Report Homework 2

Michael Swenson

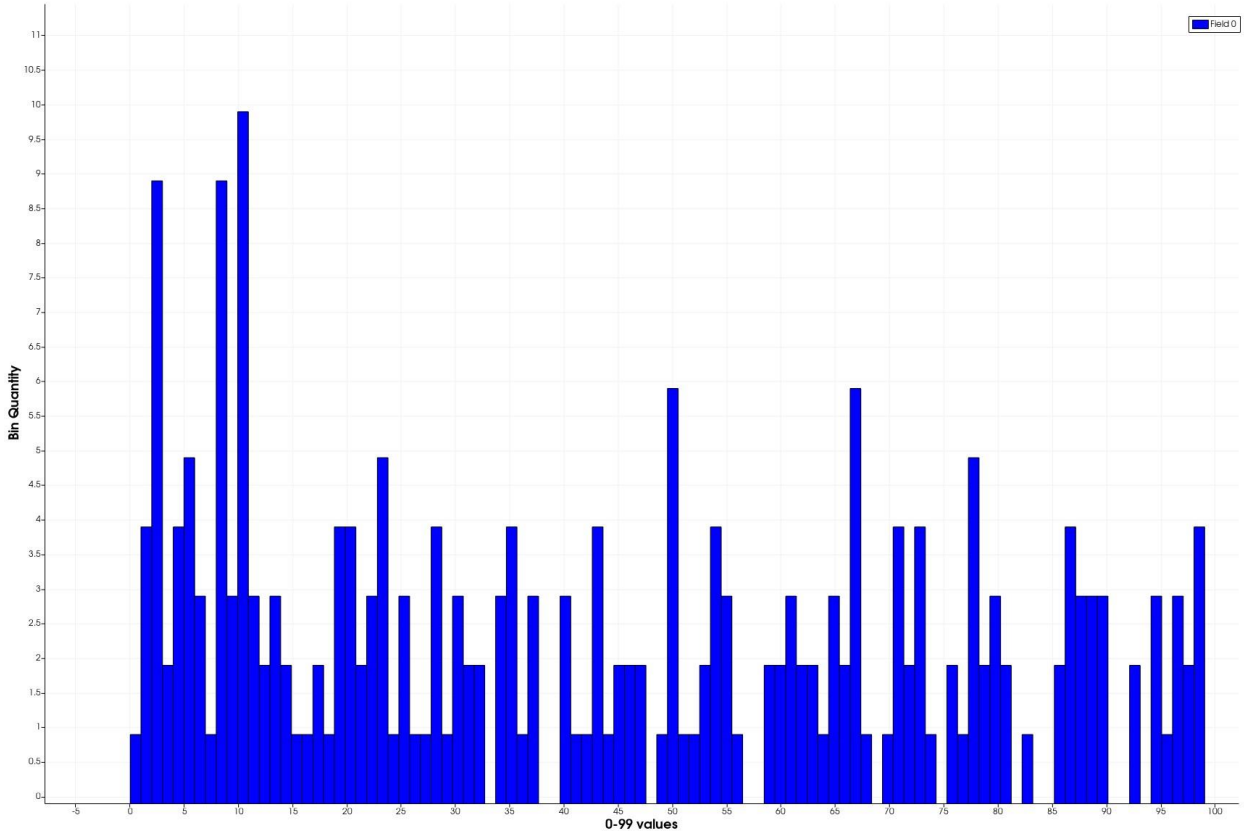
## Q1

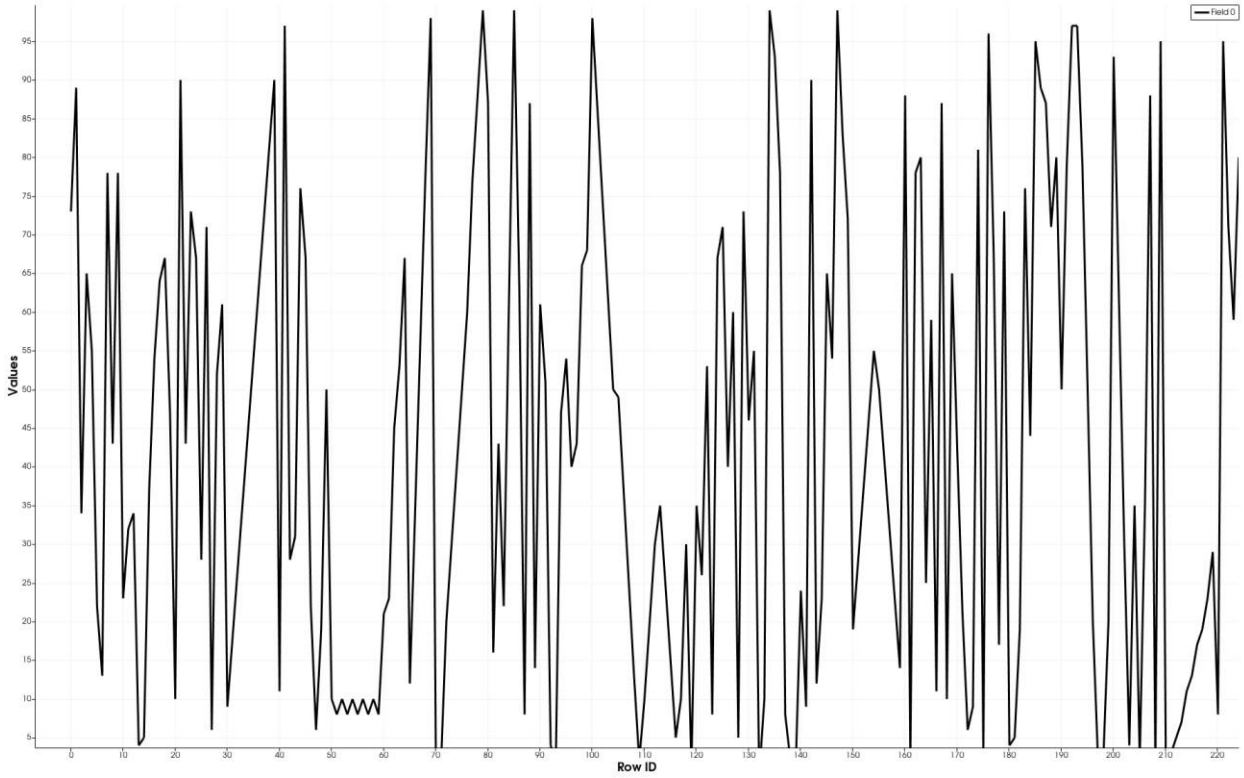
1. Which number occurred the most frequently and how many times did it occur?

   10 occurred the most often and it occurred 10 times.

2. How many numbers were never used?

   13 numbers were never used. Specifically, 33, 38, 39, 57, 58, 69,75, 82 ,84, 85, 91,92,94






**Q[1]**

1. What threshold did you use for capturing the riverbed? Experiment with other thresholds and explain what features you may or may not have missed with this approach.

   I used threshold parameters of [13, 98.26]. I chose this threshold because it captured a bigger chunk of data than a narrower threshold, one larger spike in the histogram. Other thresholds showed different relationships. For instance, a very small threshold showed the main water paths and may give insight into how water running against/through rock might behave over time. A larger threshold might give information about things like rainfall and how that might affect secondary river pathways.

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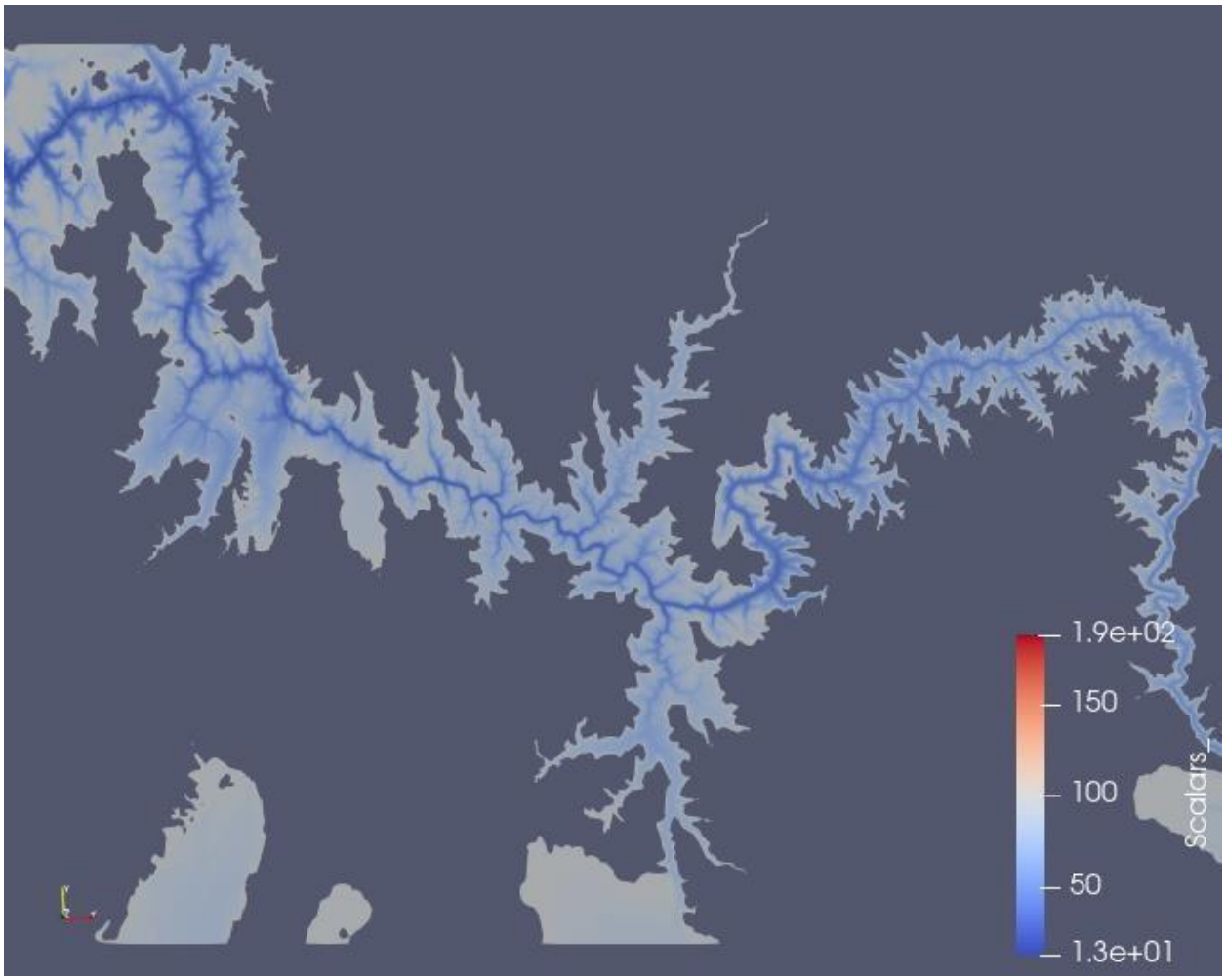
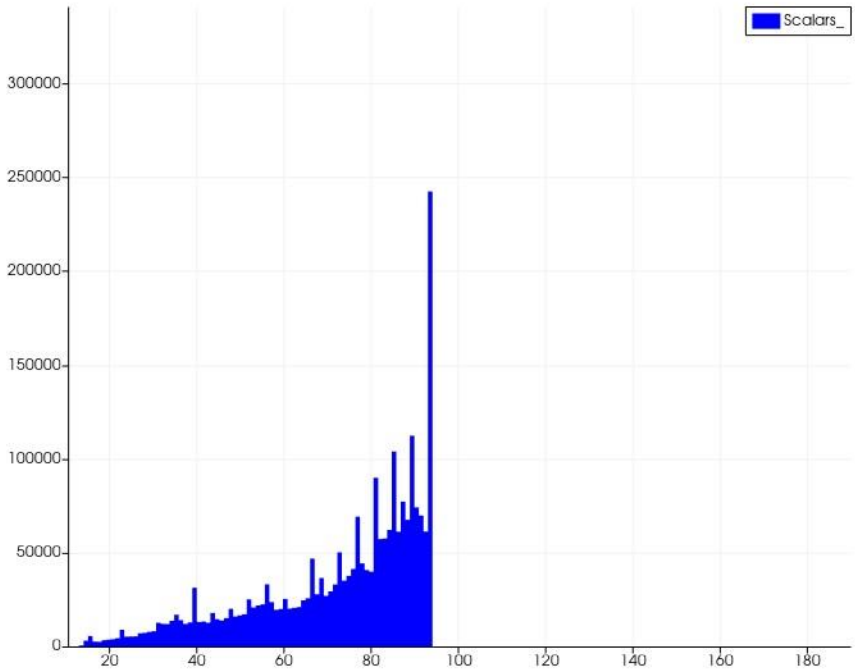
[1] . Using the Information panel, report the number of points in the thresholded image. Note that ParaView automatically creates cells from an input image, implicitly forming a structured quad mesh.

| | |
|---|---|
| Type: | Unstructured Grid |
| Number of Cells: | 2384555 |
| Number of Points: | 2428282 |
| Memory: | 1.4e+02 MB |


1.9e+02
150
100
50
1.3e+01
Scalars_

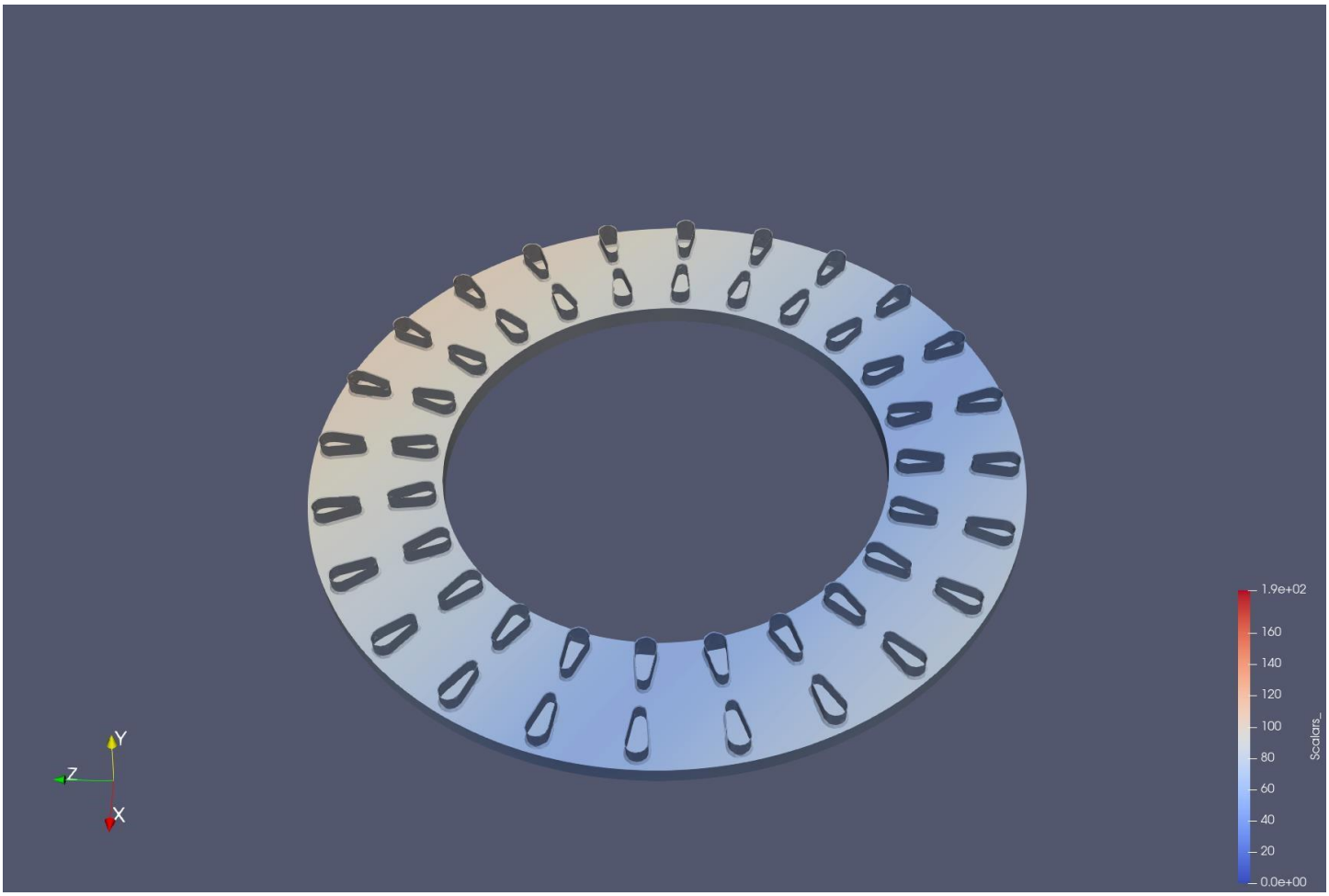

Scalars_
300000
250000
200000
150000
100000
50000
0
20
40
60
80
100
120
140
160
180

1. What were the minimum and maximum values that best captured the single cylinder associated with the bolt's cylinder?

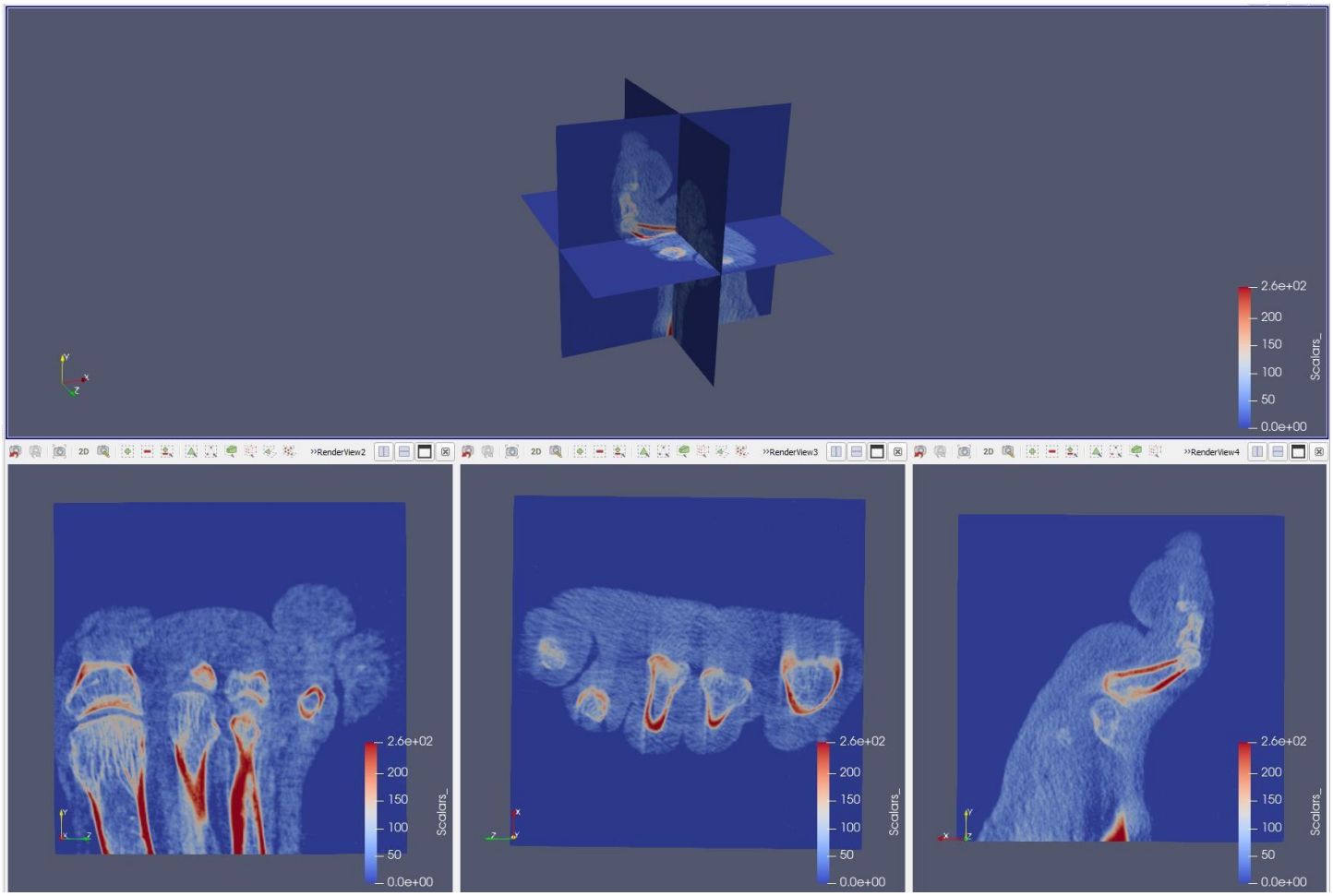
The minimum and maximum values that captured the cylinder were [27, 43].

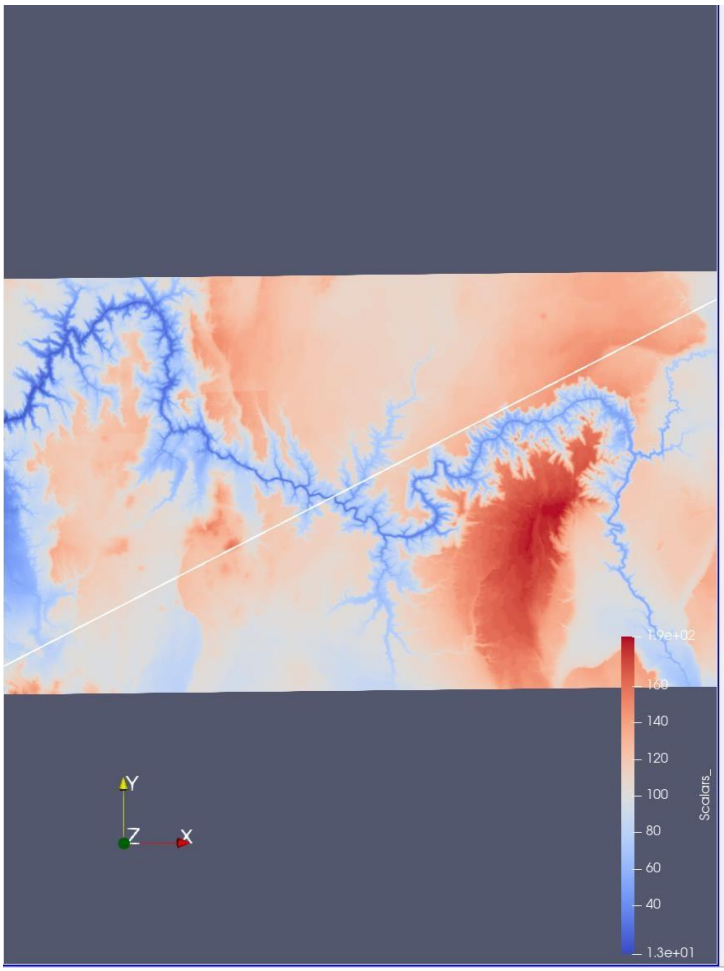
2. How many ventilation slots are there?

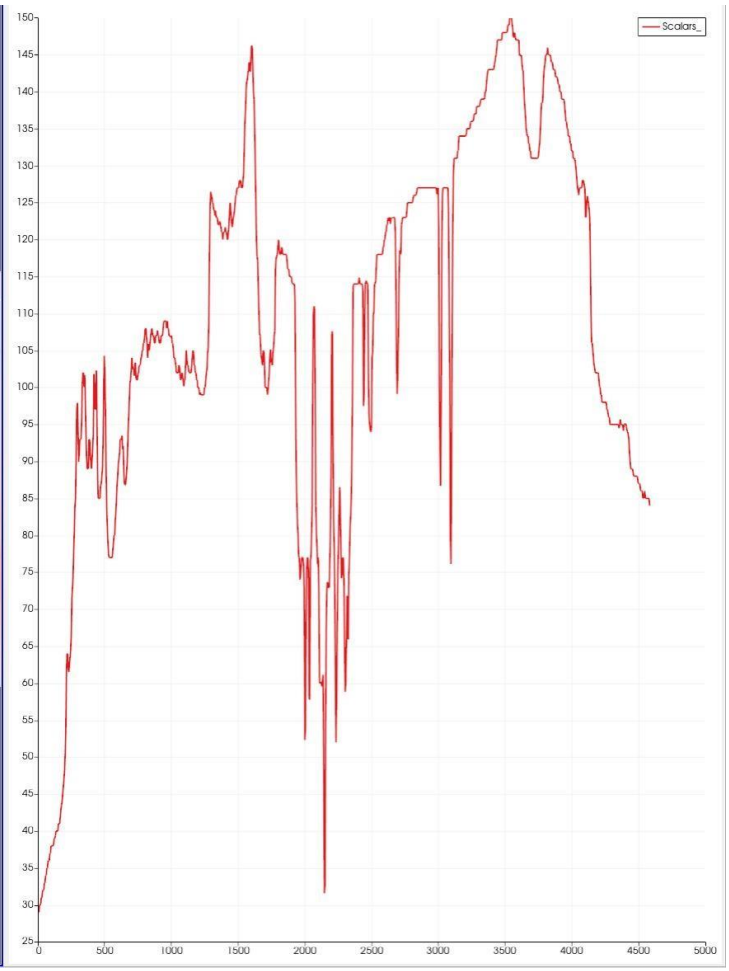
48 almond shaped vents.




Q4


2.6e+02
200
150
100
50
0.0e+00
Scalars_
2D
>>RenderView2
>>RenderView3
>>RenderView4


Y
Z
X
1.9e+02
160
140
120
100
80
60
40
1.3e+01
Scalars_


Scalars_
150
145
140
135
130
125
120
115
110
105
100
95
90
85
80
75
70
65
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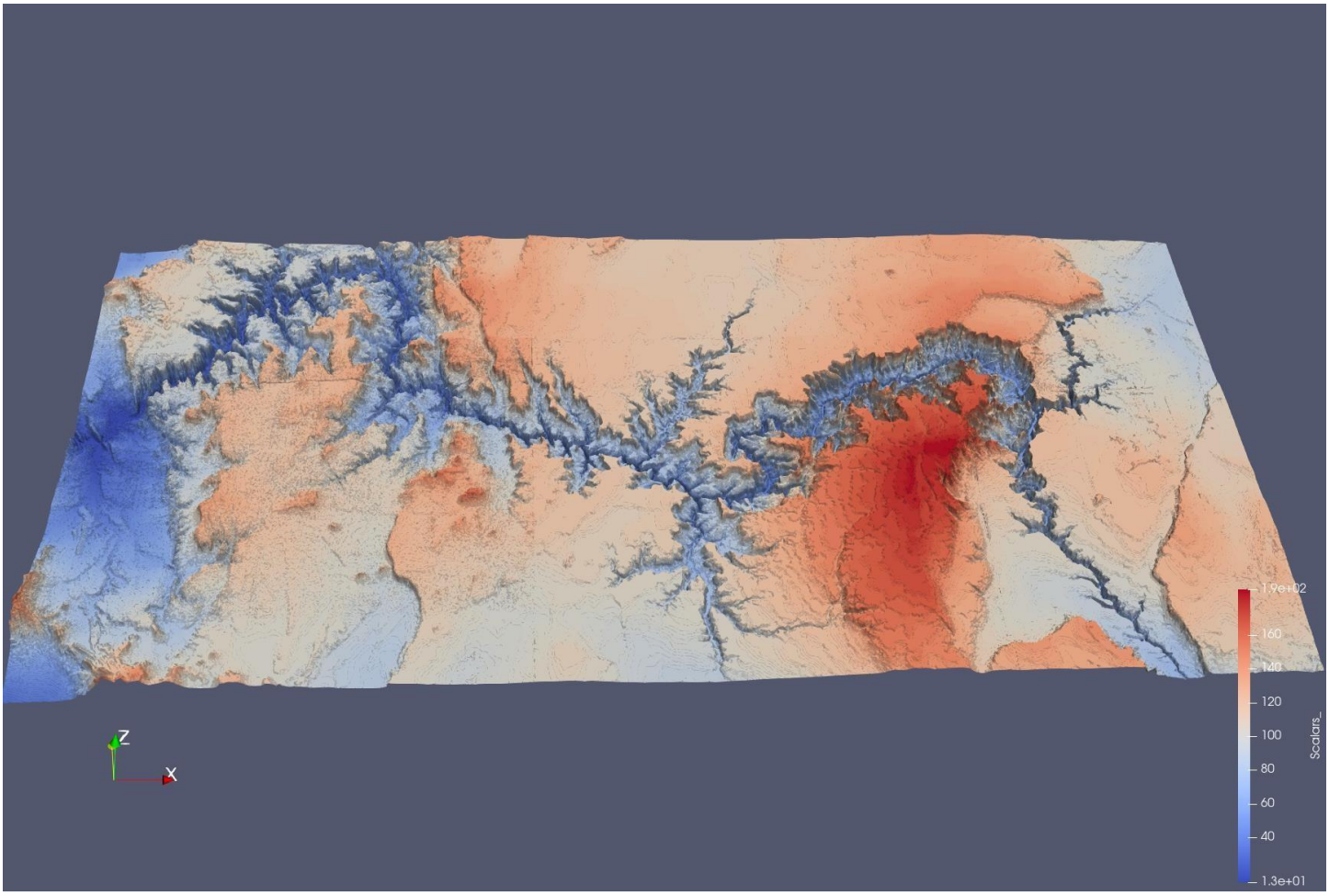
1000
1500
2000
2500
3000
3500
4000
4500
5000




Warp by Scalar filter and adjusted scalar factor to 1.65.