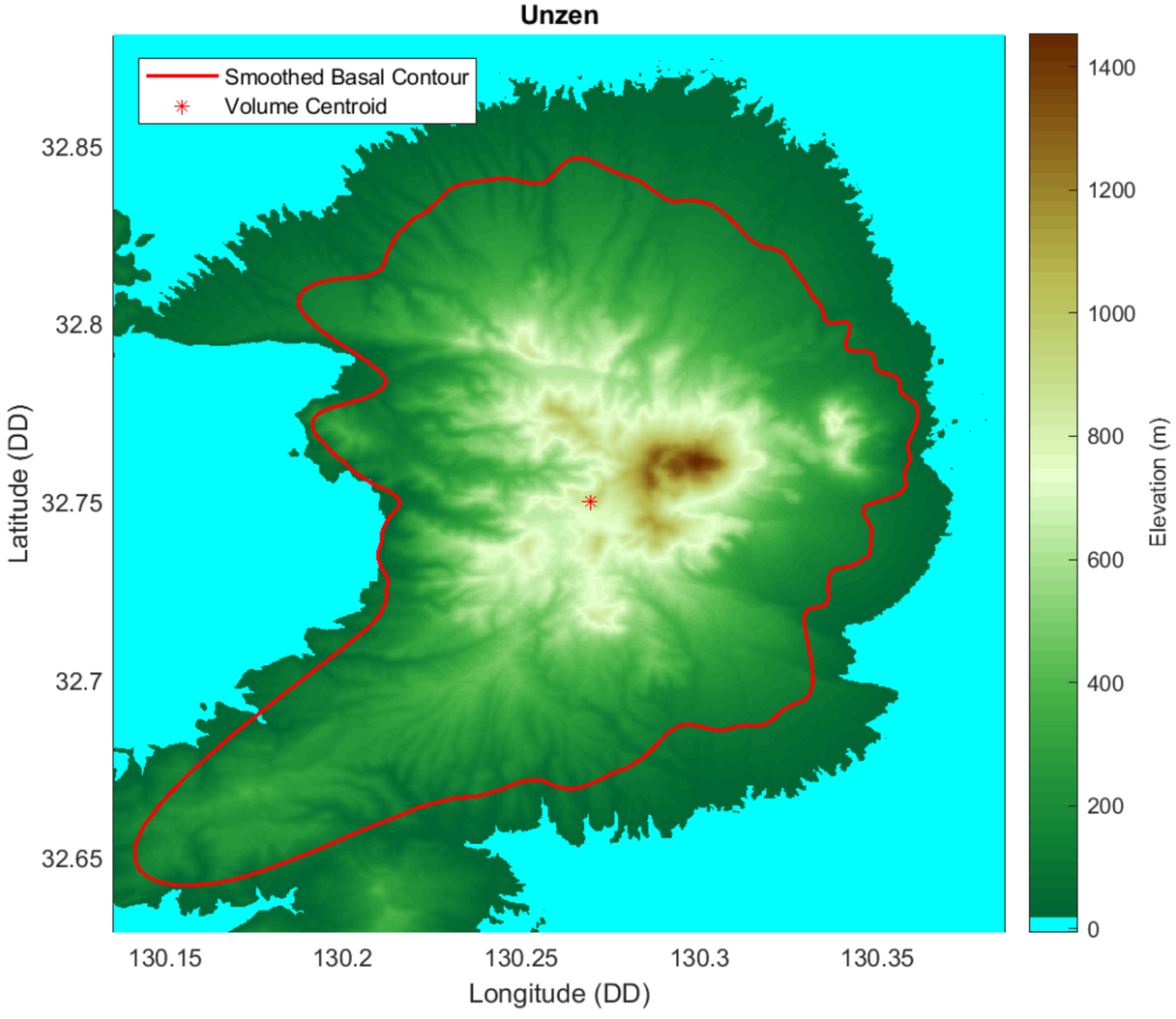
200
Elevation (m)


ShinmoeDake
Smoothed Basal Contour
Volume Centroid
32.04
32.02
32
31.98
31.96
31.94
31.92
31.9
31.88
31.86
31.84
Latitude (DD)
130.75
130.8
130.85
130.9
130.95
Longitude (DD)
1600
1400
1200
1000
800
600
400
200
Elevation (m)


Unzen
Smoothed Basal Contour
Volume Centroid
32.85
32.8
32.75
32.7
32.65
Latitude (DD)
130.15
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130.25
130.3
130.35
Longitude (DD)
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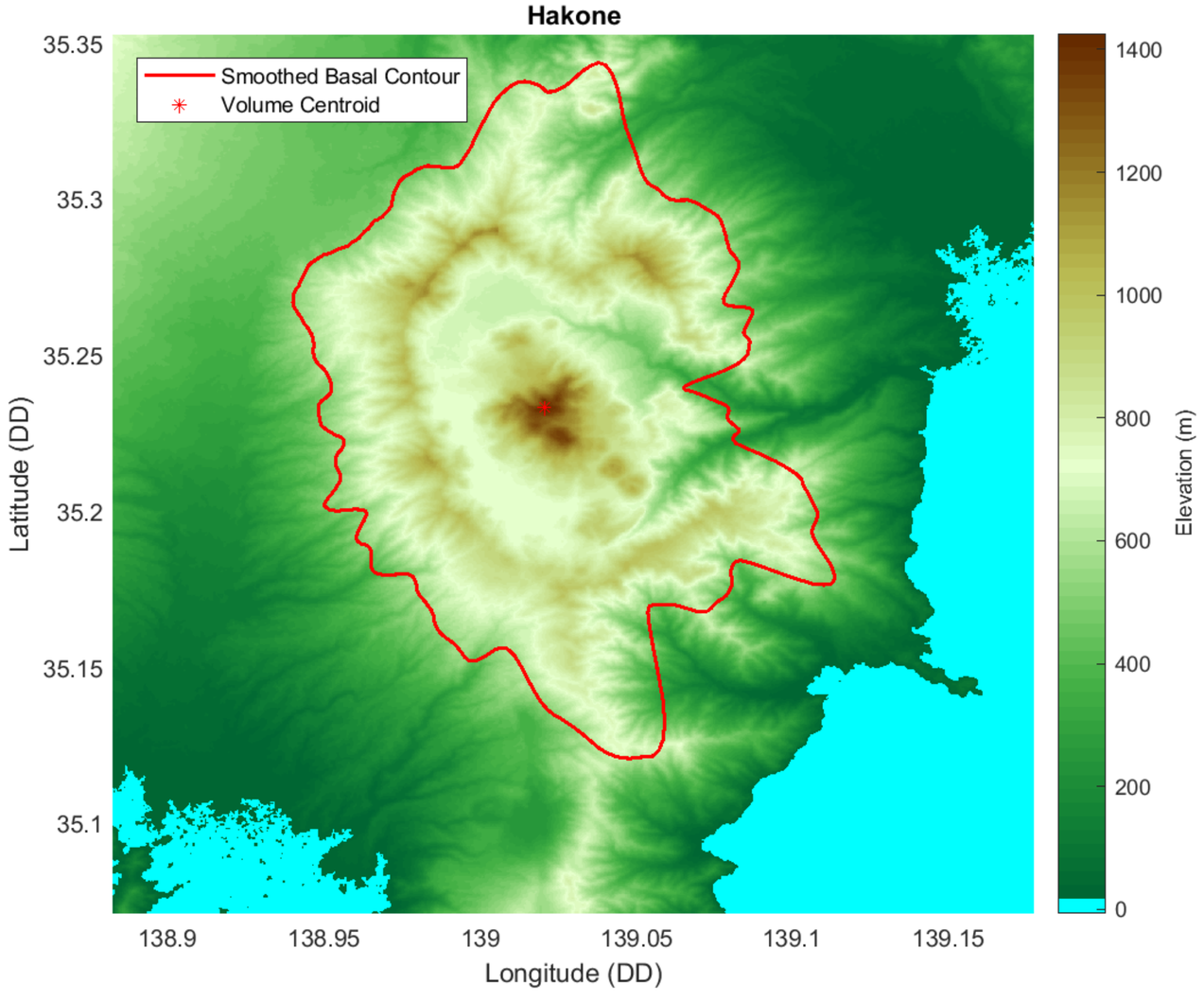
1000
800
600
400
200
0
Elevation (m)


Hakone
Smoothed Basal Contour
Volume Centroid
35.35
35.3
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35.2
35.15
35.1
Latitude (DD)
138.9
138.95
139
139.05
139.1
139.15
Longitude (DD)
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1000
800
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200
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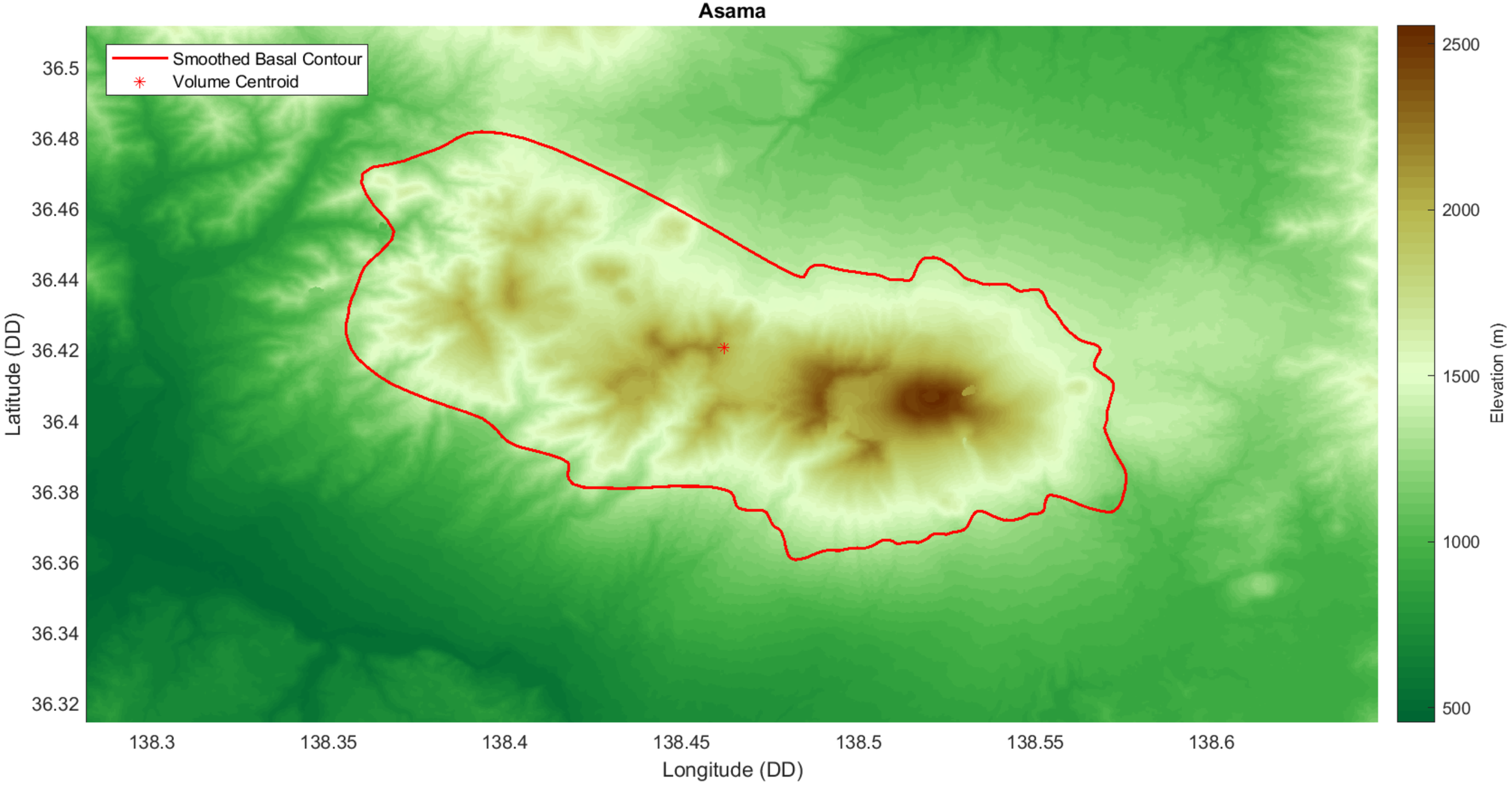
Elevation (m)


Asama
Smoothed Basal Contour
Volume Centroid
36.5
36.48
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36.44
36.42
36.4
36.38
36.36
36.34
36.32
Latitude (DD)
138.3
138.35
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138.5
138.55
138.6
Longitude (DD)
2500
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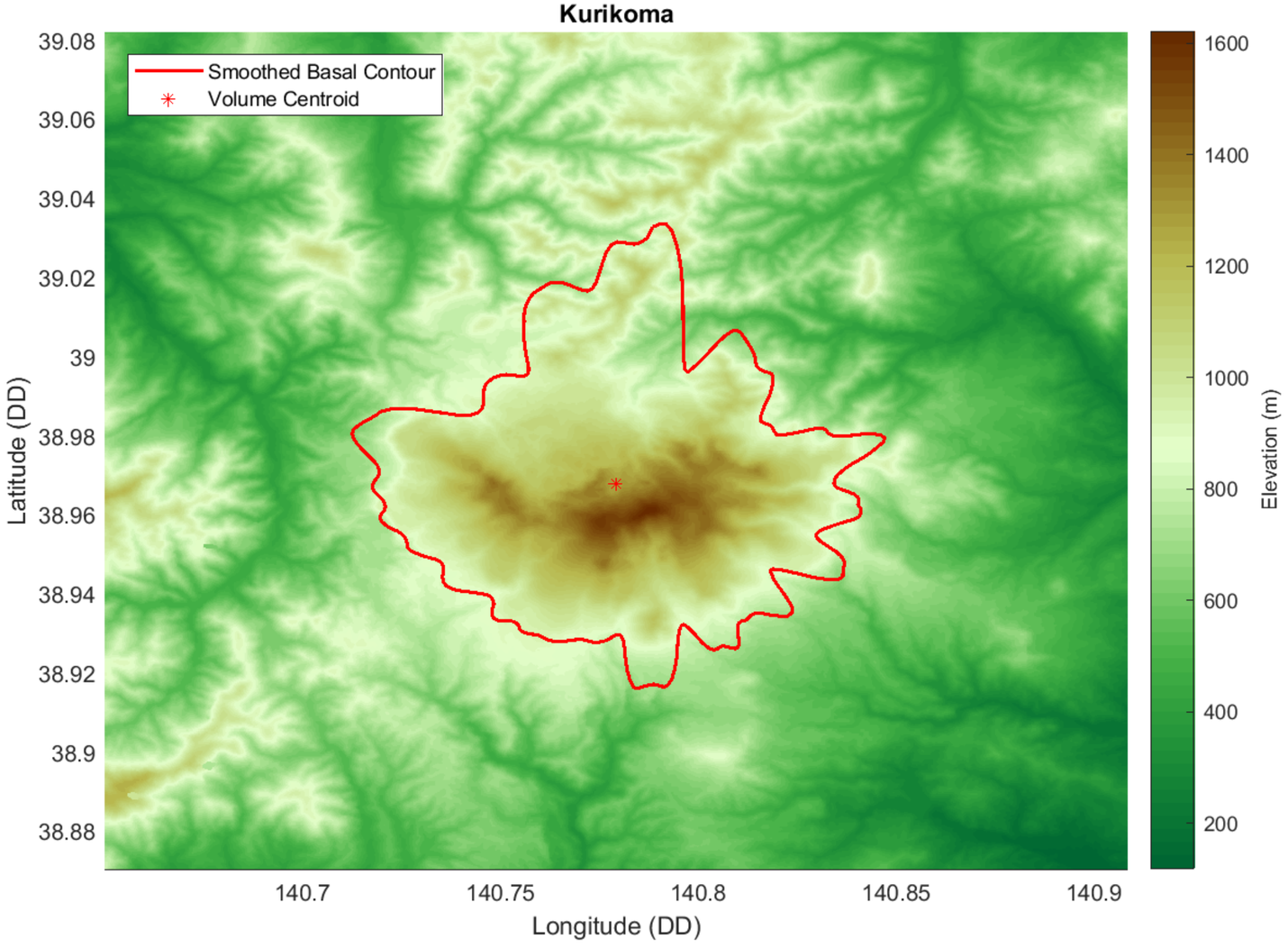
1000
500
Elevation (m)


Kurikoma
Smoothed Basal Contour
Volume Centroid
39.08
39.06
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39.02
39
38.98
38.96
38.94
38.92
38.9
38.88
Latitude (DD)
140.7
140.75
140.8
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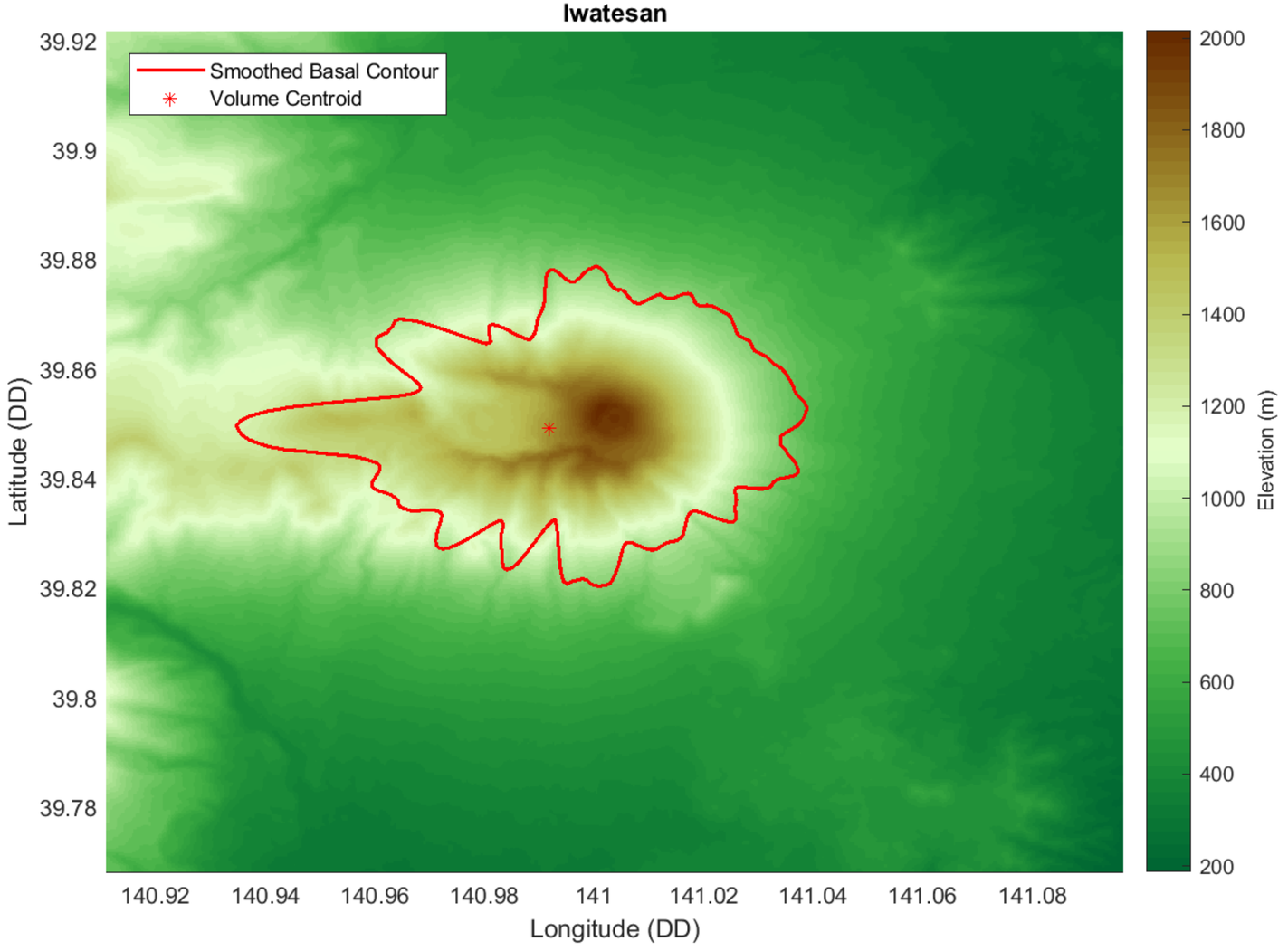
140.9
Longitude (DD)
1600
1400
1200
1000
800
600
400
200
Elevation (m)


Iwatesan
Smoothed Basal Contour
Volume Centroid
39.92
39.9
39.88
39.86
39.84
39.82
39.8
39.78
Latitude (DD)
140.92
140.94
140.96
140.98
141
141.02
141.04
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Longitude (DD)
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1600
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1200
1000
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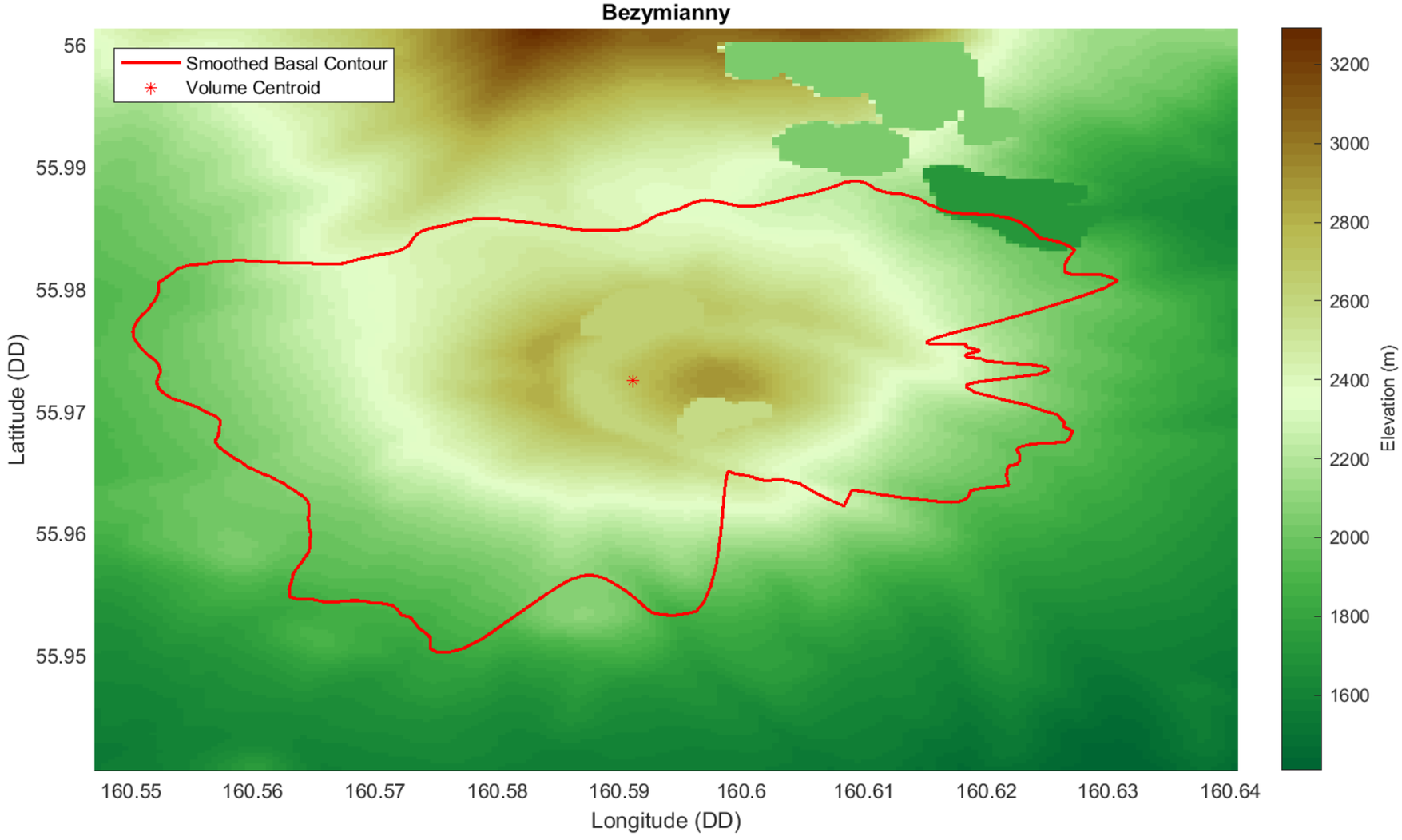
400
200
Elevation (m)


Bezymianny
Smoothed Basal Contour
Volume Centroid
56
55.99
55.98
55.97
55.96
55.95
Latitude (DD)
160.55
160.56
160.57
160.58
160.59
160.6
160.61
160.62
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160.64
Longitude (DD)
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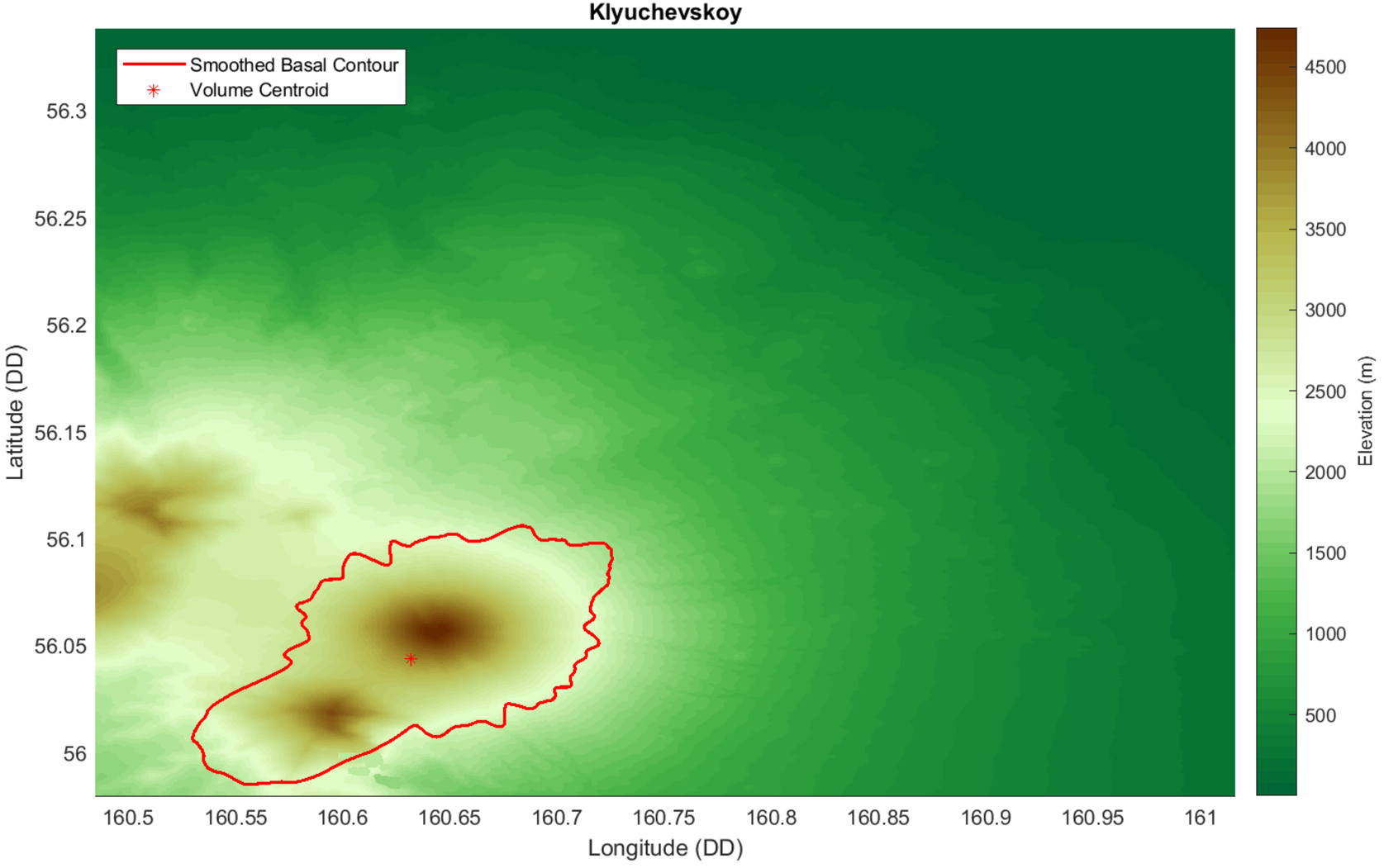
3000
2800
2600
2400
2200
2000
1800
1600
Elevation (m)


Klyuchevskoy
Smoothed Basal Contour
Volume Centroid
56.3
56.25
56.2
56.15
56.1
56.05
56
Latitude (DD)
160.5
160.55
160.6
160.65
160.7
160.75
160.8
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2500
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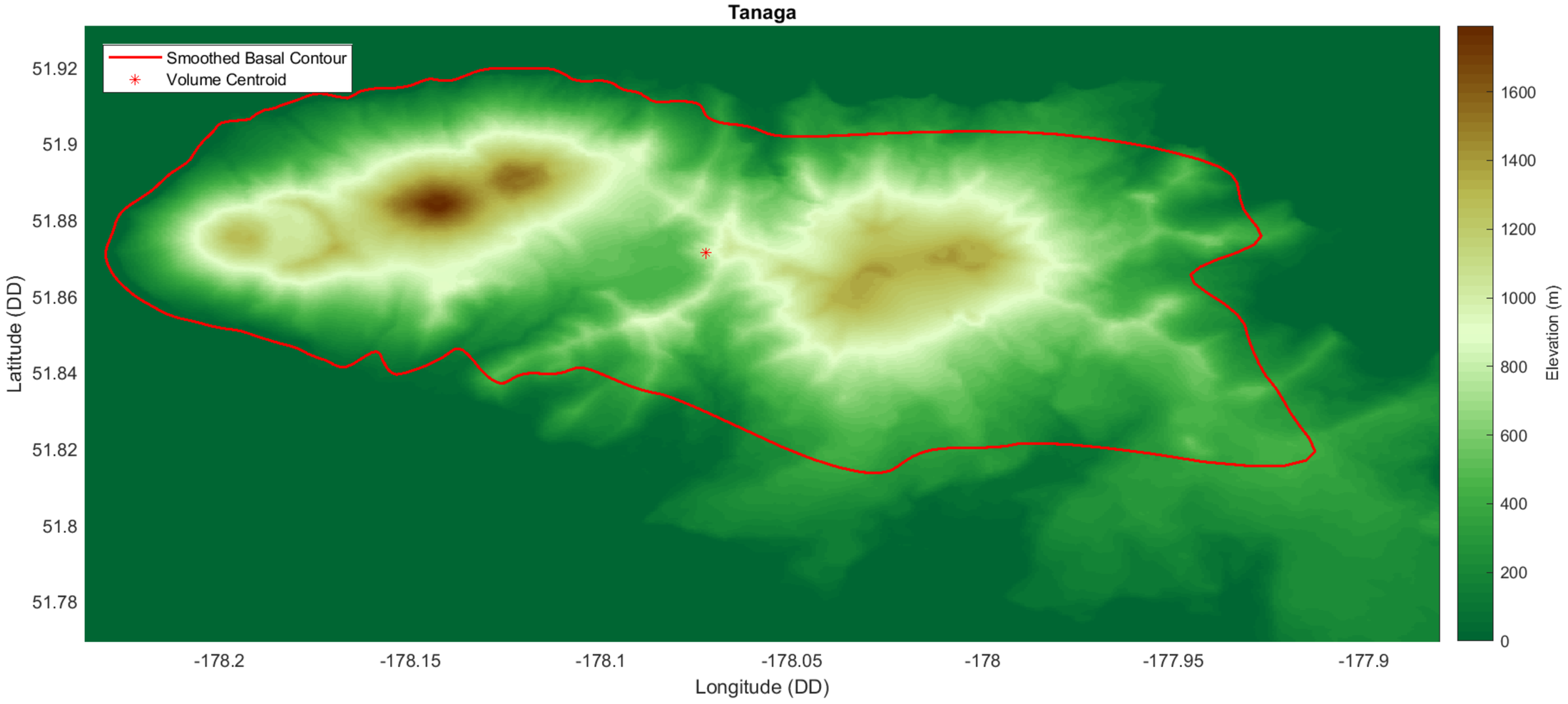
1000
500
Elevation (m)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Smoothed Basal Contour
Volume Centroid
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51.86
51.84
51.82
51.8
51.78
Latitude (DD)
-178.2
-178.15
-178.1
-178.05
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Longitude (DD)
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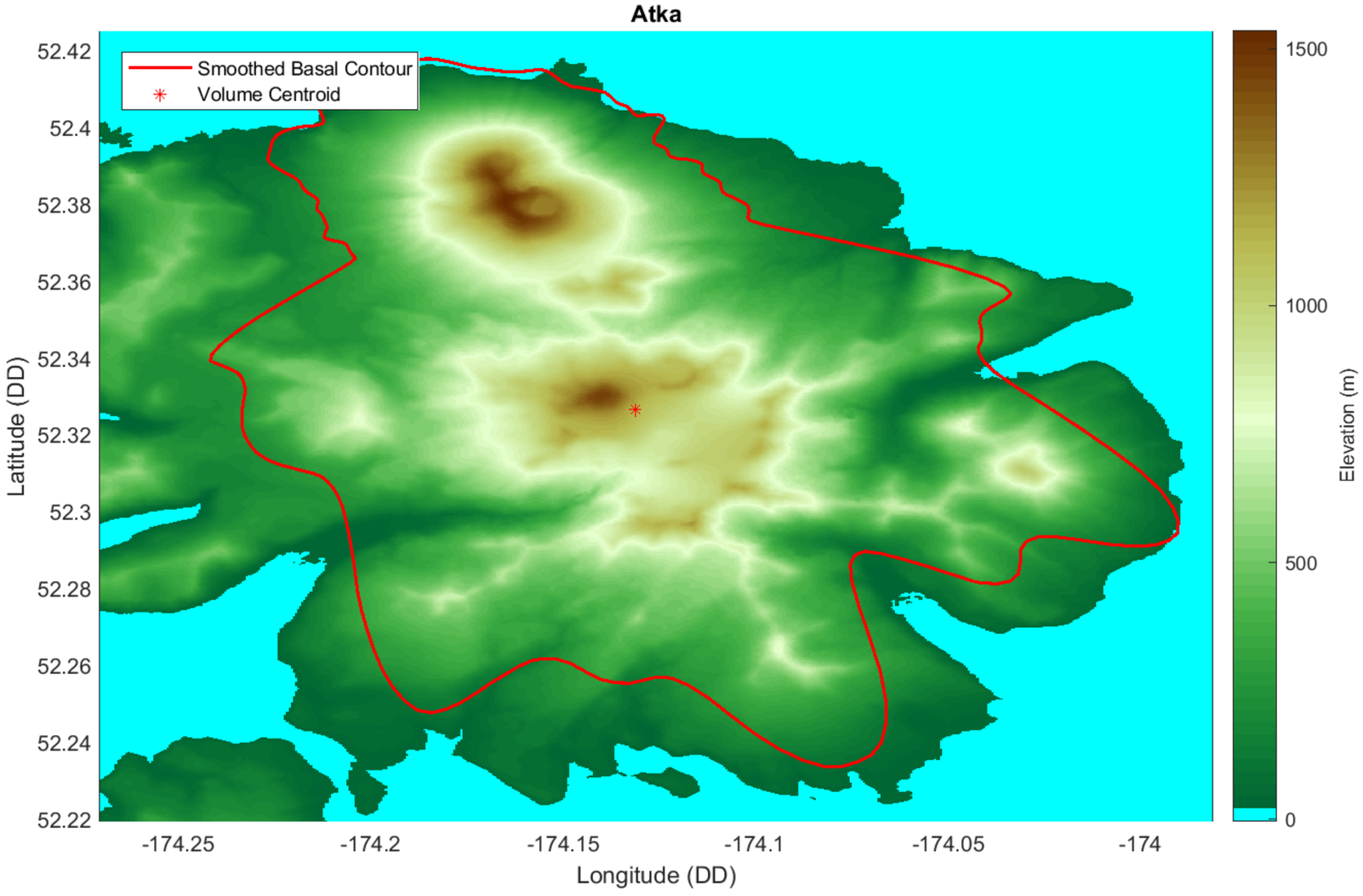
Elevation (m)


Atka
Smoothed Basal Contour
Volume Centroid
52.42
52.4
52.38
52.36
52.34
52.32
52.3
52.28
52.26
52.24
52.22
Latitude (DD)
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-174
Longitude (DD)
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1000
500
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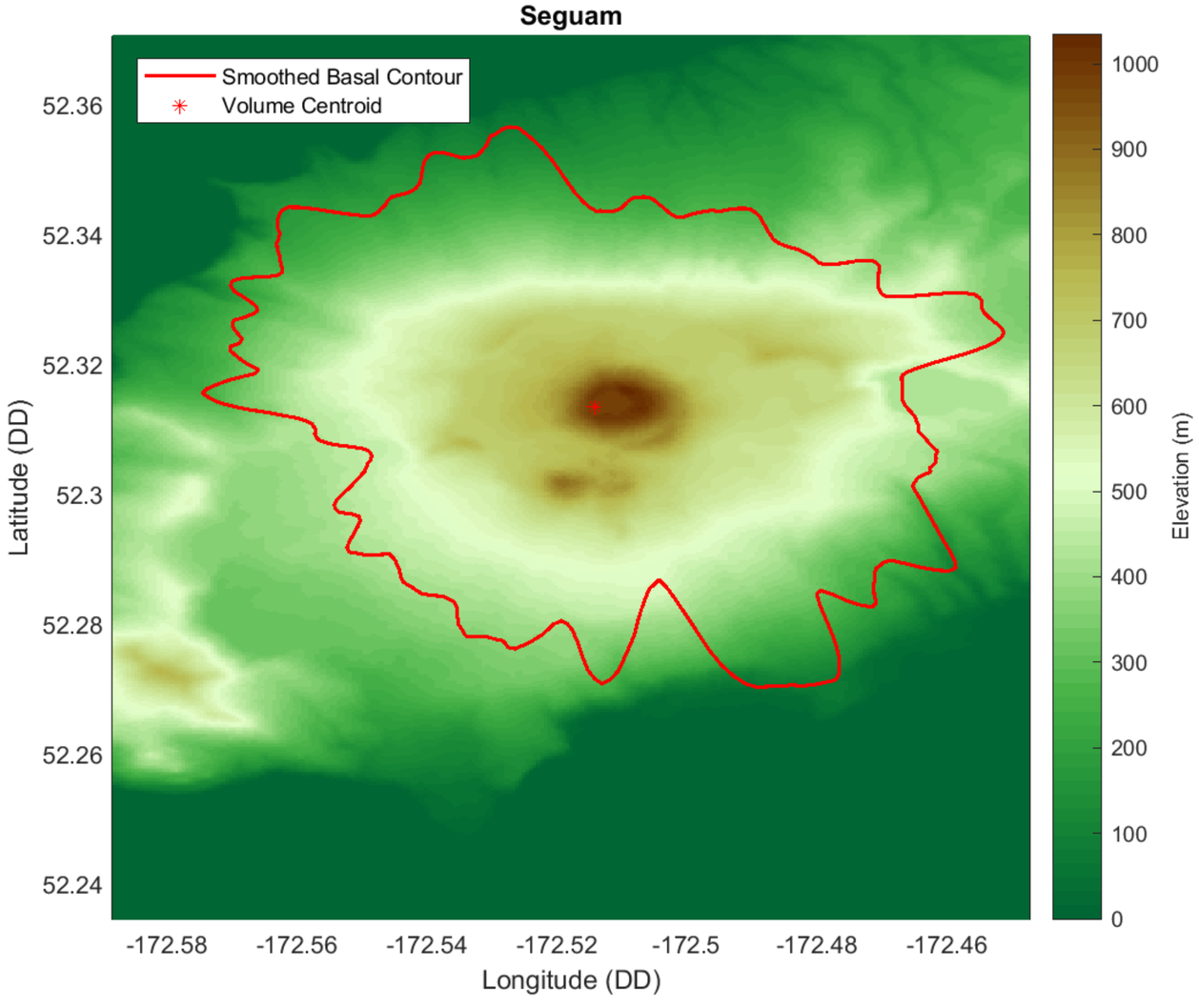
Elevation (m)


Seguam
Smoothed Basal Contour
Volume Centroid
52.36
52.34
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52.3
52.28
52.26
52.24
Latitude (DD)
-172.58
-172.56
-172.54
-172.52
-172.5
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Longitude (DD)
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500
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100
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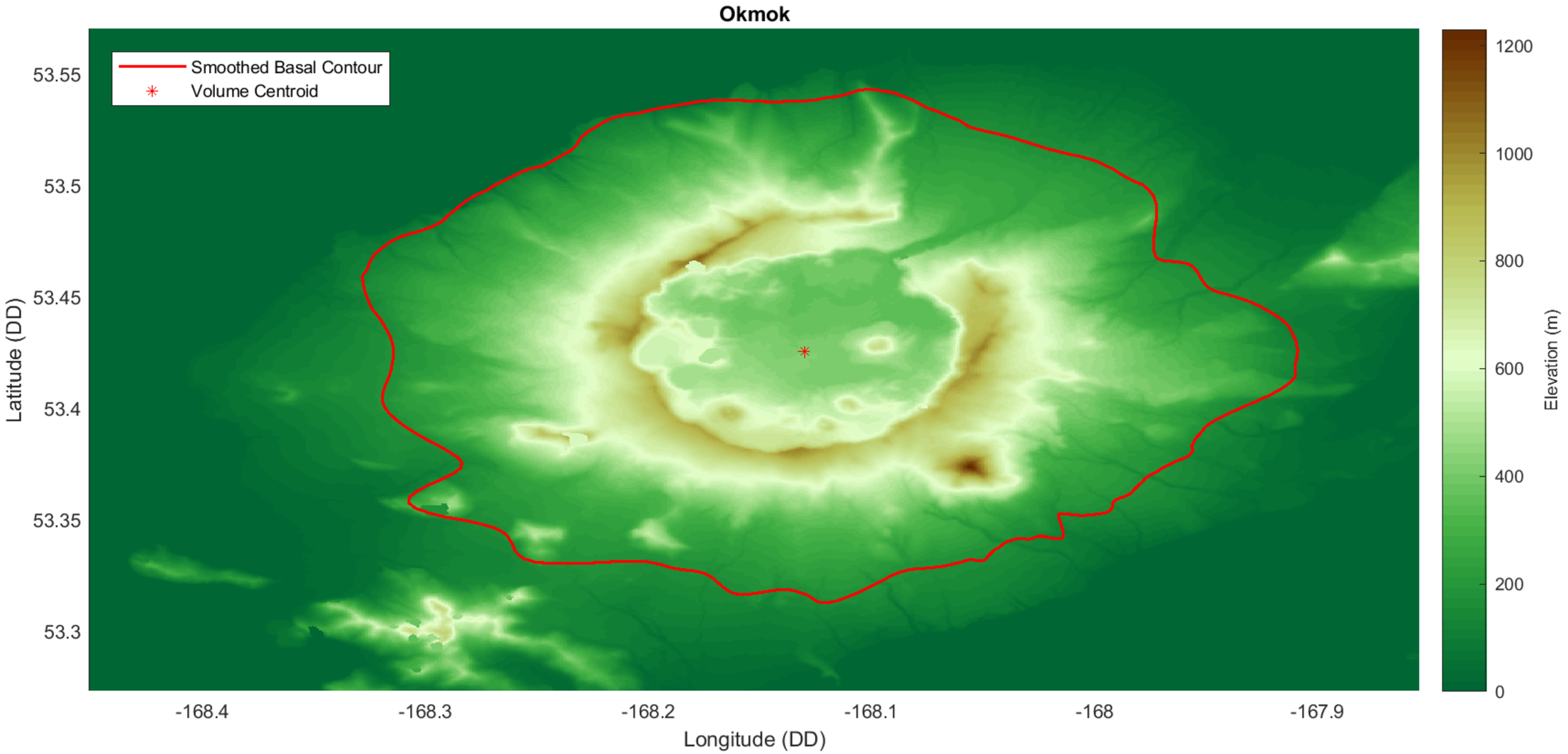
Elevation (m)


Okmok
Smoothed Basal Contour
Volume Centroid
53.55
53.5
53.45
53.4
53.35
53.3
Latitude (DD)
-168.4
-168.3
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1000
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200
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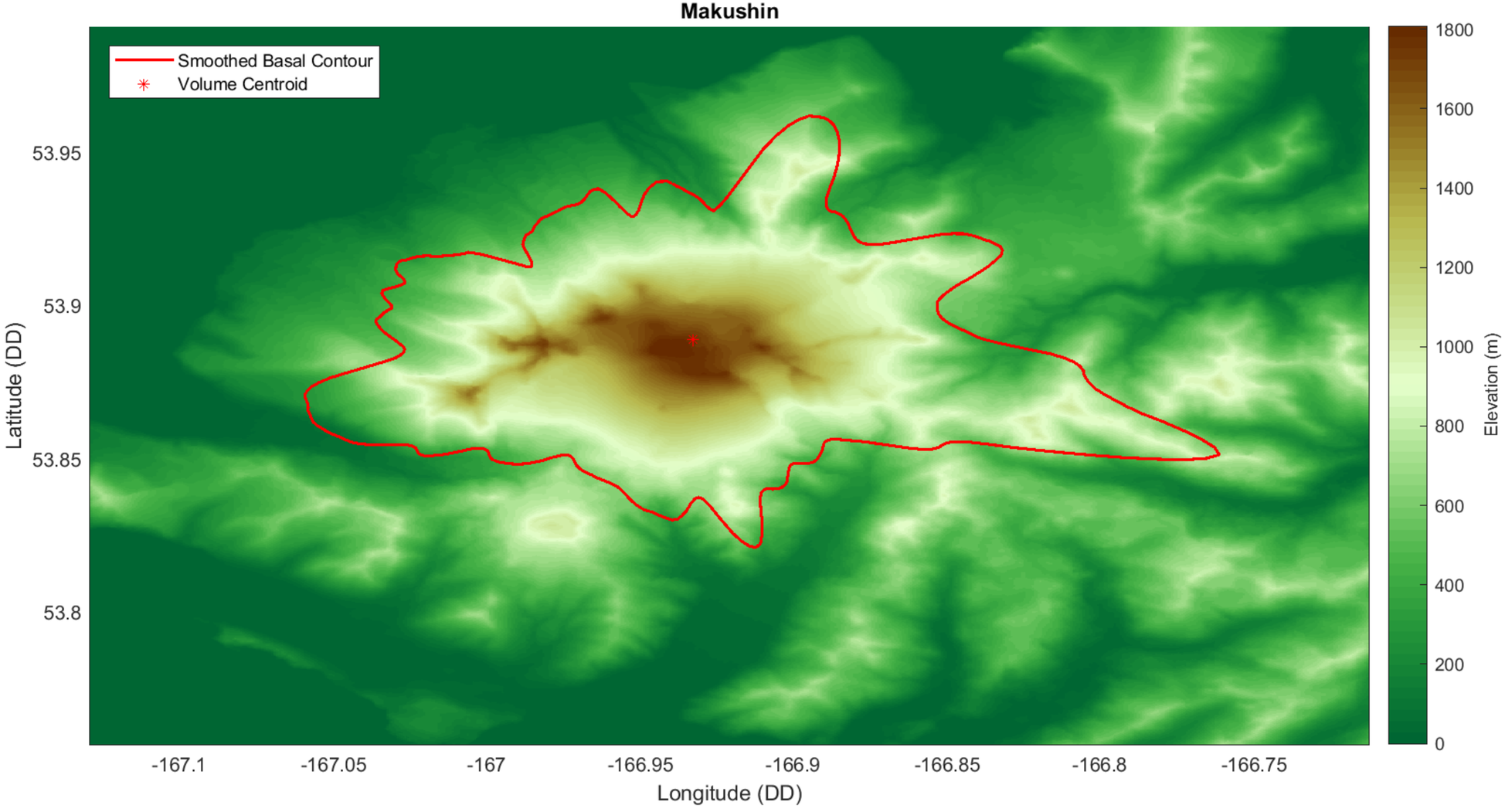
Elevation (m)


Makushin
Smoothed Basal Contour
Volume Centroid
53.95
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53.8
Latitude (DD)
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-167.05
-167
-166.95
-166.9
-166.85
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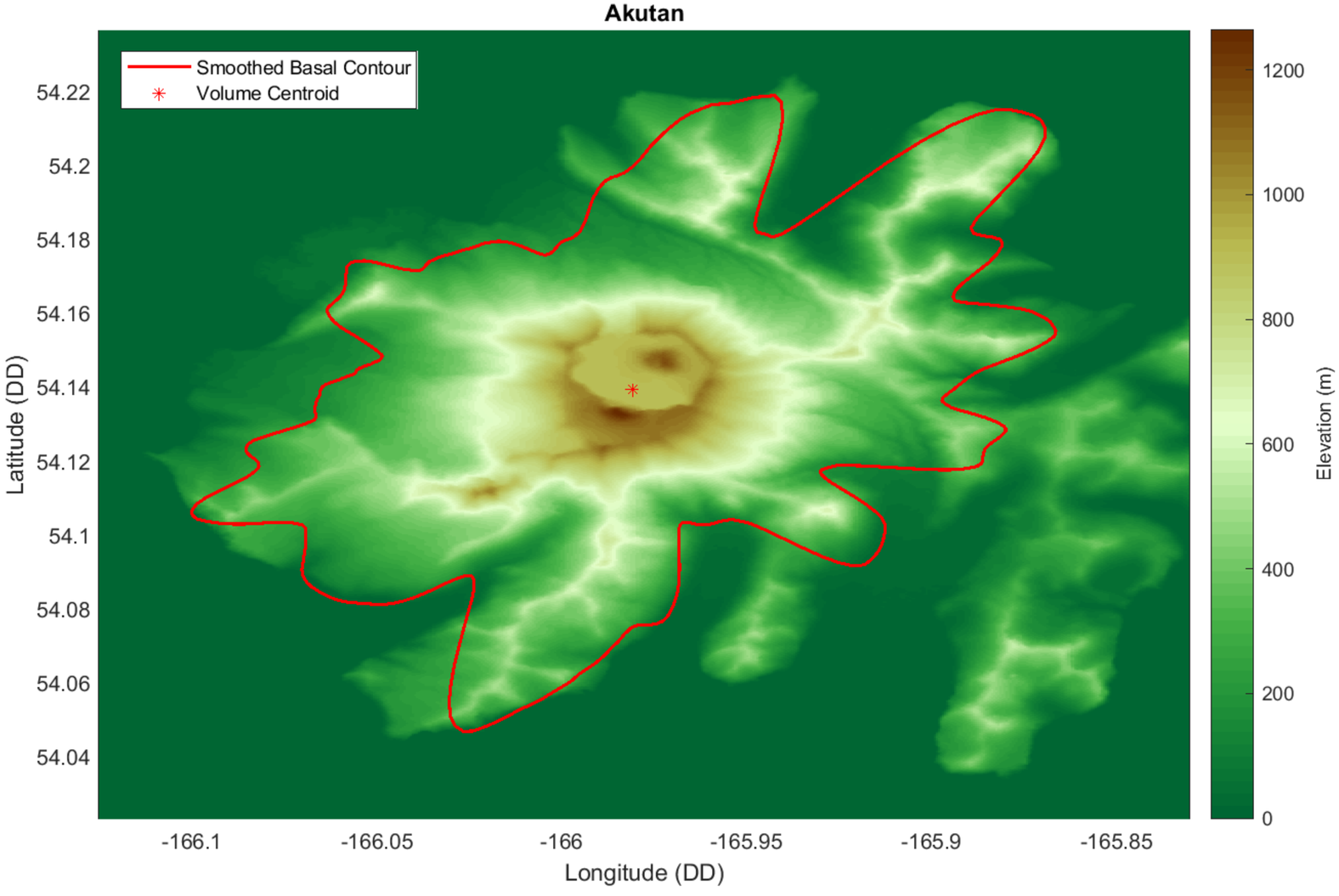
Elevation (m)


Akutan
Smoothed Basal Contour
Volume Centroid
54.22
54.2
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54.16
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54.12
54.1
54.08
54.06
54.04
Latitude (DD)
-166.1
-166.05
-166
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-165.9
-165.85
Longitude (DD)
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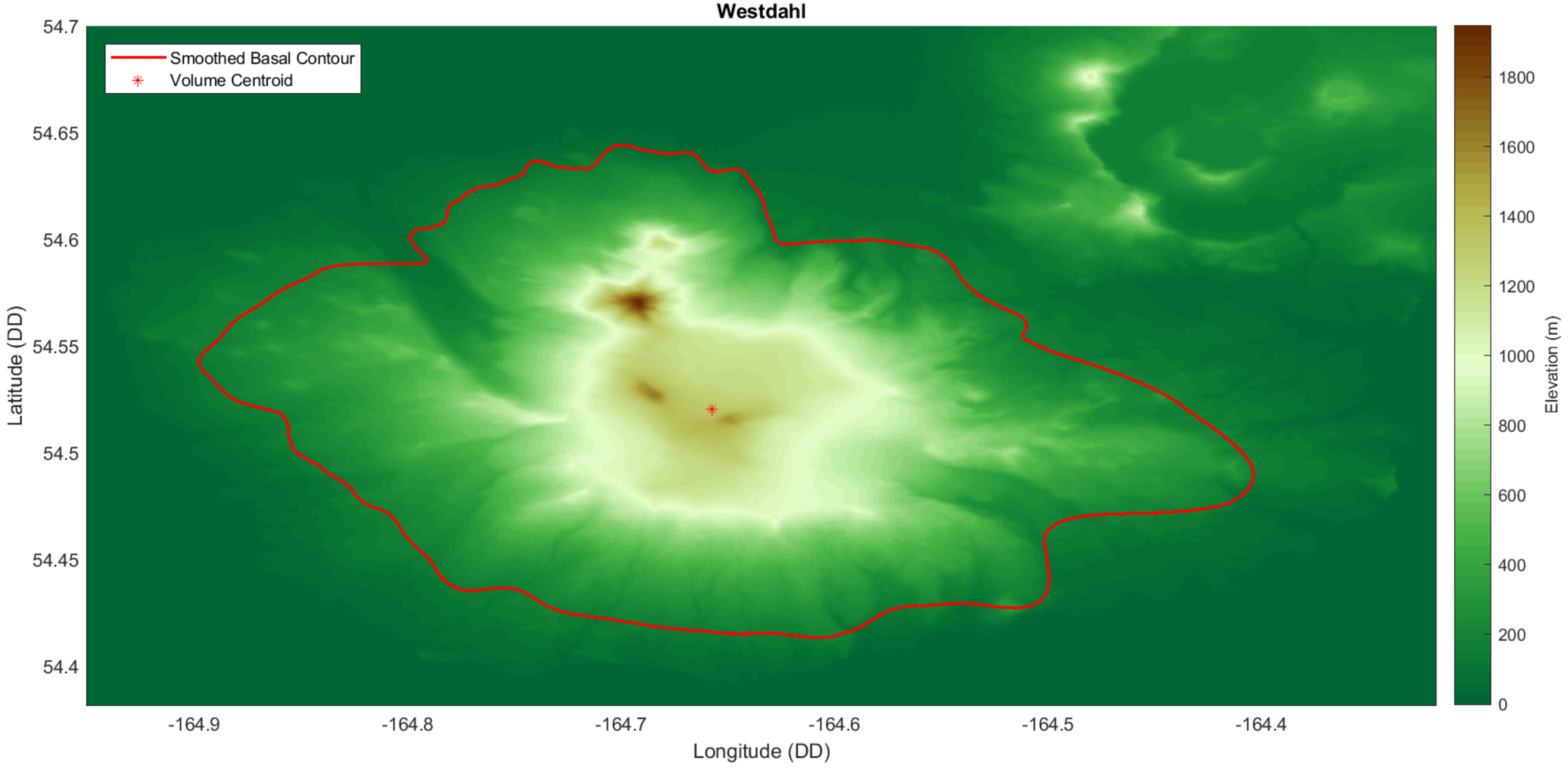
800
600
400
200
0
Elevation (m)


Westdahl
Smoothed Basal Contour
Volume Centroid
54.7
54.65
54.6
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54.5
54.45
54.4
Latitude (DD)
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-164.8
-164.7
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1600
1400
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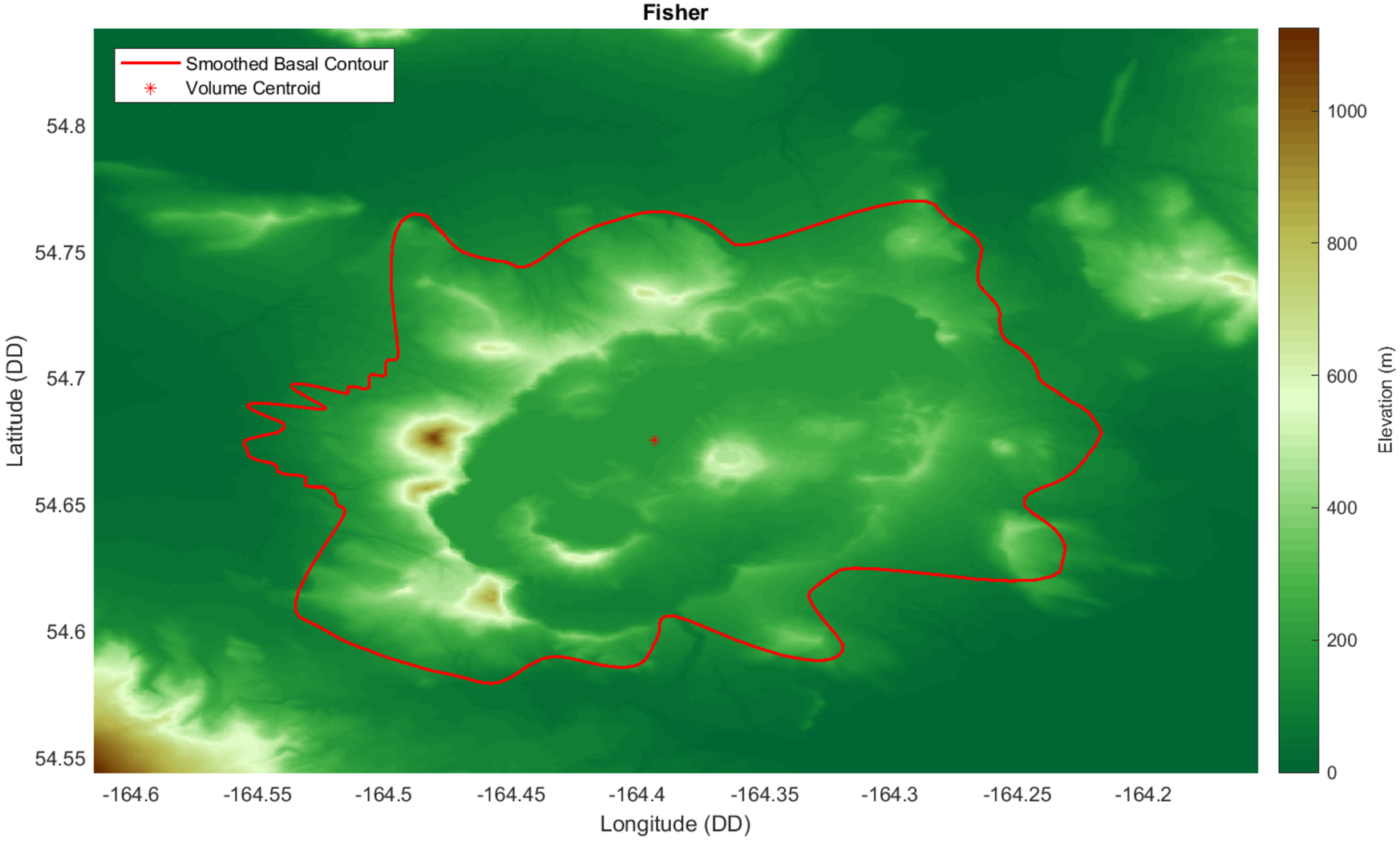
1000
800
600
400
200
0
Elevation (m)


Fisher
Smoothed Basal Contour
Volume Centroid
54.8
54.75
54.7
54.65
54.6
54.55
Latitude (DD)
-164.6
-164.55
-164.5
-164.45
-164.4
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-164.25
-164.2
Longitude (DD)
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800
600
400
200
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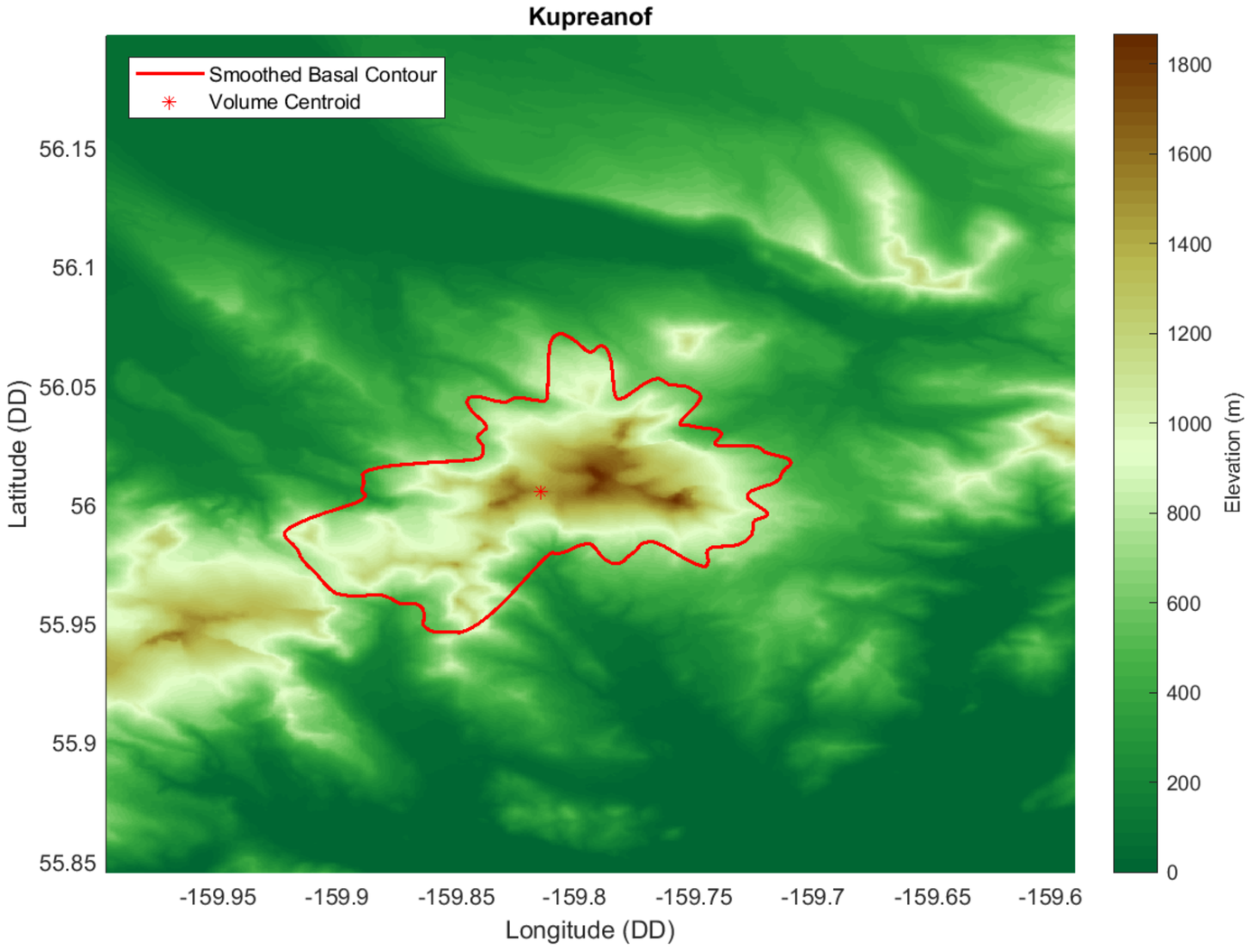
Elevation (m)


Kupreanof
Smoothed Basal Contour
Volume Centroid
56.15
56.1
56.05
56
55.95
55.9
55.85
Latitude (DD)
-159.95
-159.9
-159.85
-159.8
-159.75
-159.7
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-159.6
Longitude (DD)
1800
1600
1400
1200
1000
800
600
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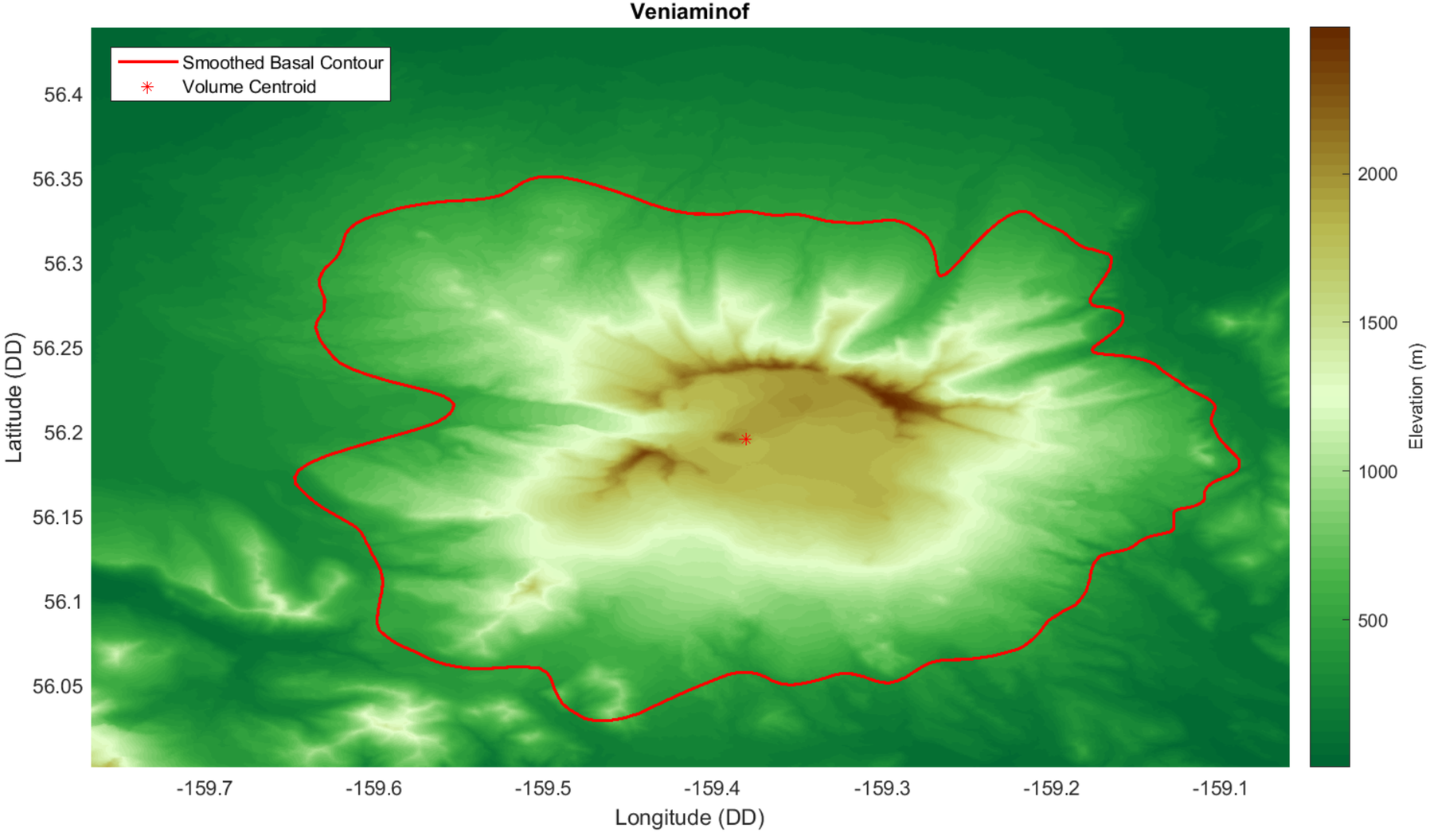
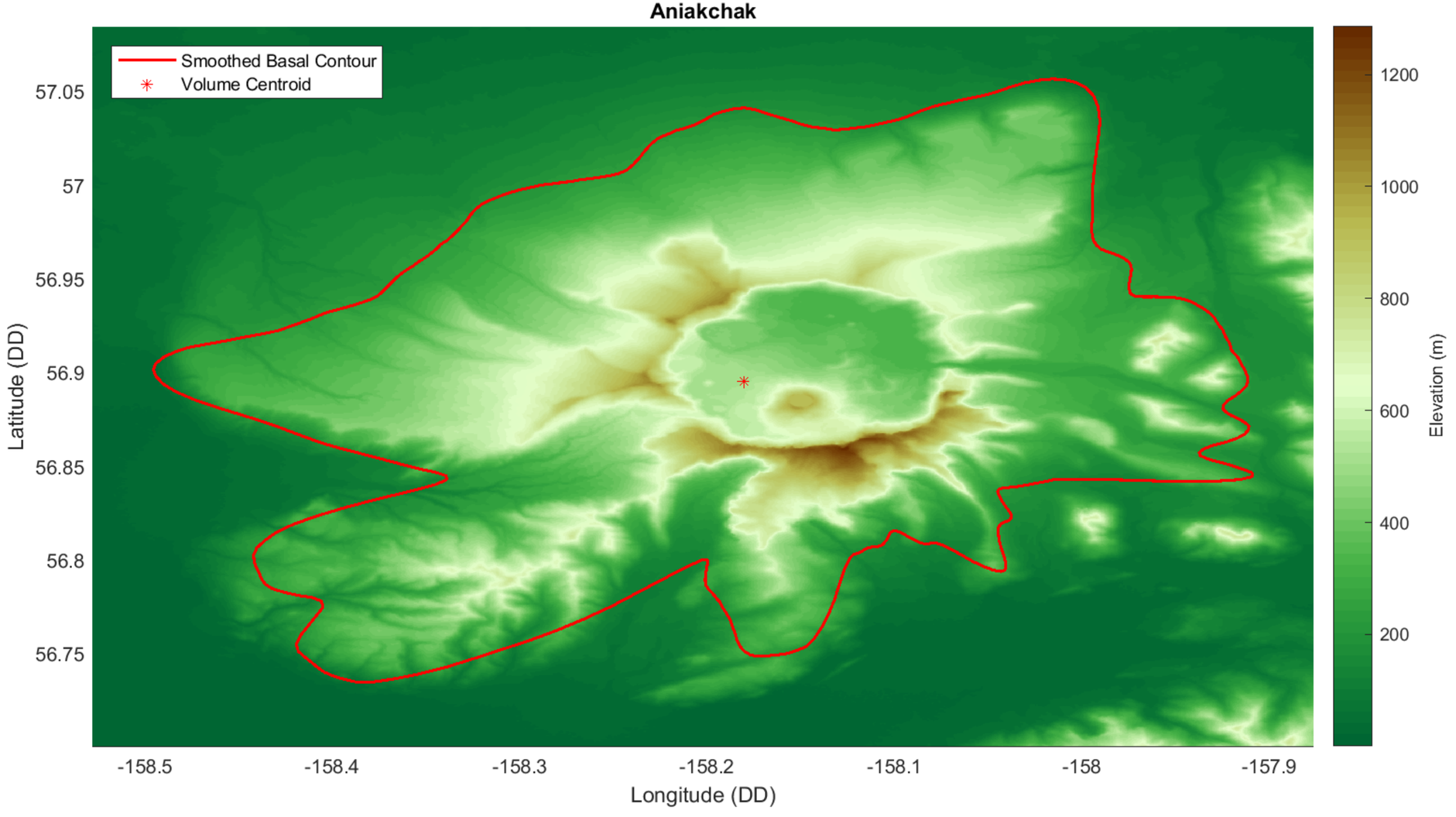
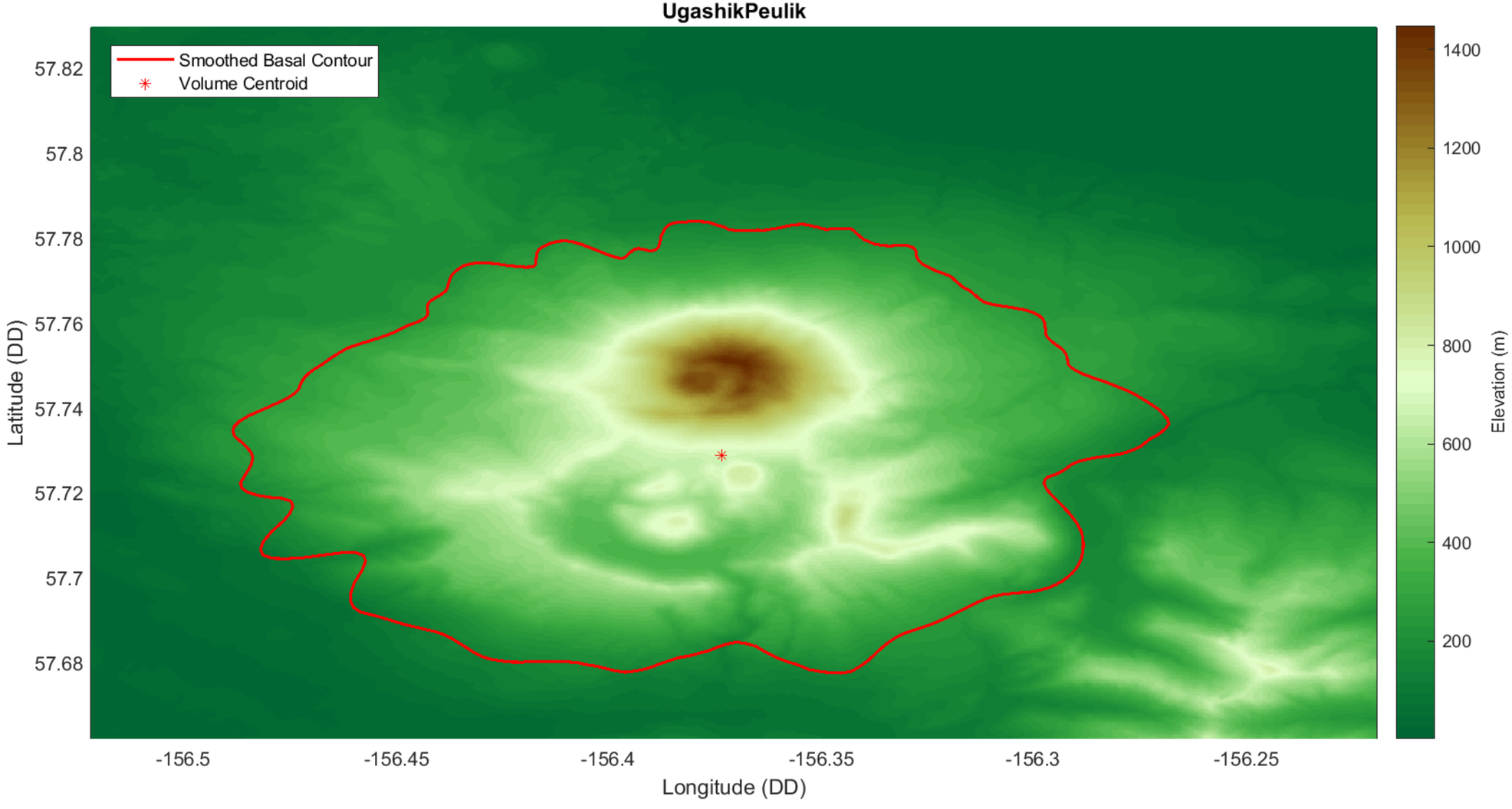
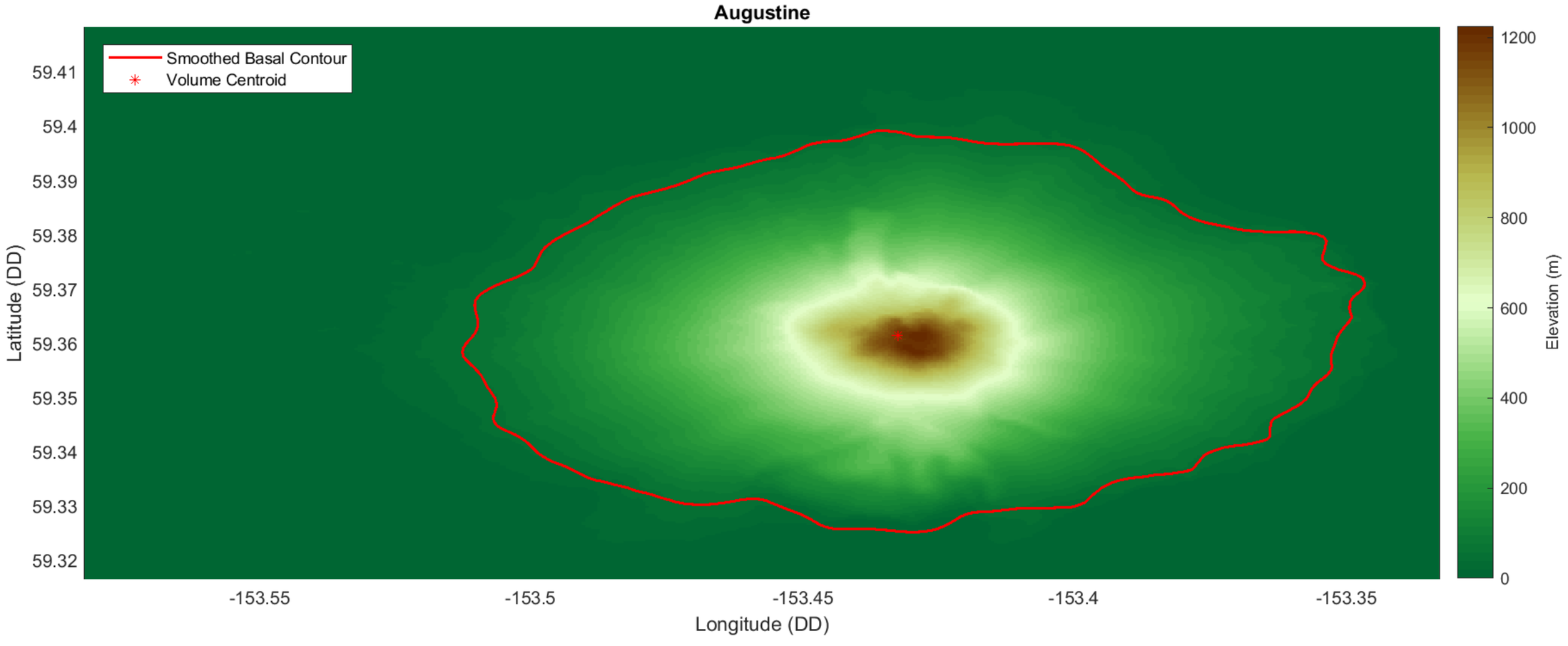
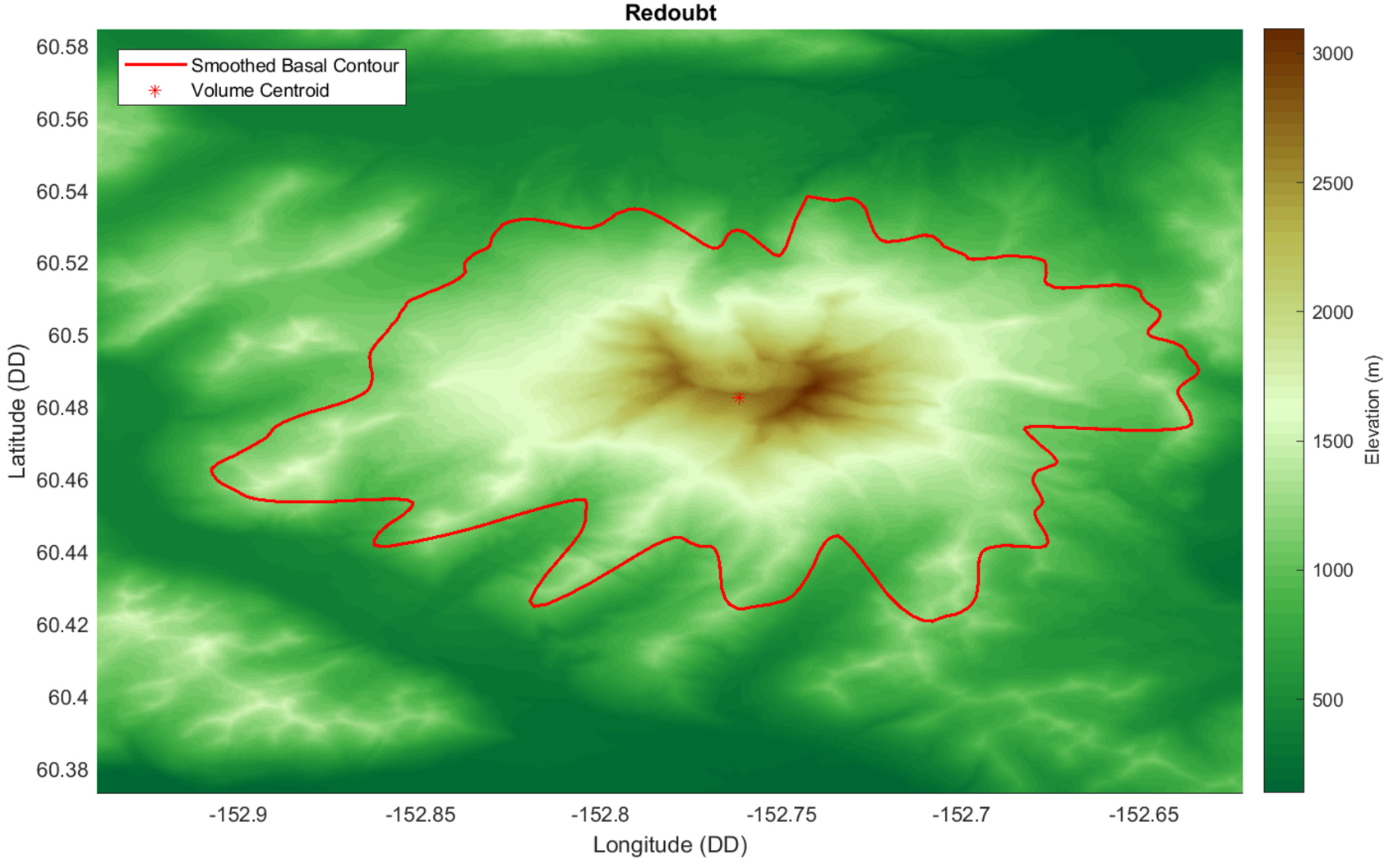
0
Elevation (m)

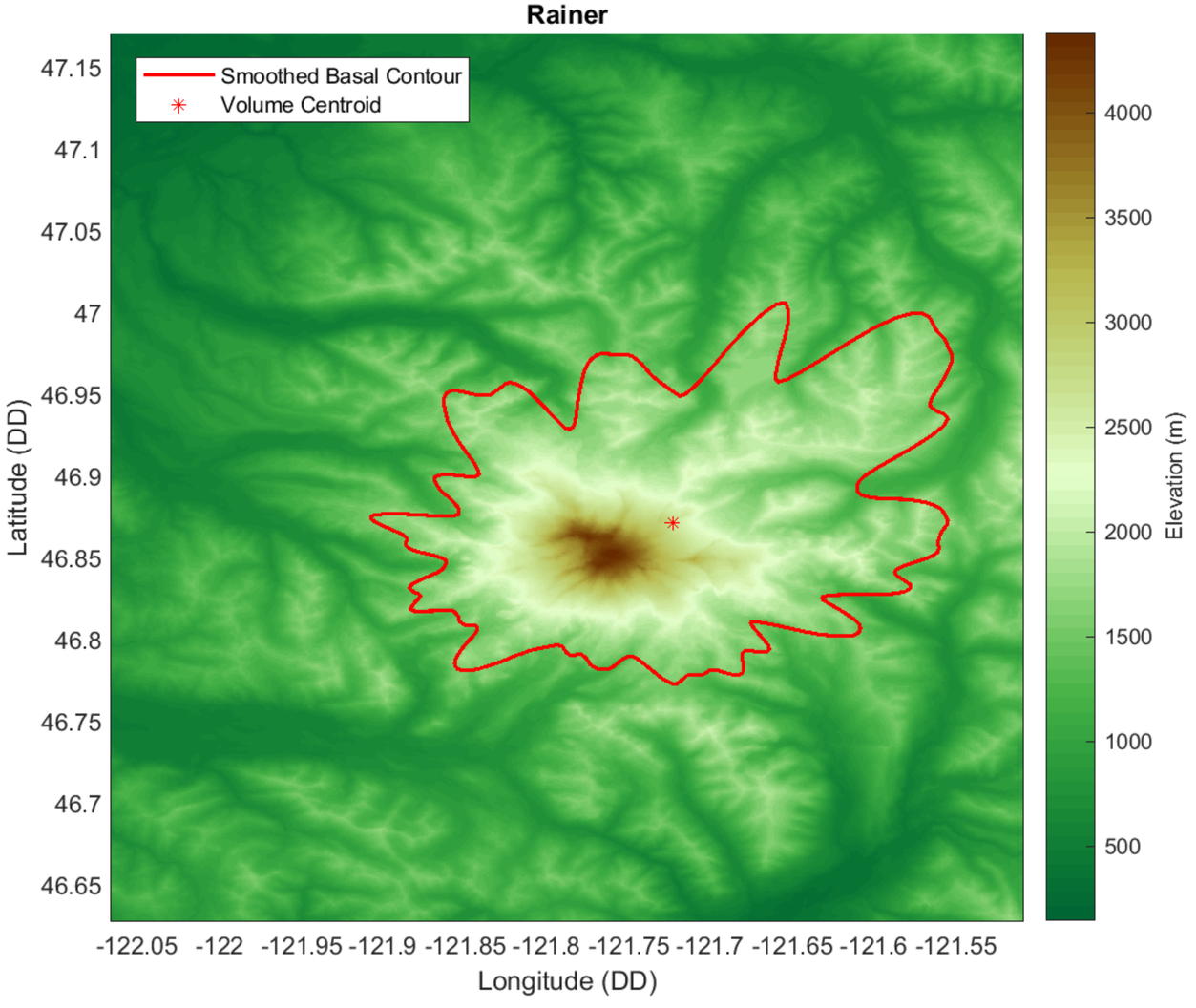

Veniaminof
Smoothed Basal Contour
Volume Centroid
56.4
56.35
56.3
56.25
56.2
56.15
56.1
56.05
Latitude (DD)
-159.7
-159.6
-159.5
-159.4
-159.3
-159.2
-159.1
Longitude (DD)
2000
1500
1000
500
Elevation (m)

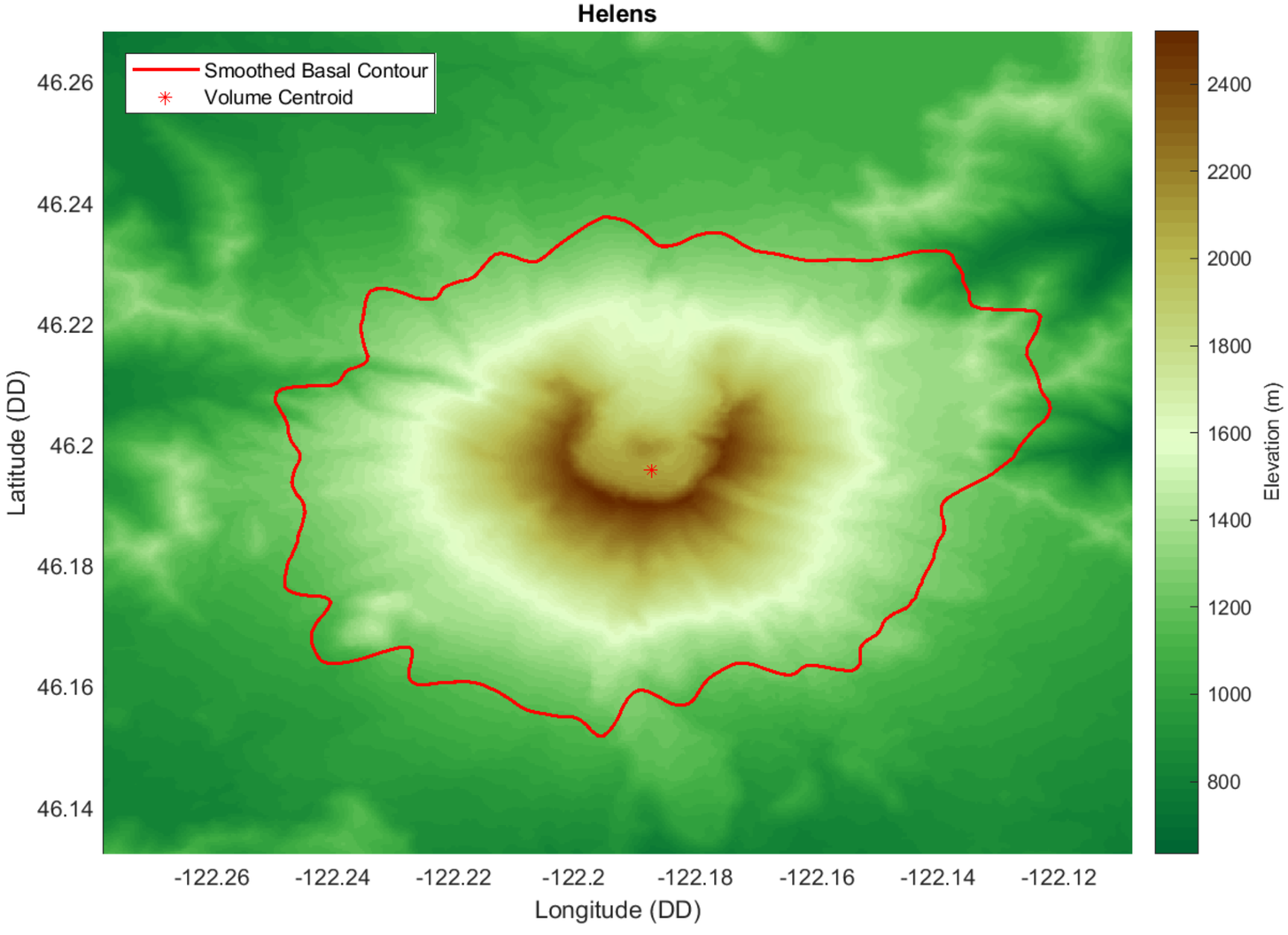

Aniakchak
Smoothed Basal Contour
Volume Centroid
57.05
57
56.95
56.9
56.85
56.8
56.75
Latitude (DD)
-158.5
-158.4
-158.3
-158.2
-158.1
-158
-157.9
Longitude (DD)
1200
1000
800
600
400
200
Elevation (m)

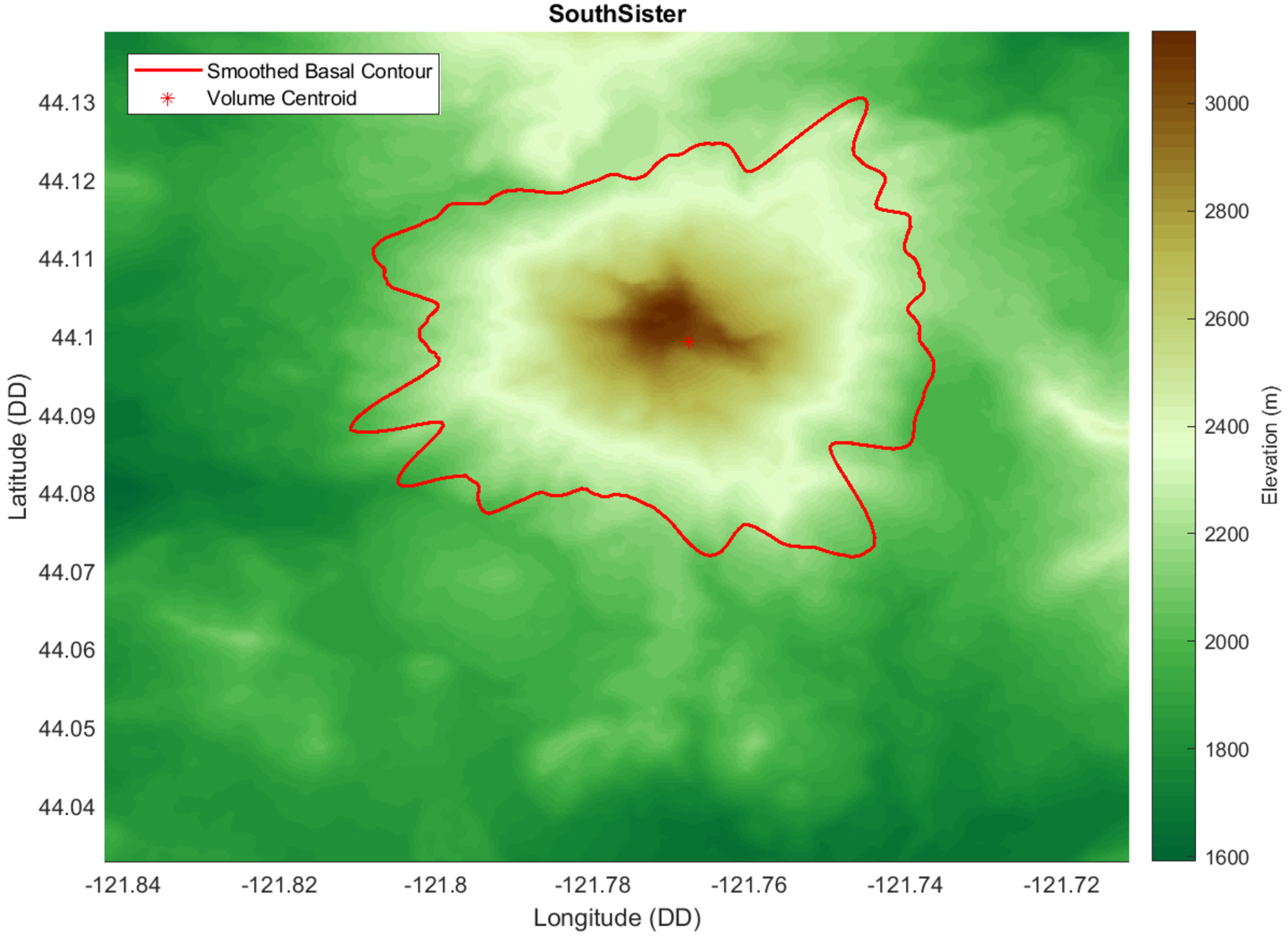

UgashikPeulik
Smoothed Basal Contour
Volume Centroid
57.82
57.8
57.78
57.76
57.74
57.72
57.7
57.68
Latitude (DD)
-156.5
-156.45
-156.4
-156.35
-156.3
-156.25
Longitude (DD)
1400
1200
1000
800
600
400
200
Elevation (m)

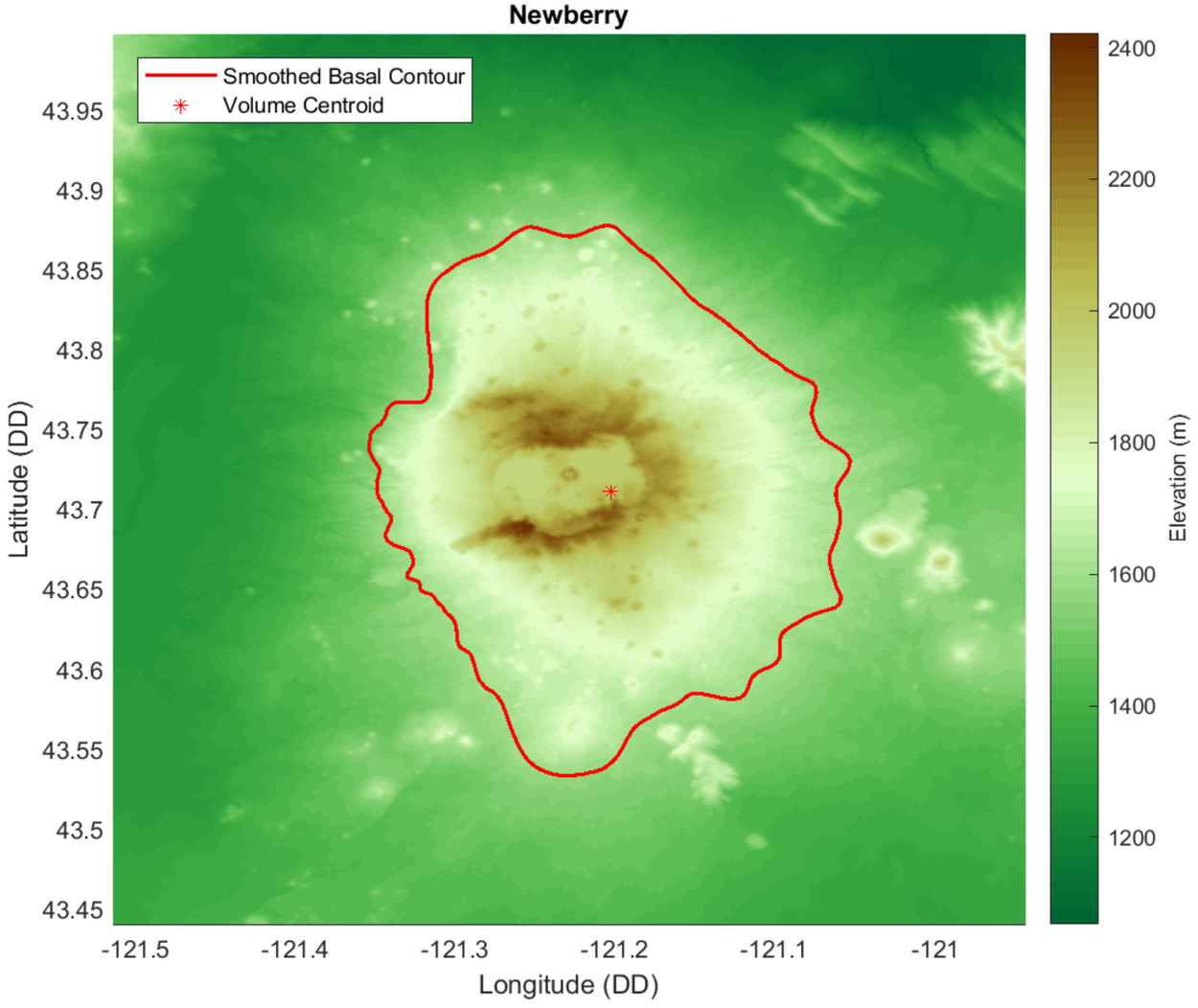

Augustine
Smoothed Basal Contour
Volume Centroid
59.41
59.4
59.39
59.38
59.37
59.36
59.35
59.34
59.33
59.32
Latitude (DD)
-153.55
-153.5
-153.45
-153.4
-153.35
Longitude (DD)
1200
1000
800
600
400
200
0
Elevation (m)

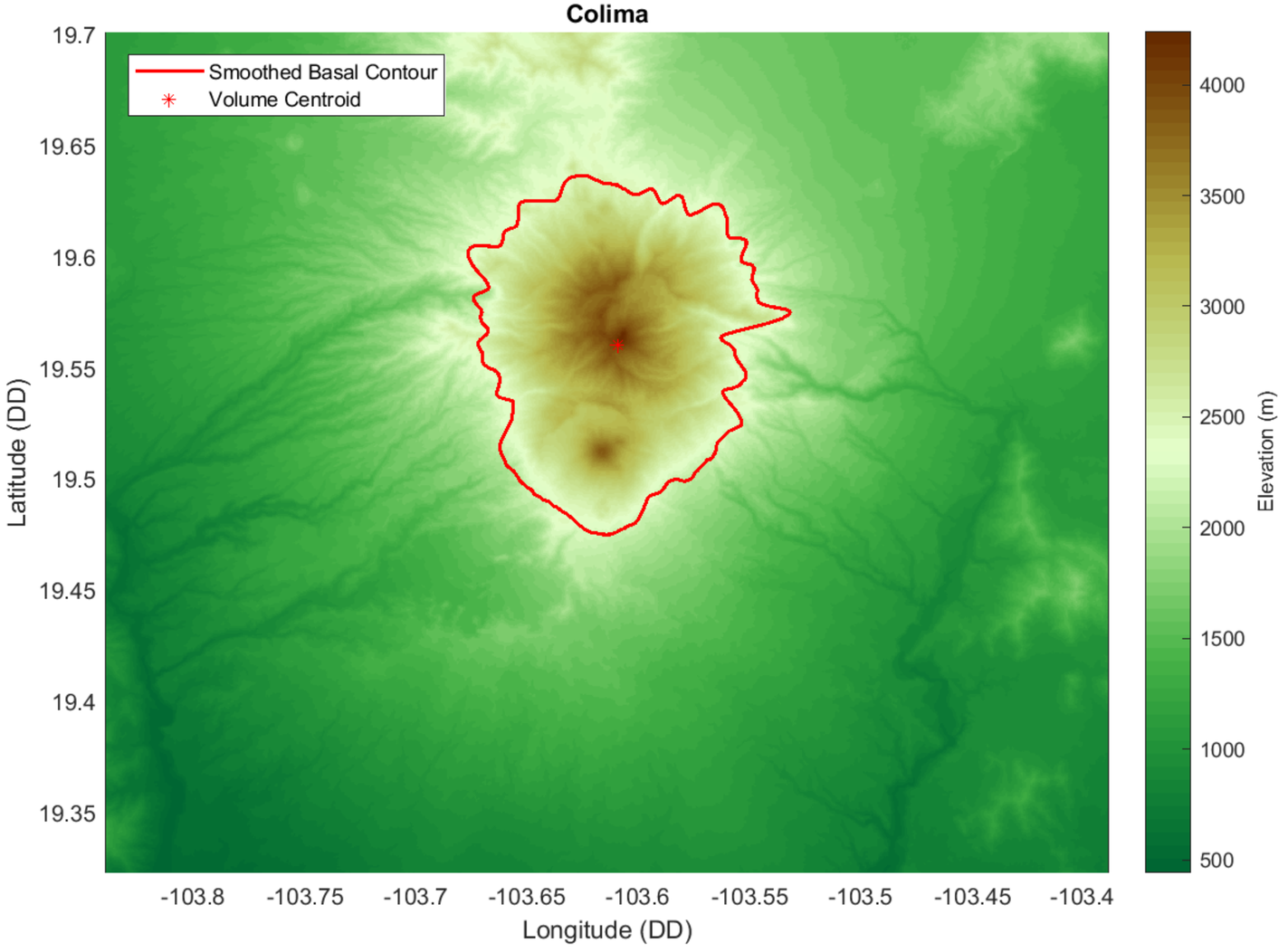

Redoubt
Smoothed Basal Contour
Volume Centroid
60.58
60.56
60.54
60.52
60.5
60.48
60.46
60.44
60.42
60.4
60.38
Latitude (DD)
-152.9
-152.85
-152.8
-152.75
-152.7
-152.65
Longitude (DD)
3000
2500
2000
1500
1000
500
Elevation (m)

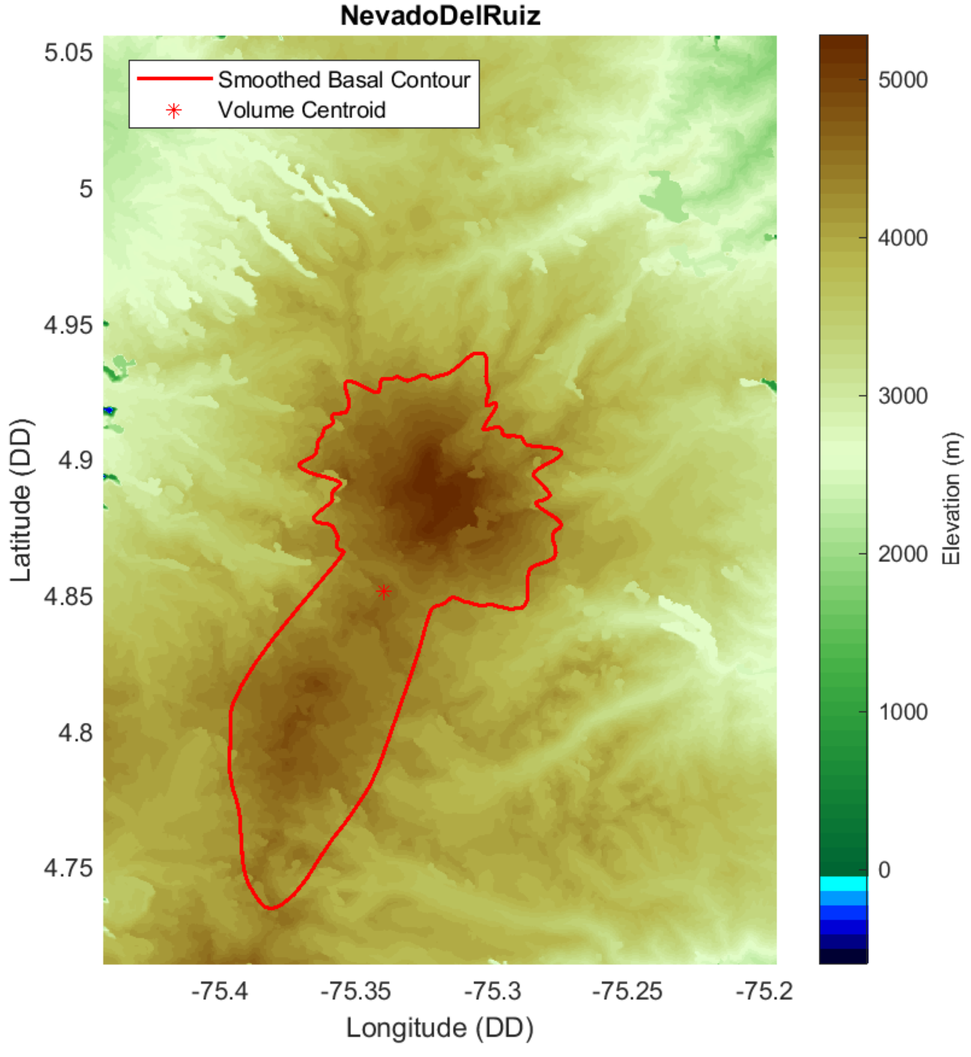

Rainer
Smoothed Basal Contour
Volume Centroid
47.15
47.1
47.05
47
46.95
46.9
46.85
46.8
46.75
46.7
46.65
Latitude (DD)
-122.05
-122
-121.95
-121.9
-121.85
-121.8
-121.75
-121.7
-121.65
-121.6
-121.55
Longitude (DD)
4000
3500
3000
2500
2000
1500
1000
500
Elevation (m)

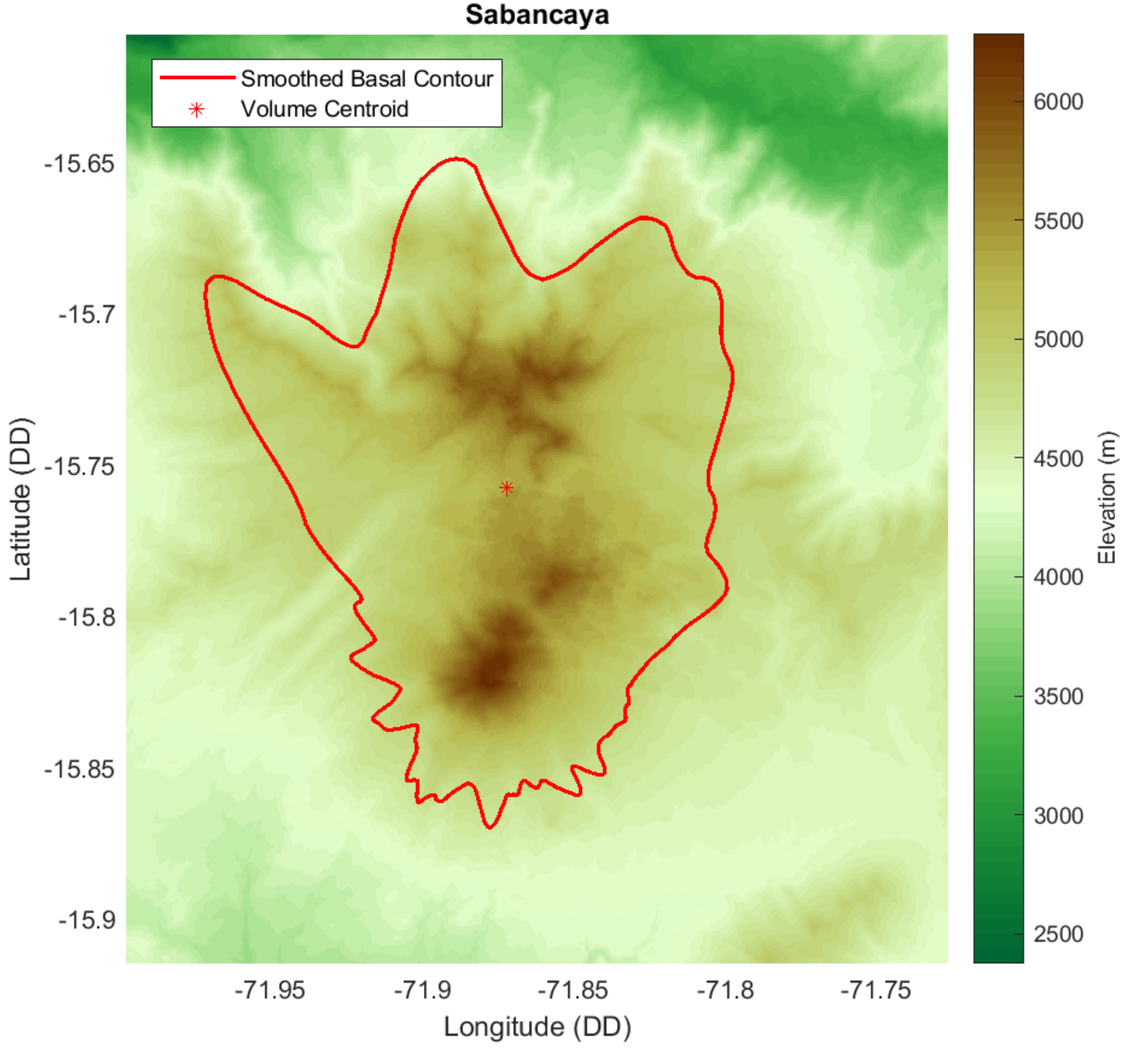

Helens
Smoothed Basal Contour
Volume Centroid
46.26
46.24
46.22
46.2
46.18
46.16
46.14
Latitude (DD)
-122.26
-122.24
-122.22
-122.2
-122.18
-122.16
-122.14
-122.12
Longitude (DD)
2400
2200
2000
1800
1600
1400
1200
1000
800
Elevation (m)

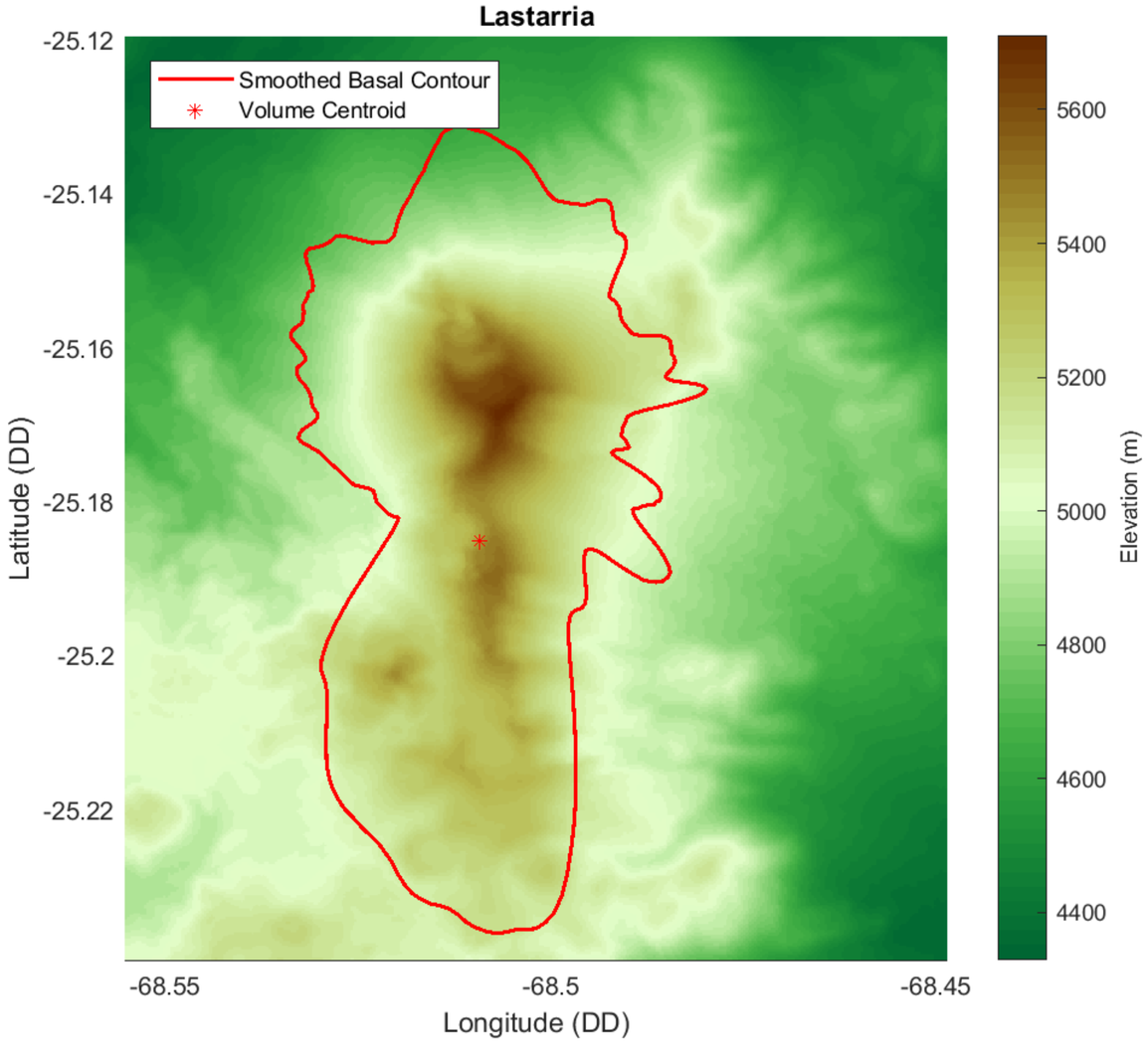

SouthSister
Smoothed Basal Contour
Volume Centroid
44.13
44.12
44.11
44.1
44.09
44.08
44.07
44.06
44.05
44.04
Latitude (DD)
-121.84
-121.82
-121.8
-121.78
-121.76
-121.74
-121.72
Longitude (DD)
3000
2800
2600
2400
2200
2000
1800
1600
Elevation (m)

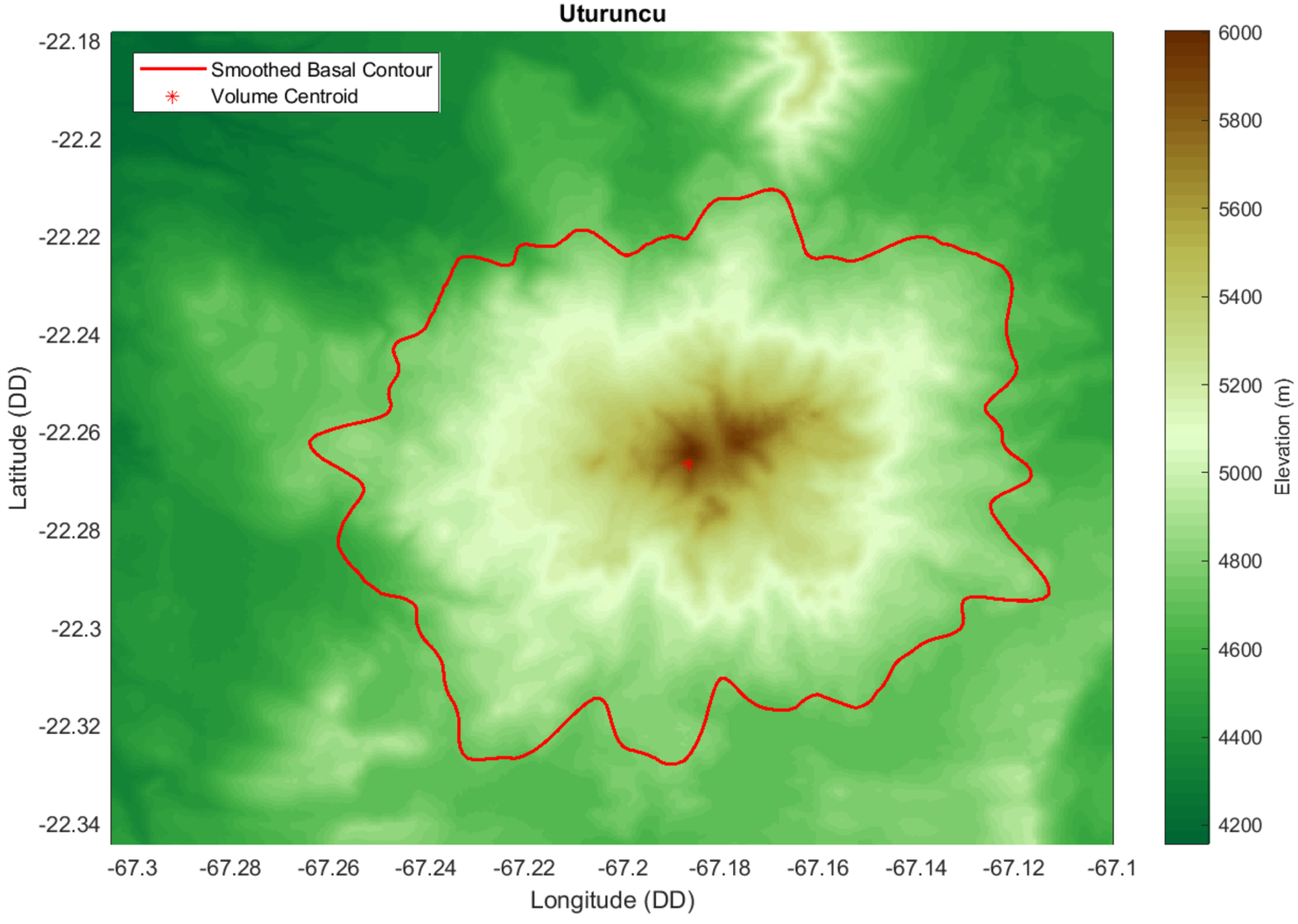

Newberry
Smoothed Basal Contour
Volume Centroid
43.95
43.9
43.85
43.8
43.75
43.7
43.65
43.6
43.55
43.5
43.45
Latitude (DD)
-121.5
-121.4
-121.3
-121.2
-121.1
-121
Longitude (DD)
2400
2200
2000
1800
1600
1400
1200
Elevation (m)

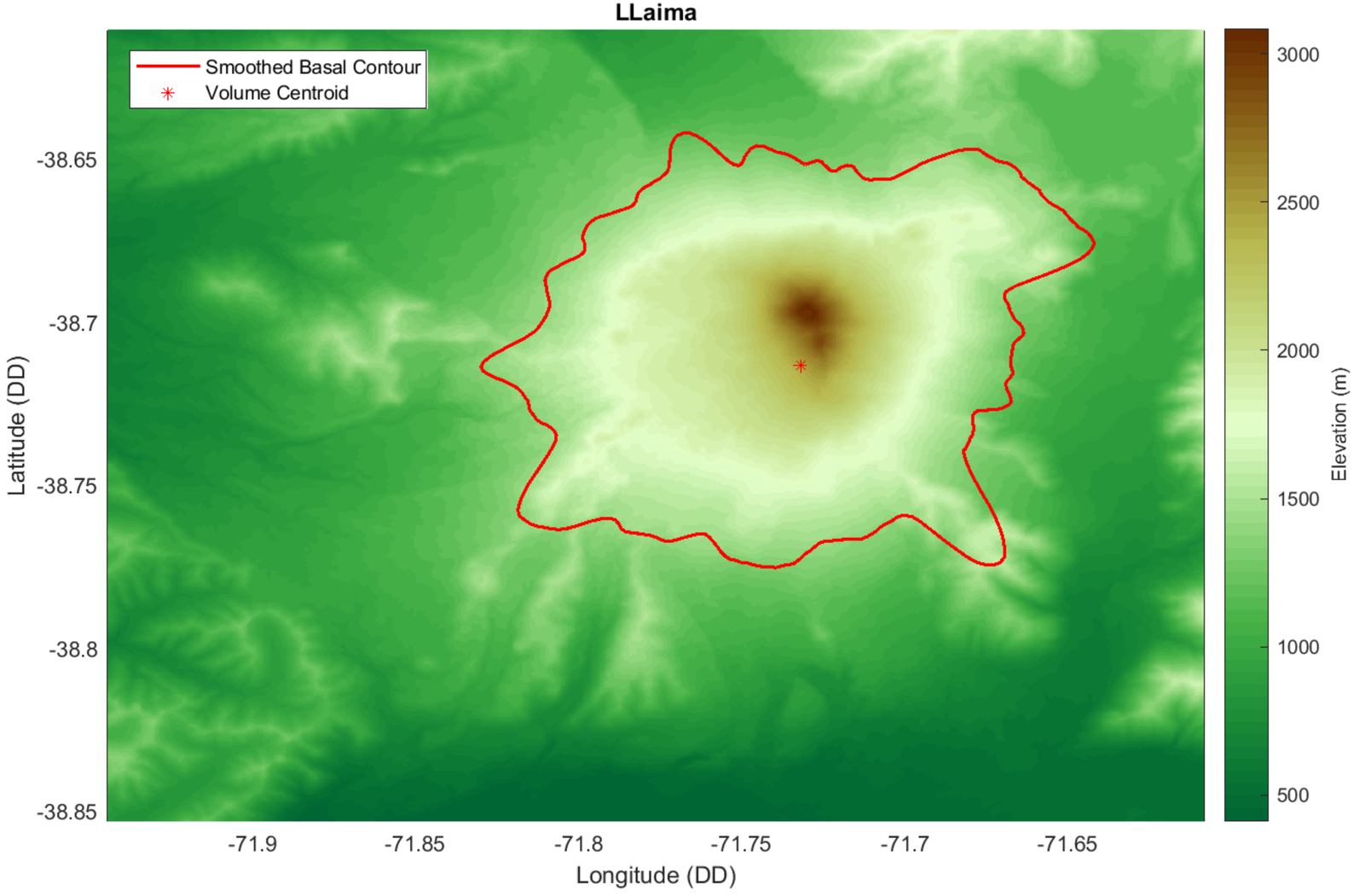

Colima
Smoothed Basal Contour
Volume Centroid
19.7
19.65
19.6
19.55
19.5
19.45
19.4
19.35
Latitude (DD)
-103.8
-103.75
-103.7
-103.65
-103.6
-103.55
-103.5
-103.45
-103.4
Longitude (DD)
4000
3500
3000
2500
2000
1500
1000
500
Elevation (m)

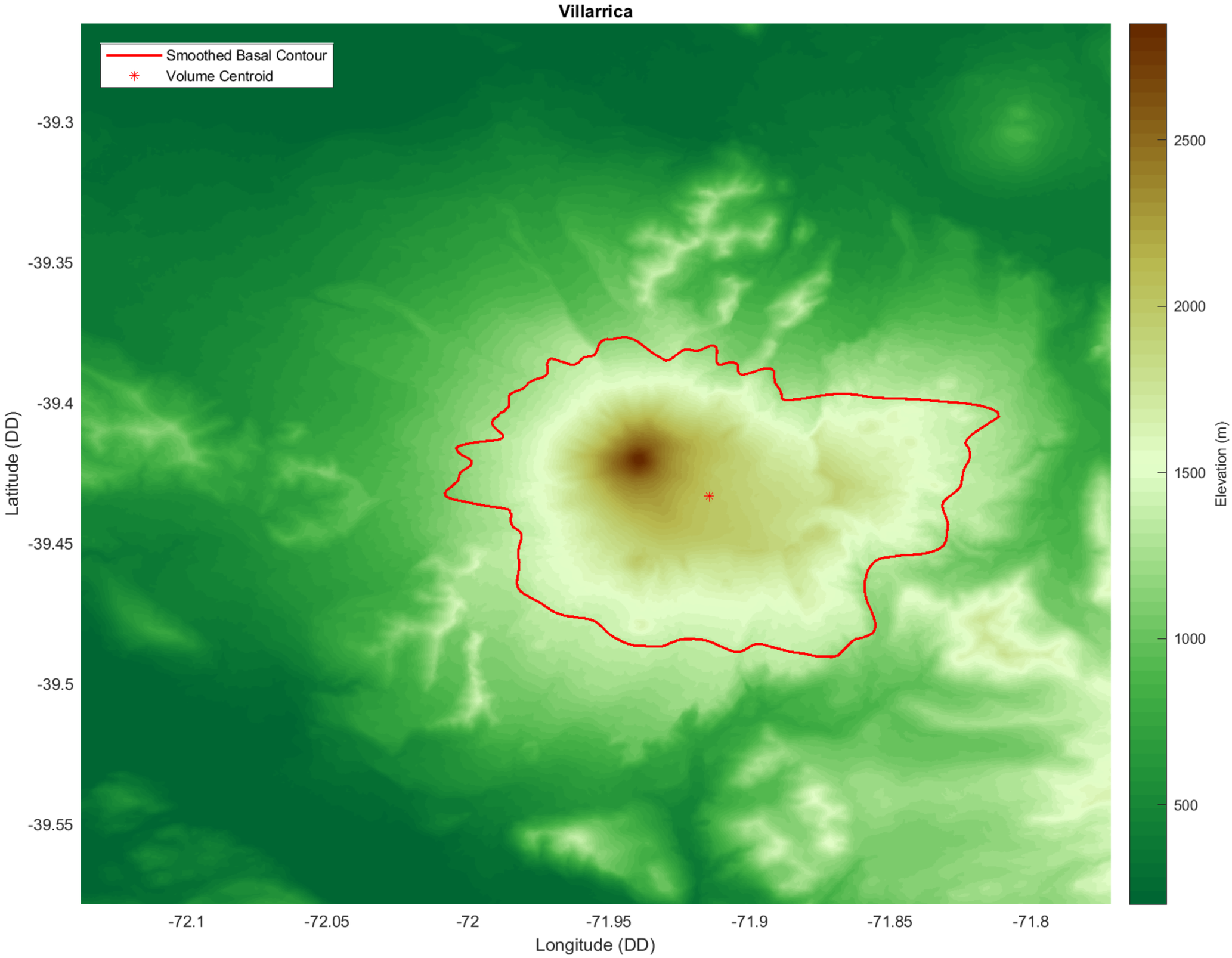

NevadoDelRuiz
Smoothed Basal Contour
Volume Centroid
5.05
5
4.95
4.9
4.85
4.8
4.75
Latitude (DD)
-75.4
-75.35
-75.3
-75.25
-75.2
Longitude (DD)
5000
4000
3000
2000
1000
0
Elevation (m)

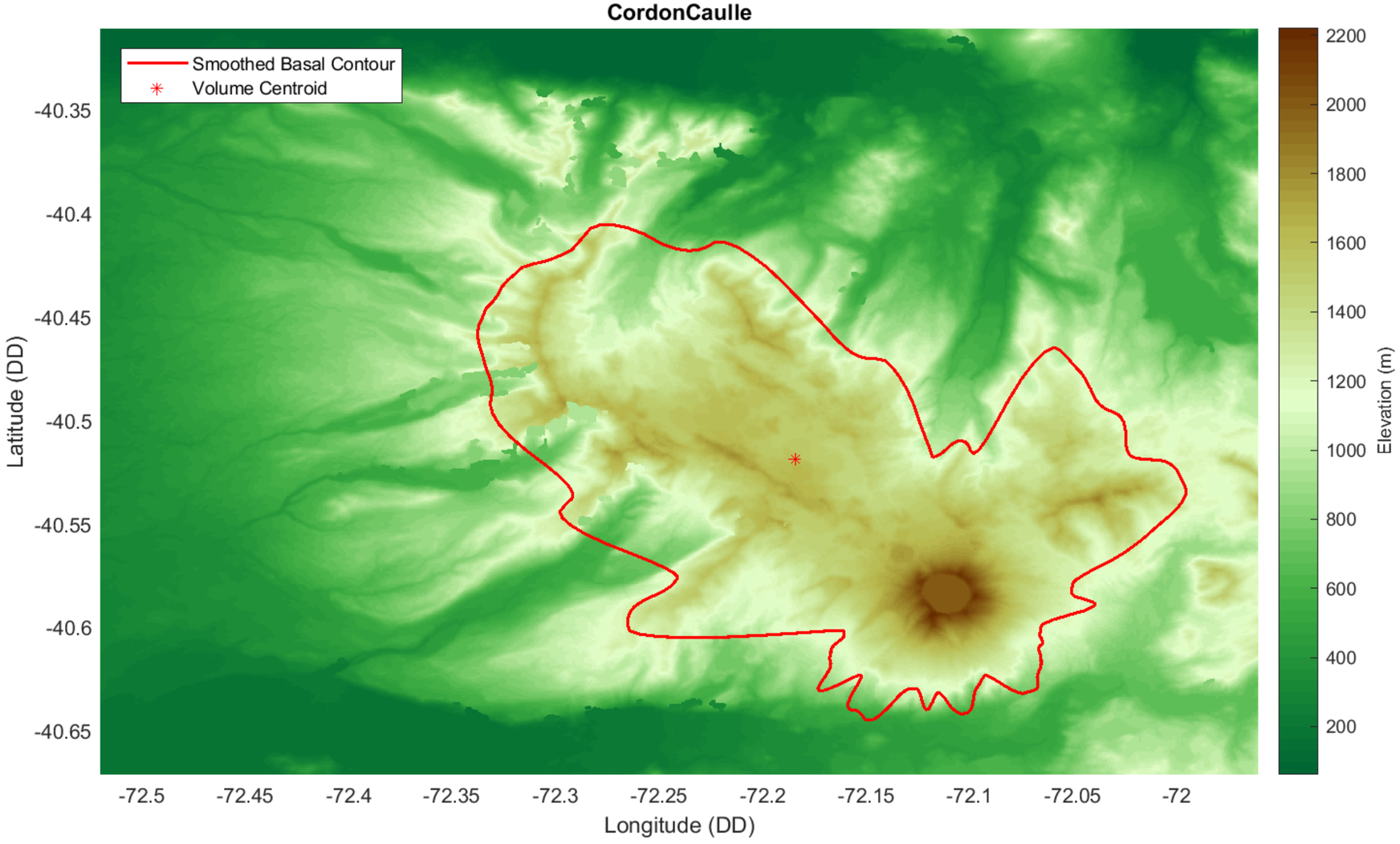

Sabancaya
Smoothed Basal Contour
Volume Centroid
-15.65
-15.7
-15.75
-15.8
-15.85
-15.9
Latitude (DD)
-71.95
-71.9
-71.85
-71.8
-71.75
Longitude (DD)
6000
5500
5000
4500
4000
3500
3000
2500
Elevation (m)

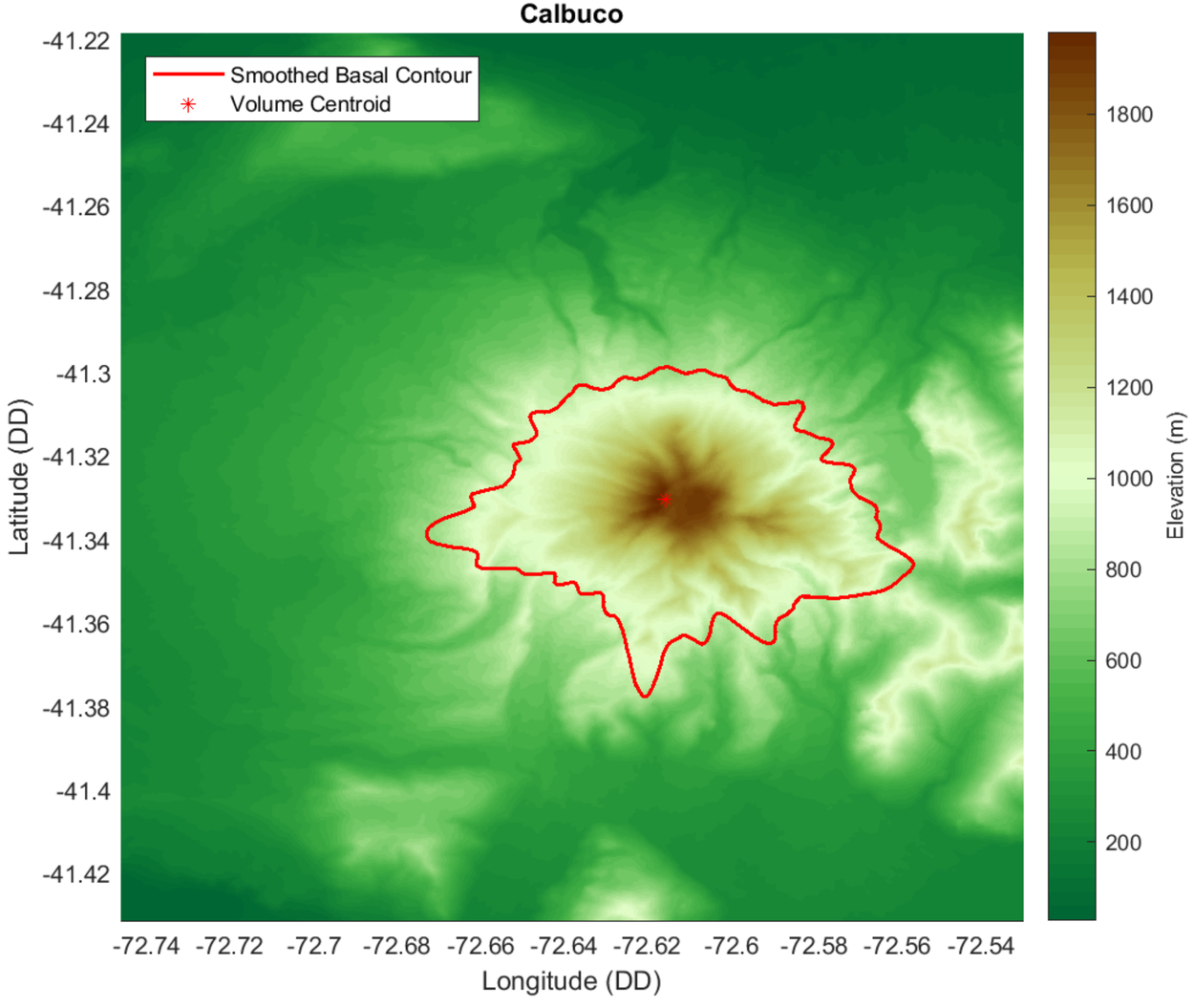

Lastarria
Smoothed Basal Contour
Volume Centroid
-25.12
-25.14
-25.16
-25.18
-25.2
-25.22
Latitude (DD)
-68.55
-68.5
-68.45
Longitude (DD)
5600
5400
5200
5000
4800
4600
4400
Elevation (m)

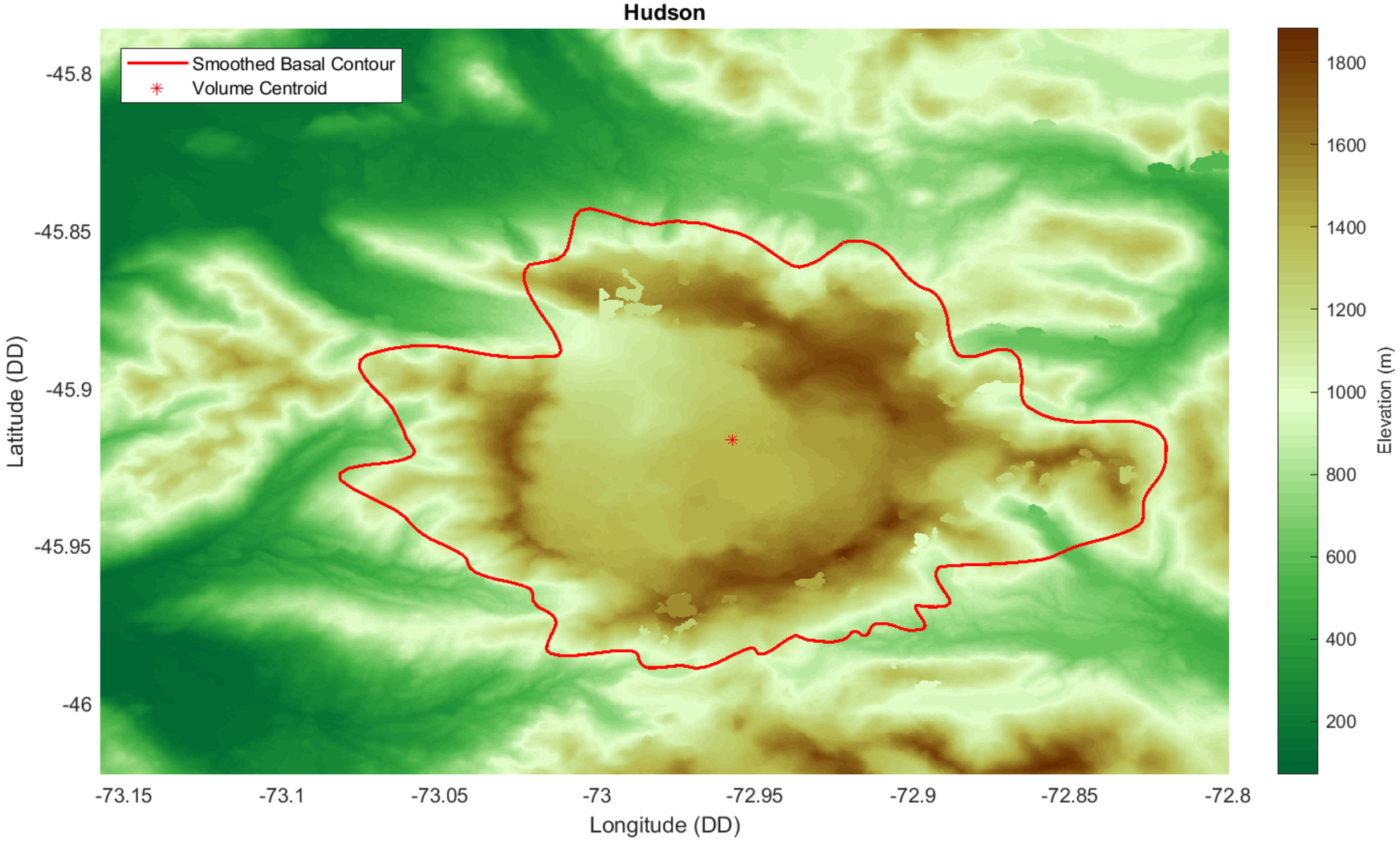

Uturuncu
Smoothed Basal Contour
Volume Centroid
-22.18
-22.2
-22.22
-22.24
-22.26
-22.28
-22.3
-22.32
-22.34
Latitude (DD)
-67.3
-67.28
-67.26
-67.24
-67.22
-67.2
-67.18
-67.16
-67.14
-67.12
-67.1
Longitude (DD)
6000
5800
5600
5400
5200
5000
4800
4600
4400
4200
Elevation (m)

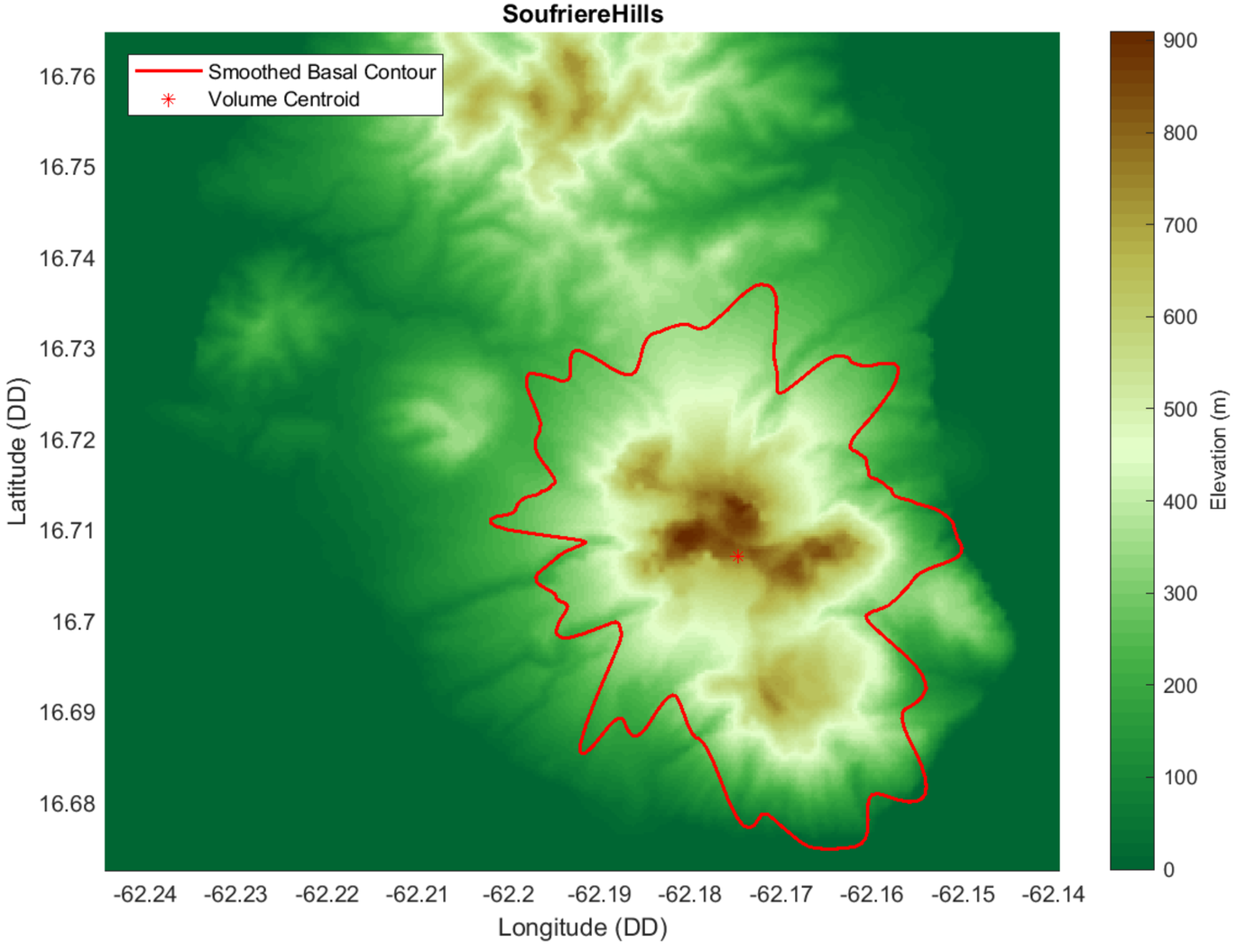

LLaima
Smoothed Basal Contour
Volume Centroid
-38.65
-38.7
-38.75
-38.8
-38.85
Latitude (DD)
-71.9
-71.85
-71.8
-71.75
-71.7
-71.65
Longitude (DD)
3000
2500
2000
1500
1000
500
Elevation (m)


Villarrica
Smoothed Basal Contour
Volume Centroid
-39.3
-39.35
-39.4
-39.45
-39.5
-39.55
Latitude (DD)
-72.1
-72.05
-72
-71.95
-71.9
-71.85
-71.8
Longitude (DD)
2500
2000
1500
1000
500
Elevation (m)

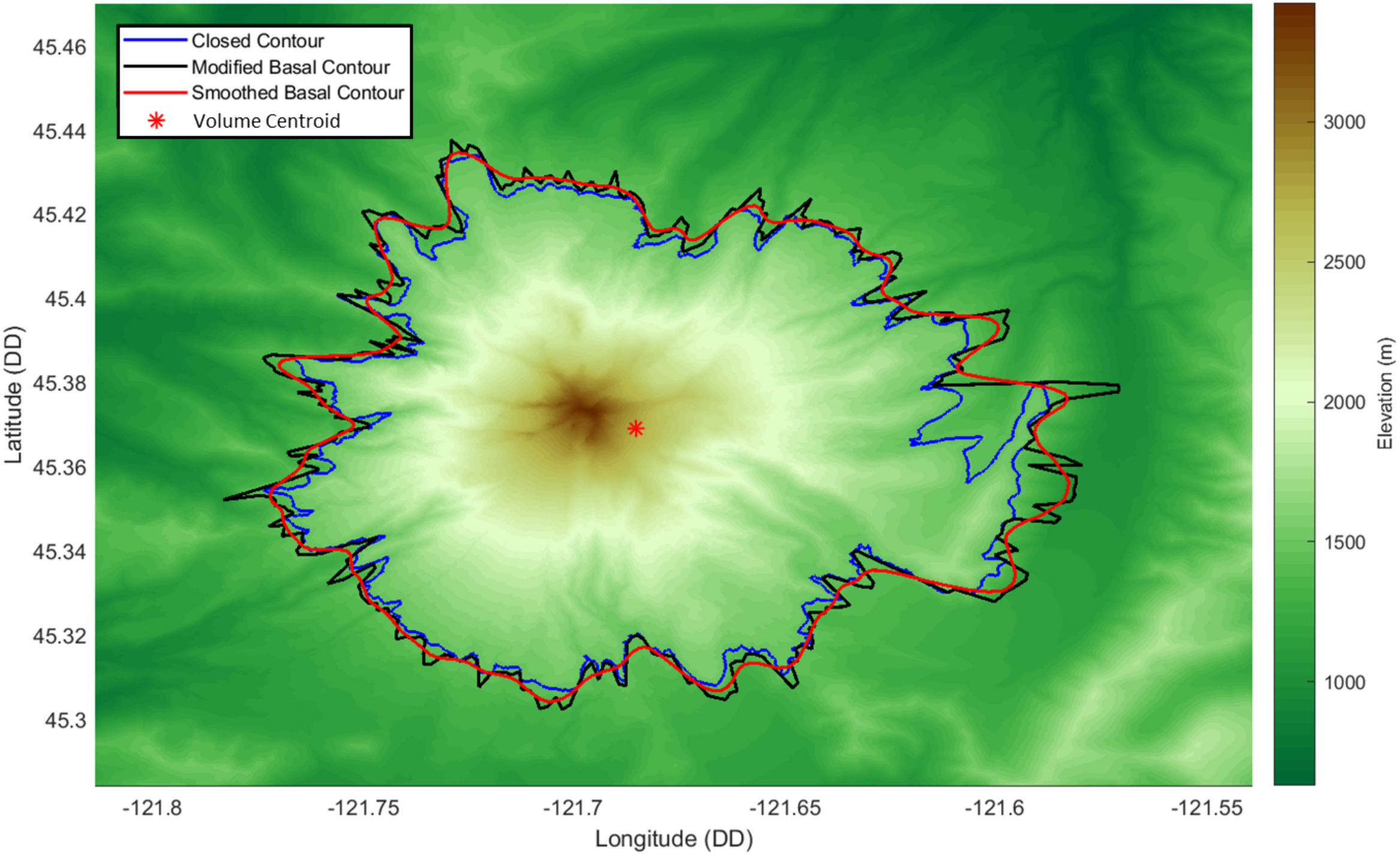

CordonCaulle
Smoothed Basal Contour
Volume Centroid
-40.35
-40.4
-40.45
-40.5
-40.55
-40.6
-40.65
Latitude (DD)
-72.5
-72.45
-72.4
-72.35
-72.3
-72.25
-72.2
-72.15
-72.1
-72.05
-72
Longitude (DD)
2200
2000
1800
1600
1400
1200
1000
800
600
400
200
Elevation (m)

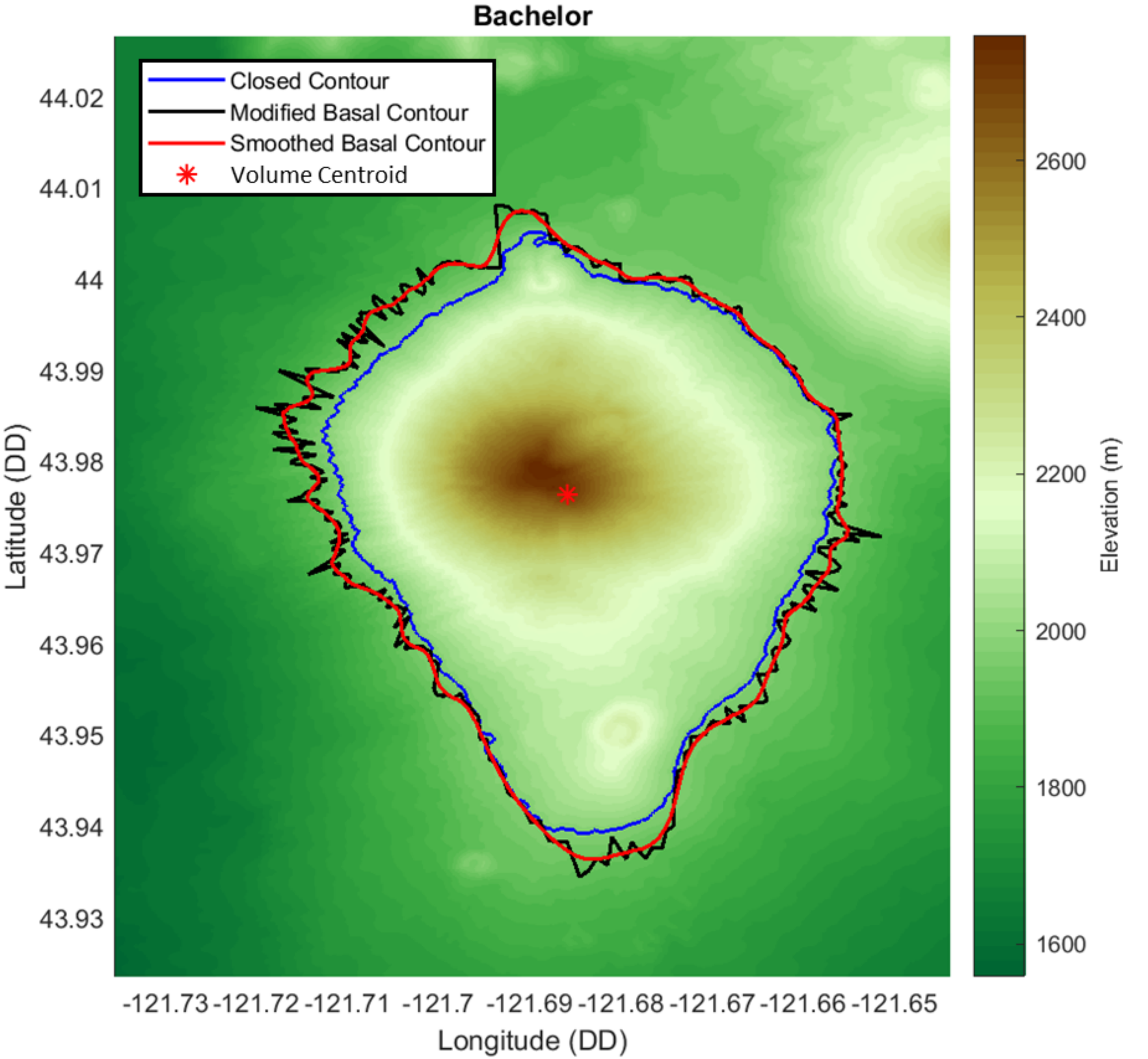

Calbuco
Smoothed Basal Contour
Volume Centroid
-41.22
-41.24
-41.26
-41.28
-41.3
-41.32
-41.34
-41.36
-41.38
-41.4
-41.42
Latitude (DD)
-72.74
-72.72
-72.7
-72.68
-72.66
-72.64
-72.62
-72.6
-72.58
-72.56
-72.54
Longitude (DD)
1800
1600
1400
1200
1000
800
600
400
200
Elevation (m)


Hudson
Smoothed Basal Contour
Volume Centroid
-45.8
-45.85
-45.9
-45.95
-46
Latitude (DD)
-73.15
-73.1
-73.05
-73
-72.95
-72.9
-72.85
-72.8
Longitude (DD)
1800
1600
1400
1200
1000
800
600
400
200
Elevation (m)


SoufriereHills
Smoothed Basal Contour
Volume Centroid
16.76
16.75
16.74
16.73
16.72
16.71
16.7
16.69
16.68
Latitude (DD)
-62.24
-62.23
-62.22
-62.21
-62.2
-62.19
-62.18
-62.17
-62.16
-62.15
-62.14
Longitude (DD)
900
800
700
600
500
400
300
200
100
0
Elevation (m)

Hood


Closed Contour
Modified Basal Contour
Smoothed Basal Contour
Volume Centroid
45.46
45.44
45.42
45.4
45.38
45.36
45.34
45.32
45.3
Latitude (DD)
-121.8
-121.75
-121.7
-121.65
-121.6
-121.55
Longitude (DD)
3000
2500
2000
1500
1000
Elevation (m)


Bachelor
Closed Contour
Modified Basal Contour
Smoothed Basal Contour
Volume Centroid
44.02
44.01
44
43.99
43.98
43.97
43.96
43.95
43.94
43.93
Latitude (DD)
-121.73
-121.72
-121.71
-121.7
-121.69
-121.68
-121.67
-121.66
-121.65
Longitude (DD)
2600
2400
2200
2000
1800
1600
Elevation (m)