# 10 new things you can now do with MOHID

Bentley Systems @ MOHIDing 2019

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Advancing Infrastructure

# Connected Data Environment

Azure

**ProjectWise** CONNECT Edition

Design Integration
BIM Review
Bid Management
Construction Management
Advanced Work Packaging
Completions

Connection Center
Components Center
Optioneering Center
iModelHub
ContextShare
365 Services
CONNECT*services*

Asset Lifecycle Information Management
Asset Reliability
Operational Analytics
Enterprise Interoperability

**AssetWise** CONNECT Edition

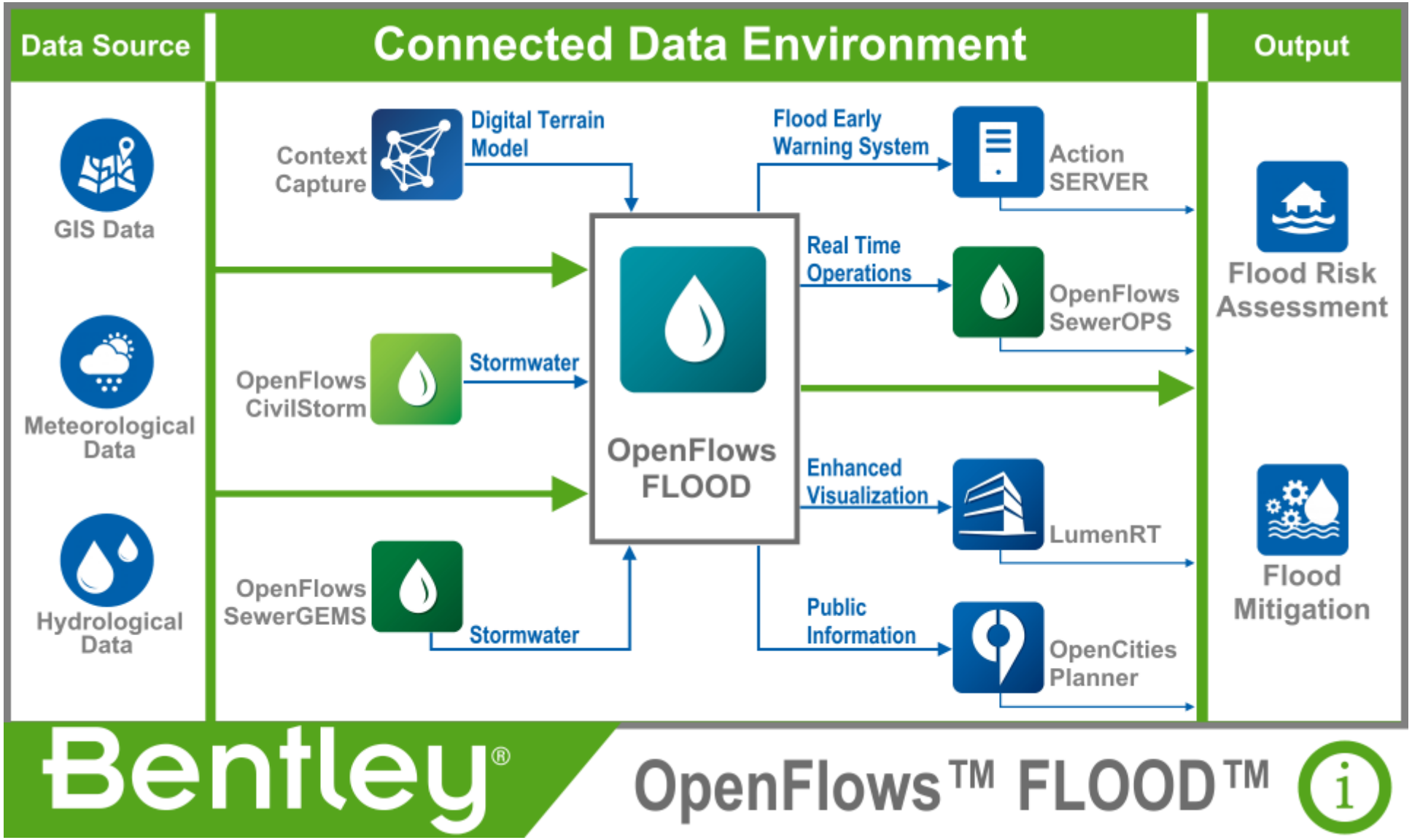
ProjectWise Edge Mobile | ProjectWise Worksite | OpenRoads Navigator Mobile | **Mobile Apps** | Navigator Mobile | Navigator Web | AssetWise Mobile | Map Mobile


**MicroStation** CONNECT Edition

Bentley

# Bentley's OpenFlows™ FLOOD™



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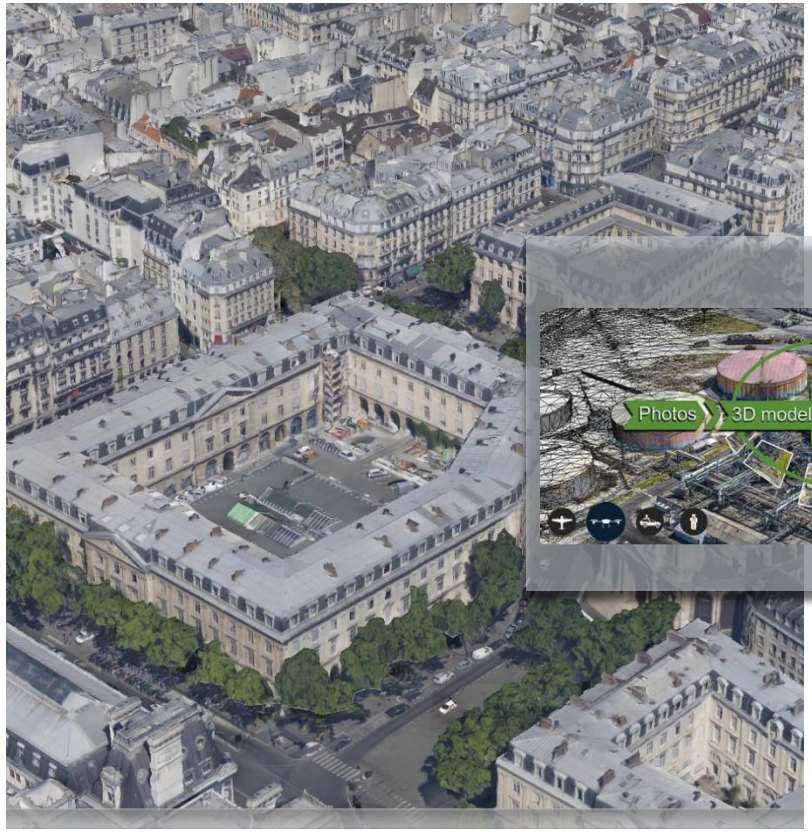
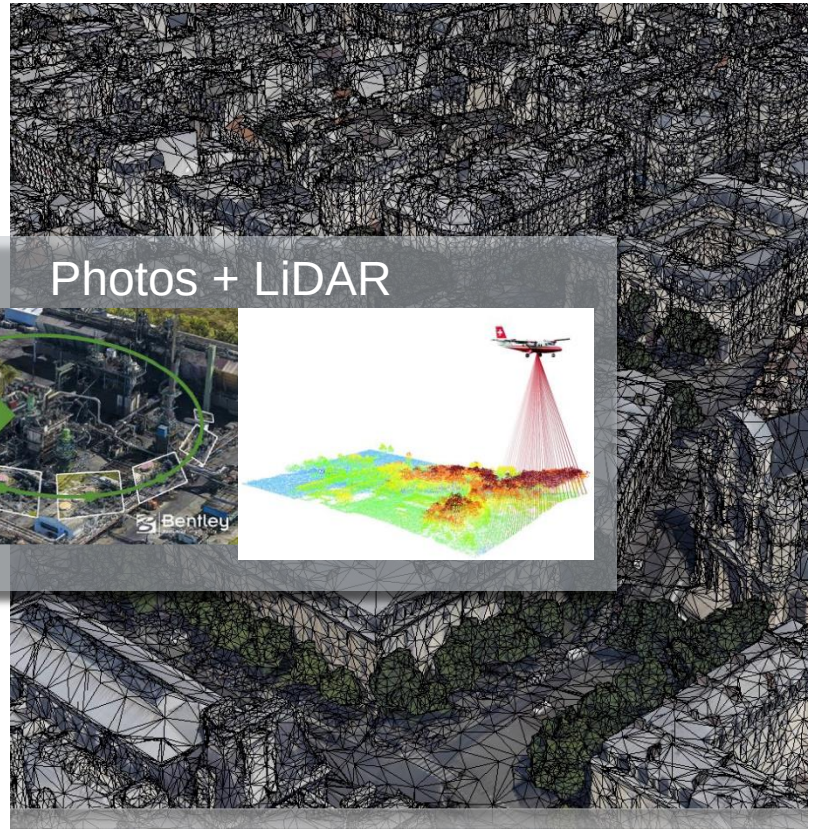
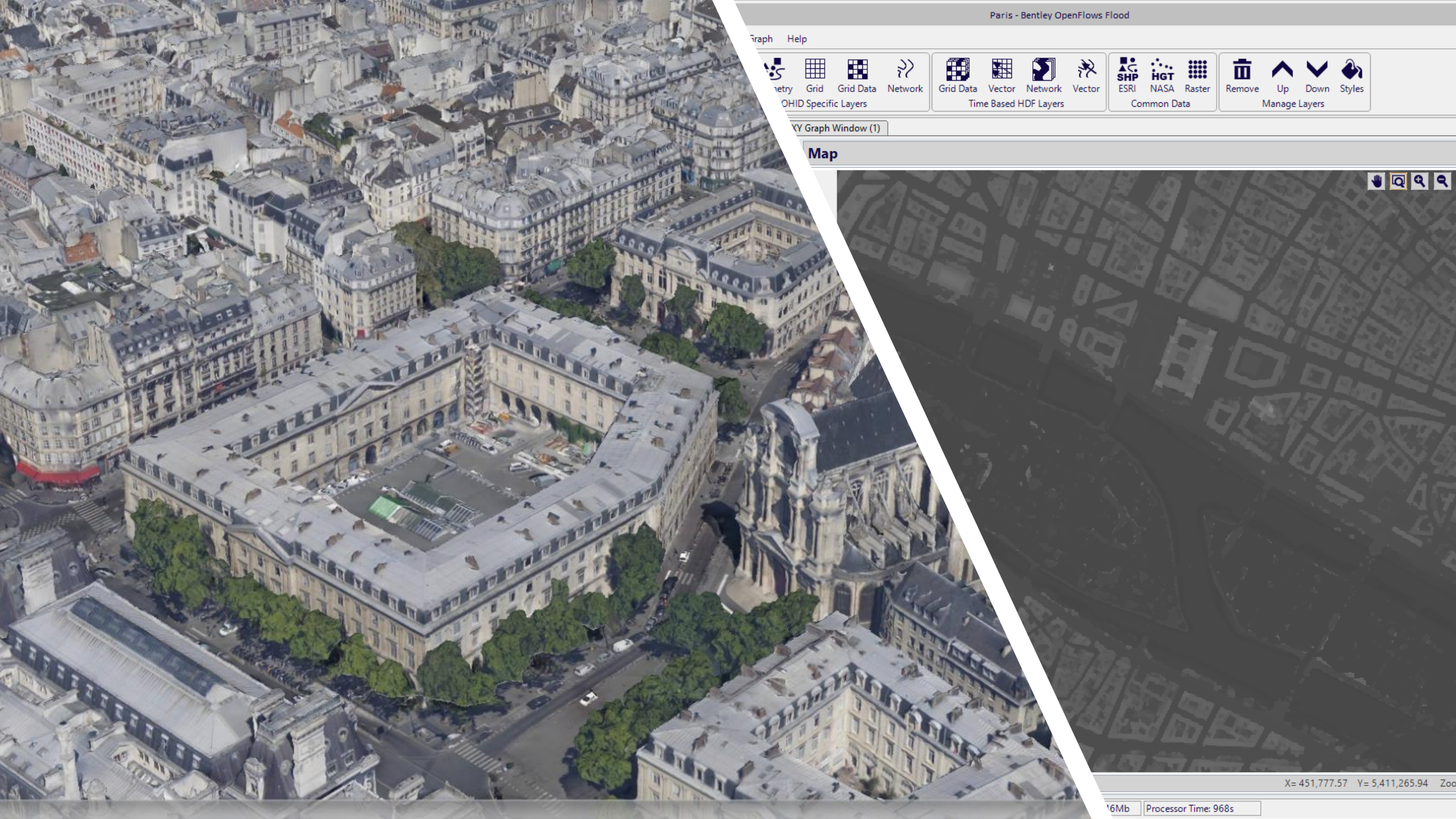
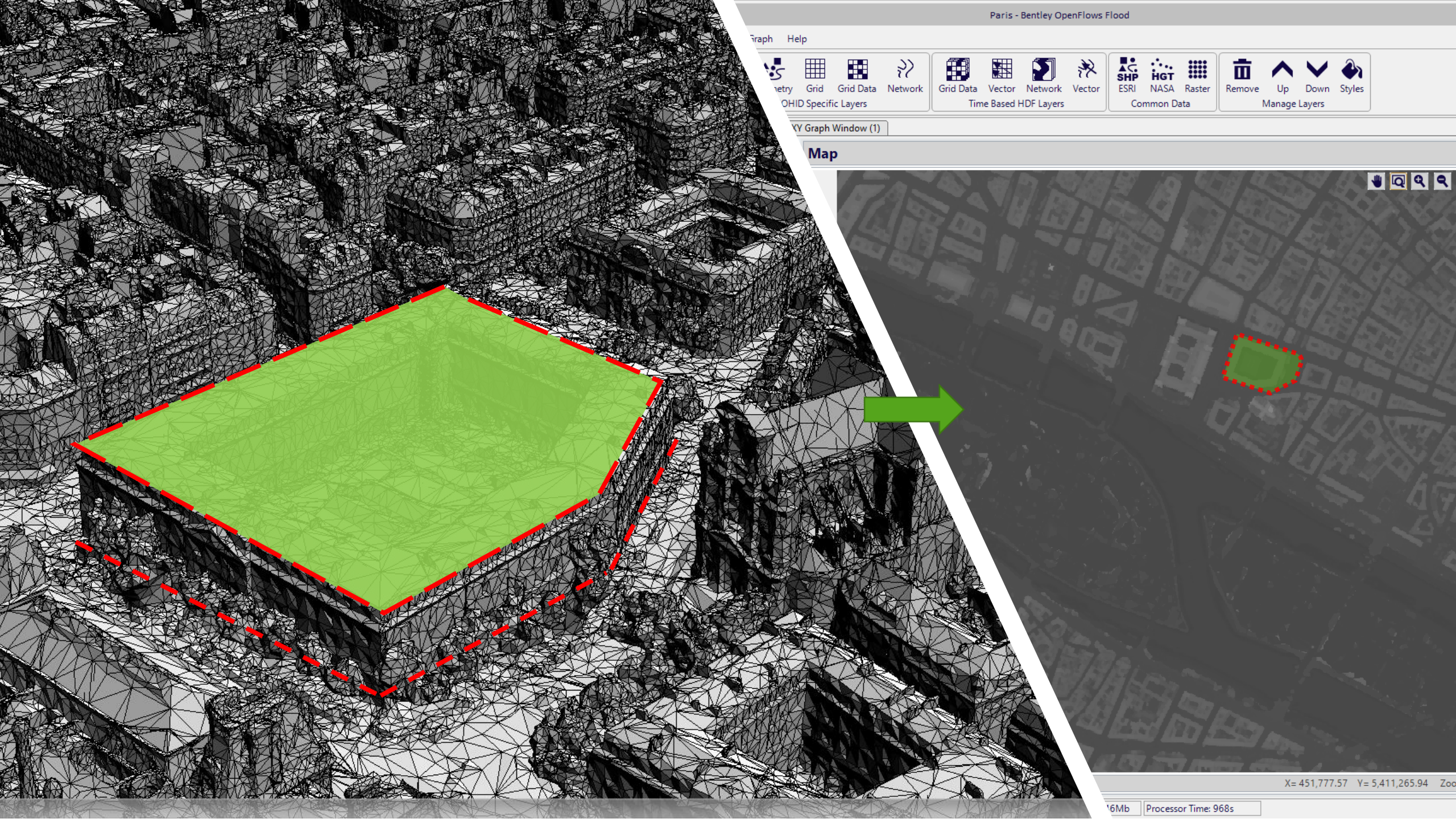







Paris - Bentley OpenFlows Flood
Graph
Help
Grid
Grid Data
Network
OHID Specific Layers
Grid Data
Vector
Network
Vector
Time Based HDF Layers
SHP
ESRI
HGT
NASA
Raster
Common Data
Remove
Up
Down
Styles
Manage Layers
XY Graph Window (1)
Map
X= 451,777.57
Y= 5,411,265.94
Processor Time: 968s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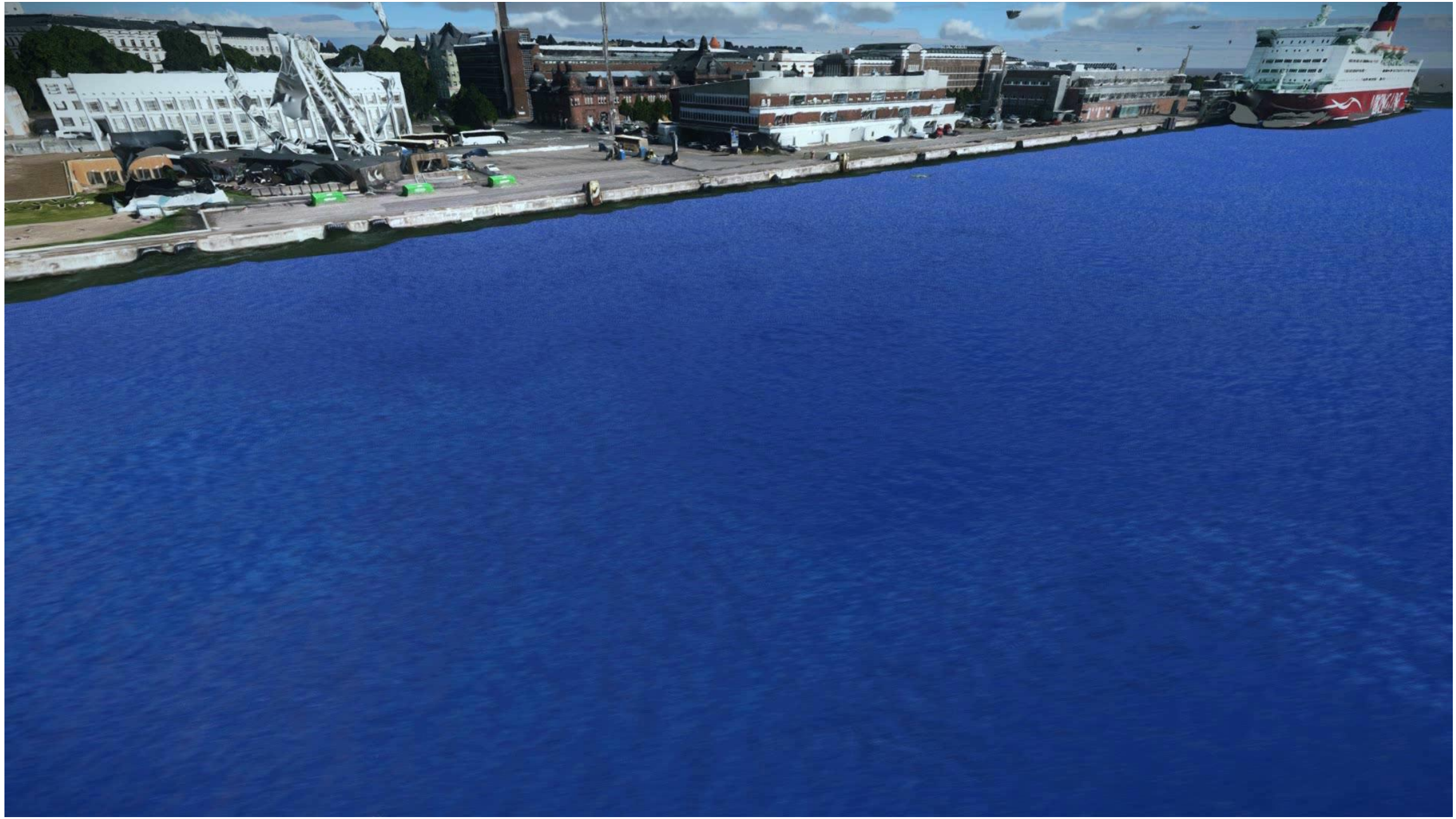

 

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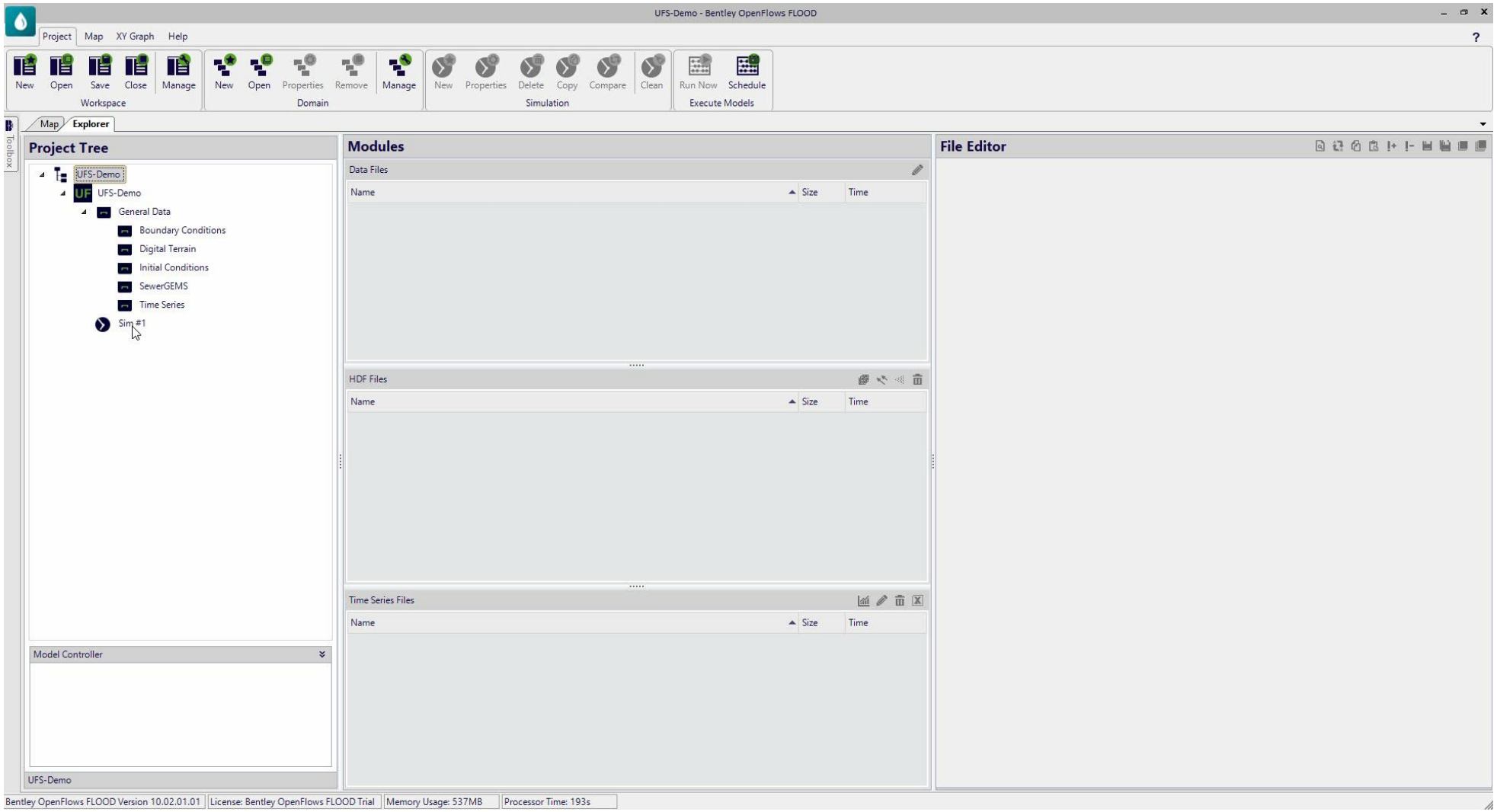
# Bentley’s OpenFlows FLOOD – SewerGEMS/CivilStorm



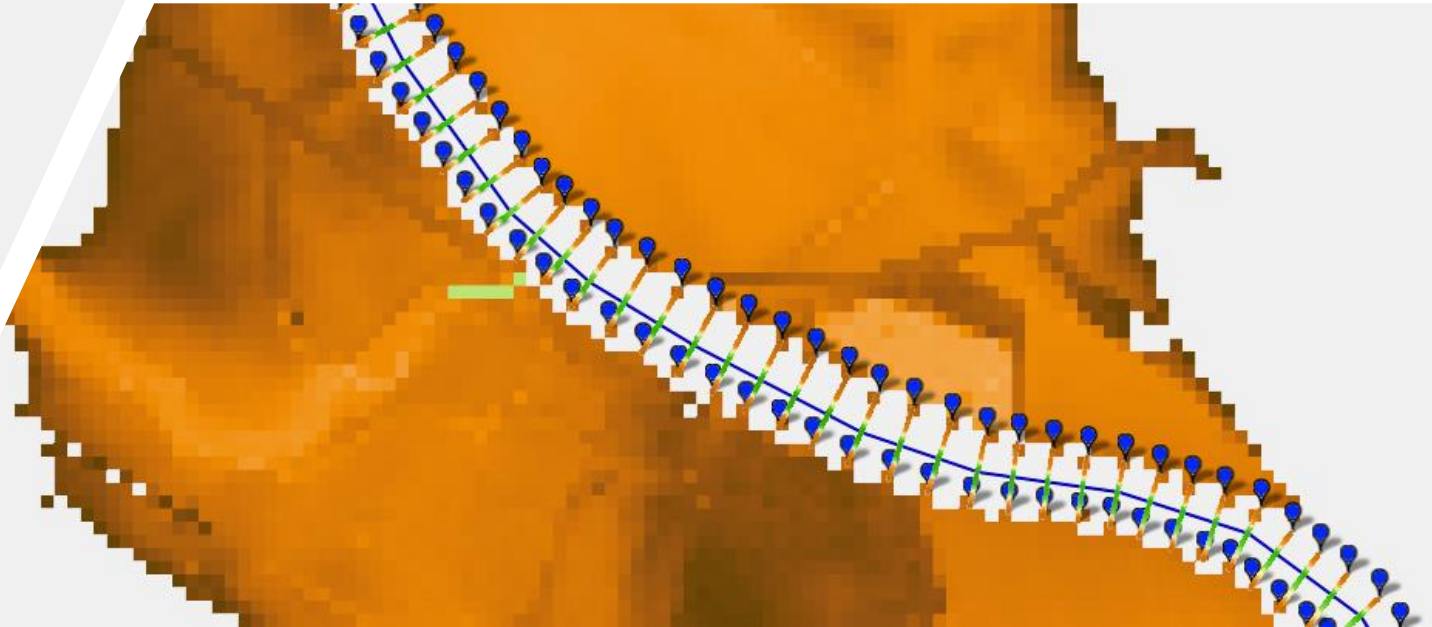
# 10 new things you can now do with MOHID

1

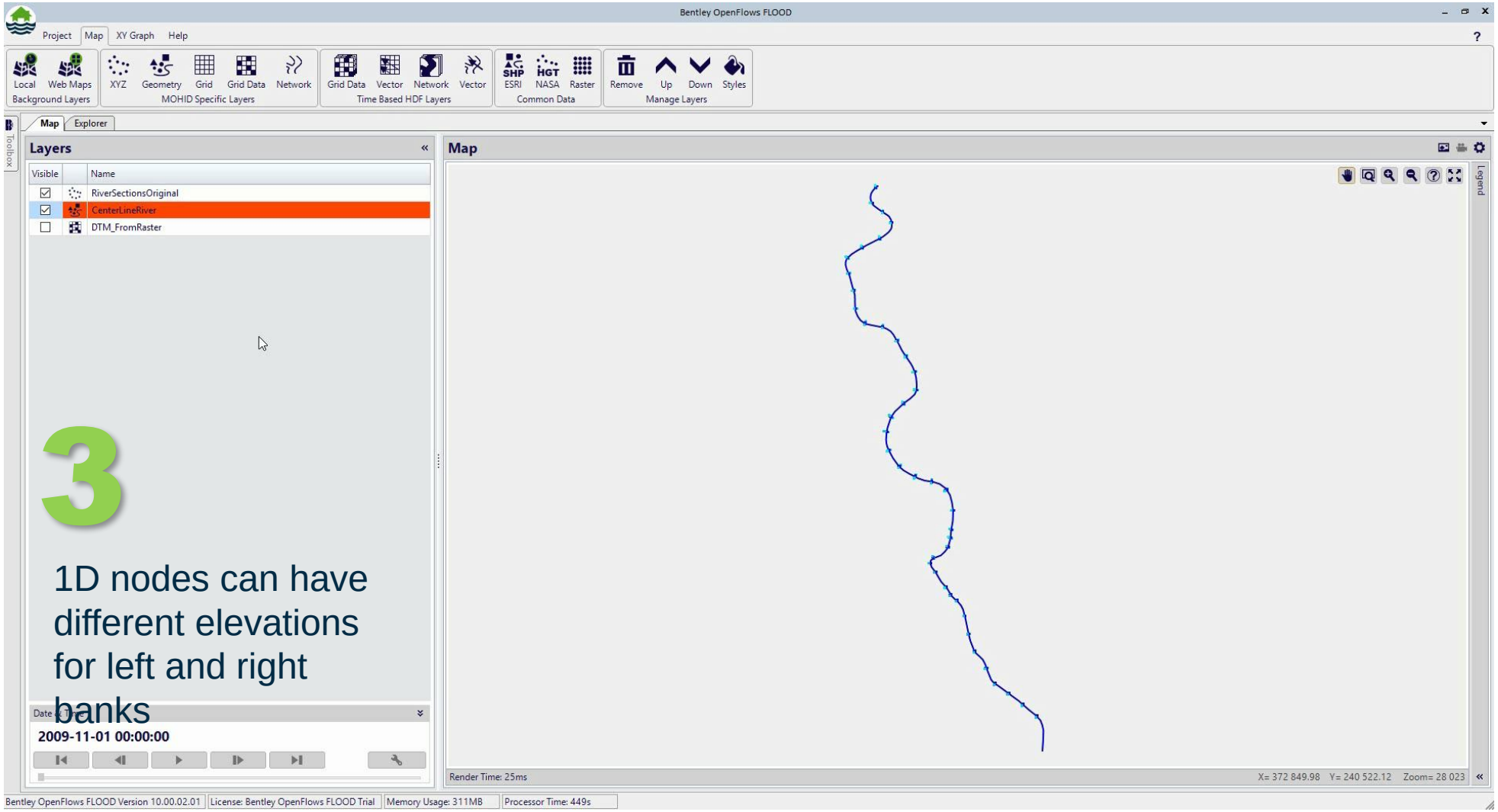
1D network does not need to be contained inside 2D domain

2

Not all 2D cells intersected by 1D network needs to have a 1D node



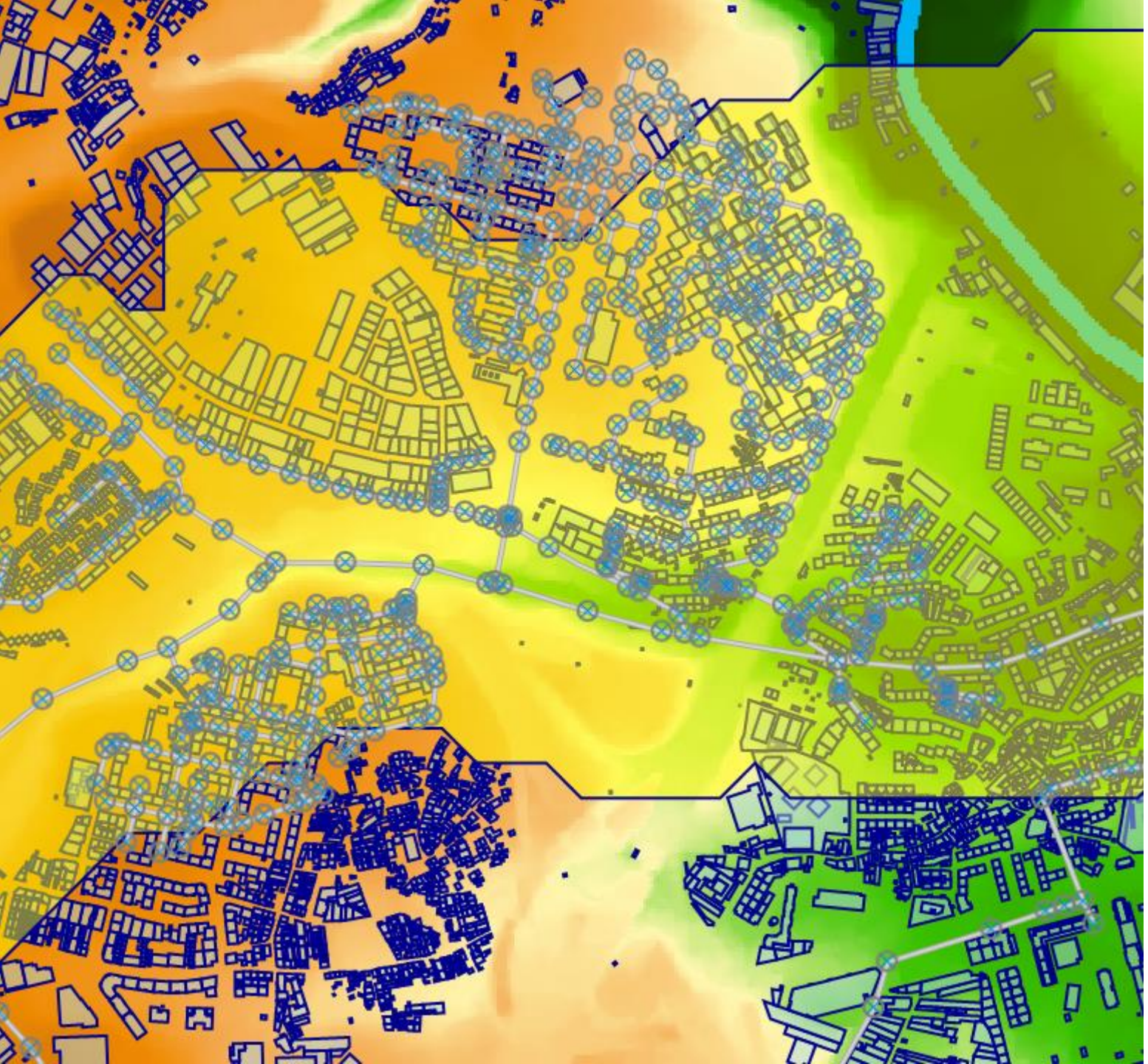
# Bentley OpenFlows FLOOD – 1D river/2D floodplain

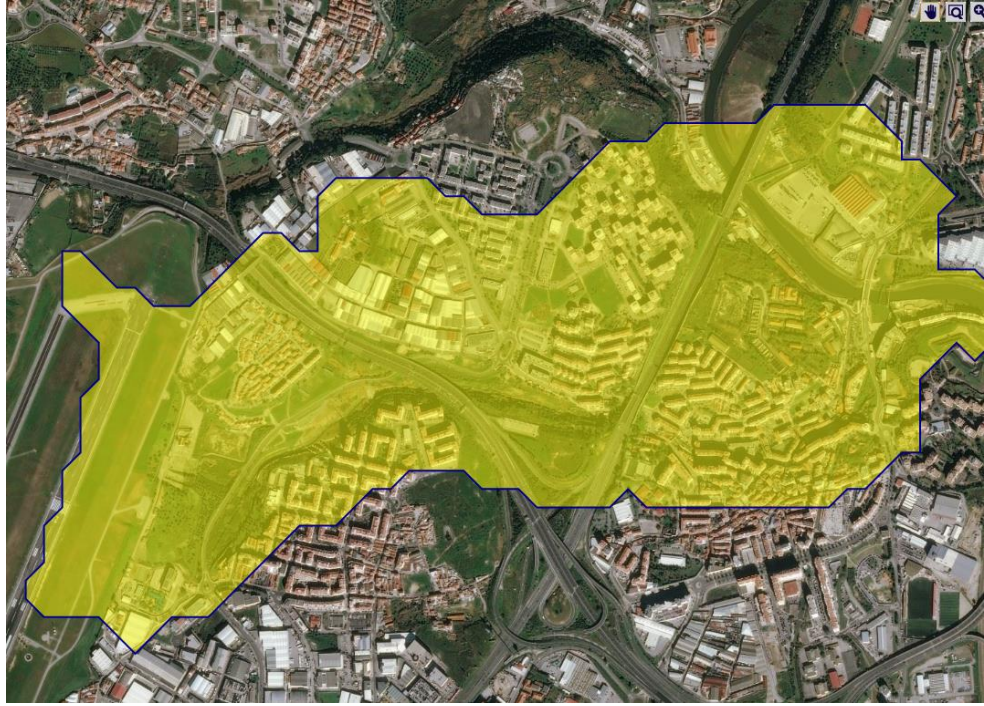


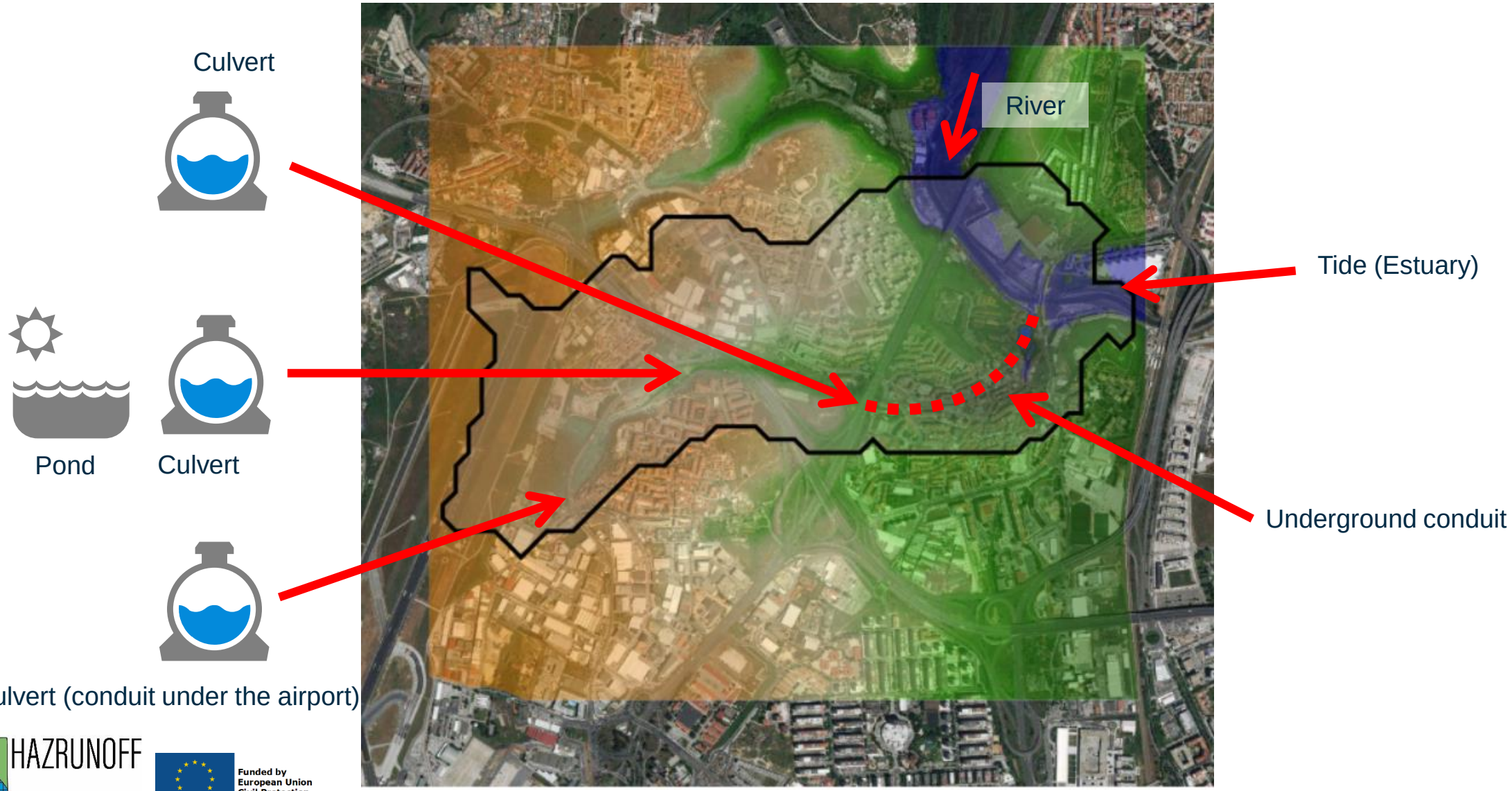

3

1D nodes can have different elevations for left and right banks








HAZRUNOFF PROJECT

Funded by European Union Civil Protection and Humanitarian Aid

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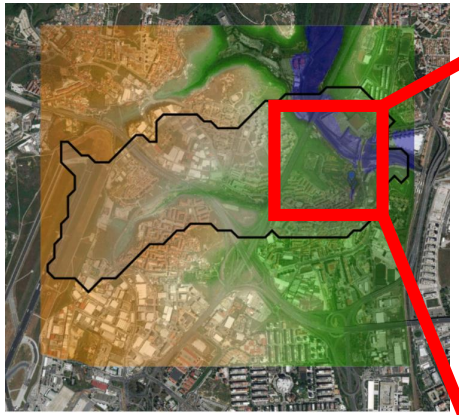

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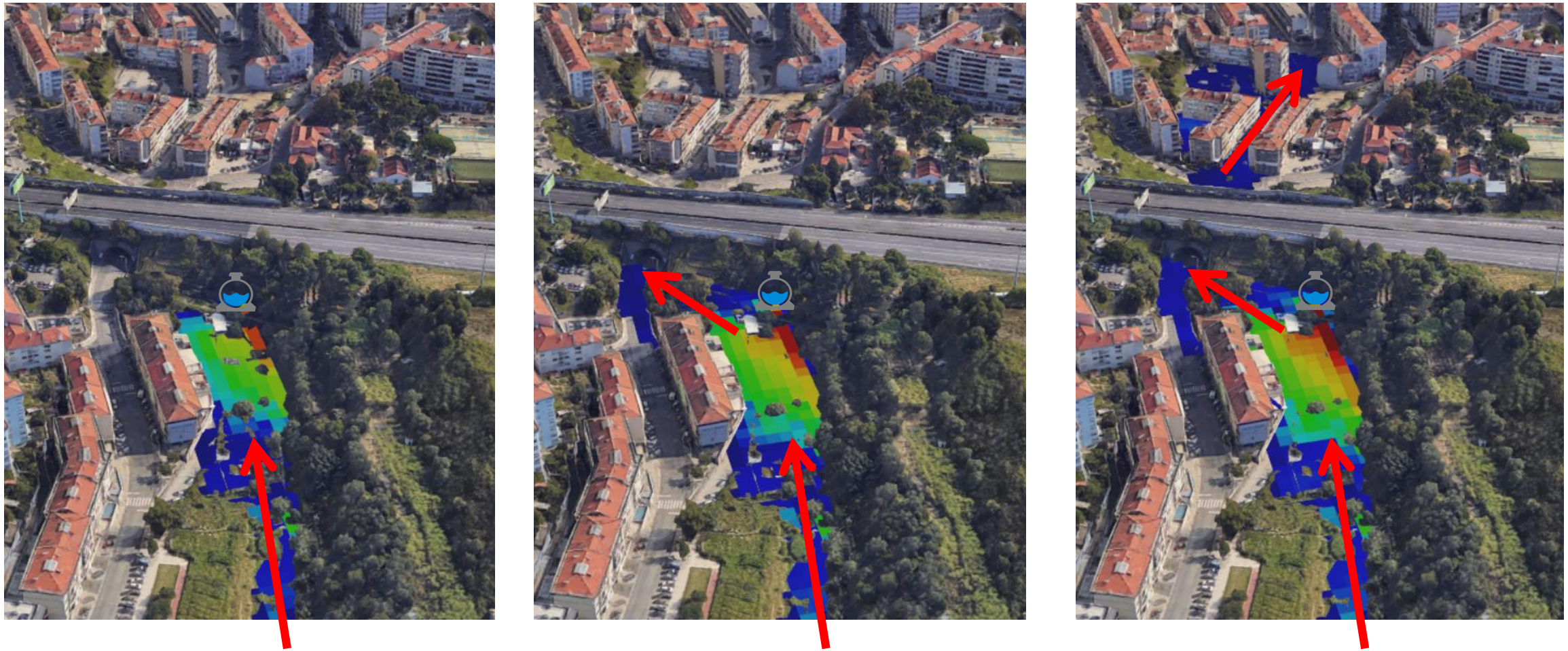

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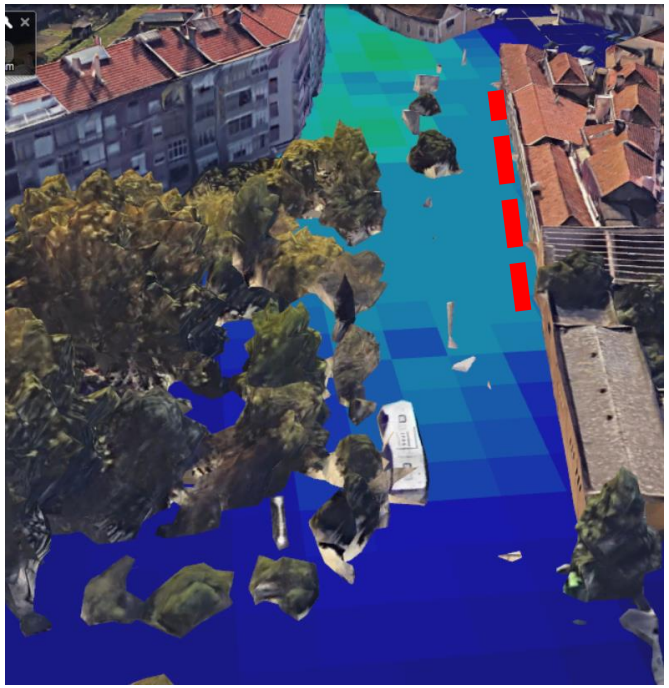

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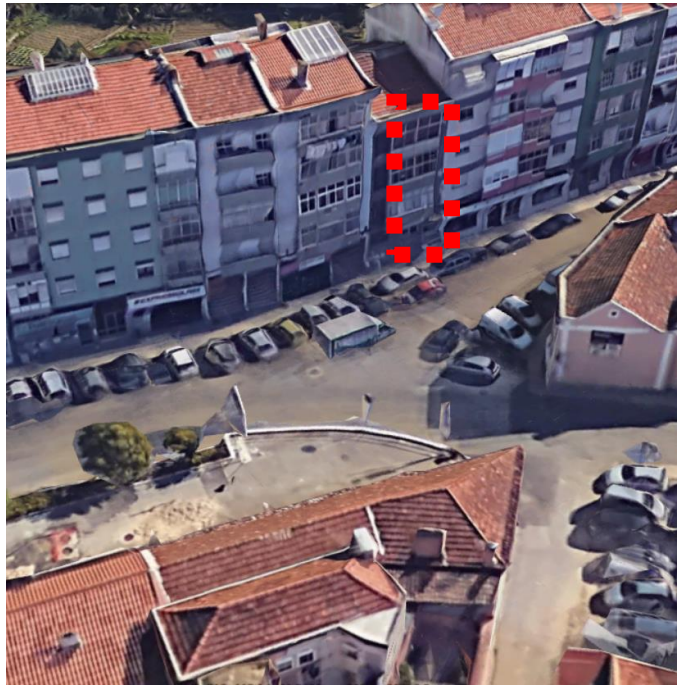

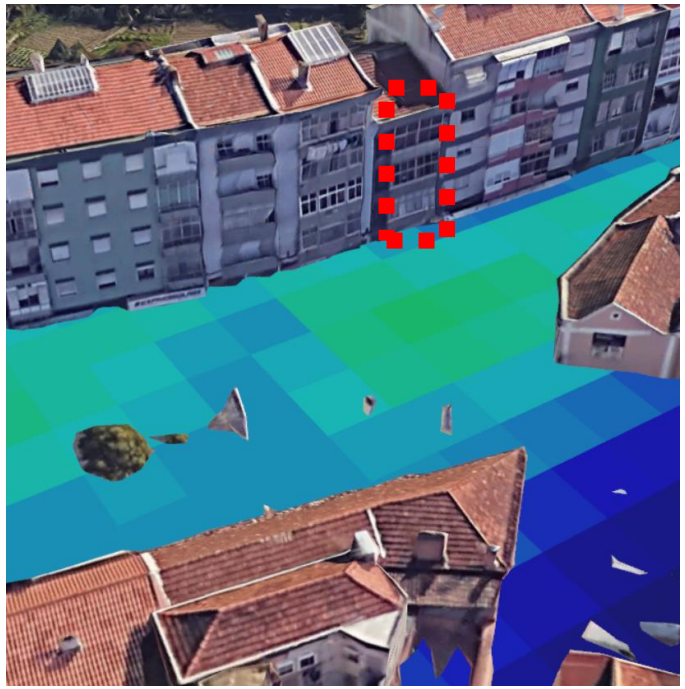

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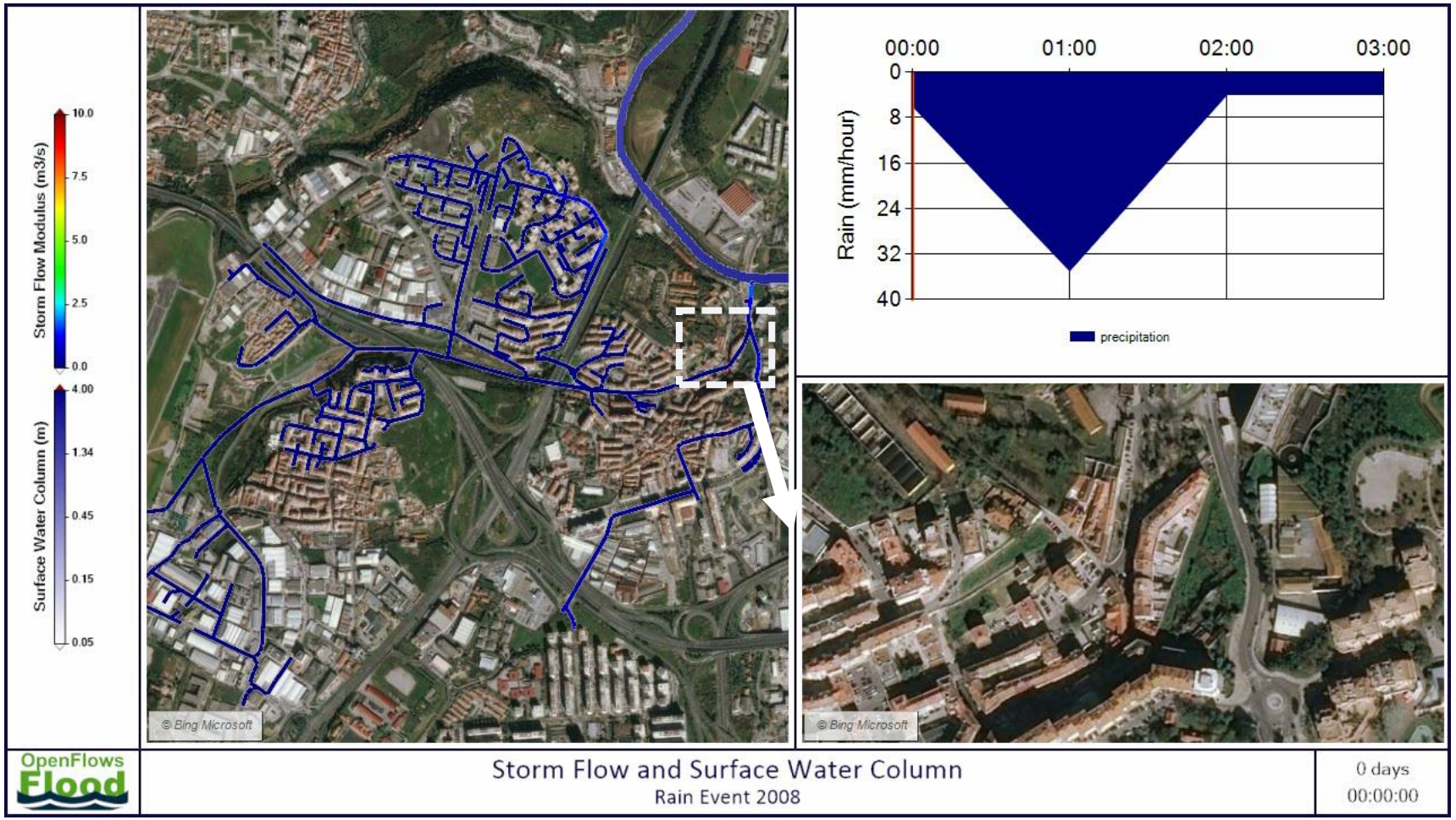


HAZRUNOFF PROJECT

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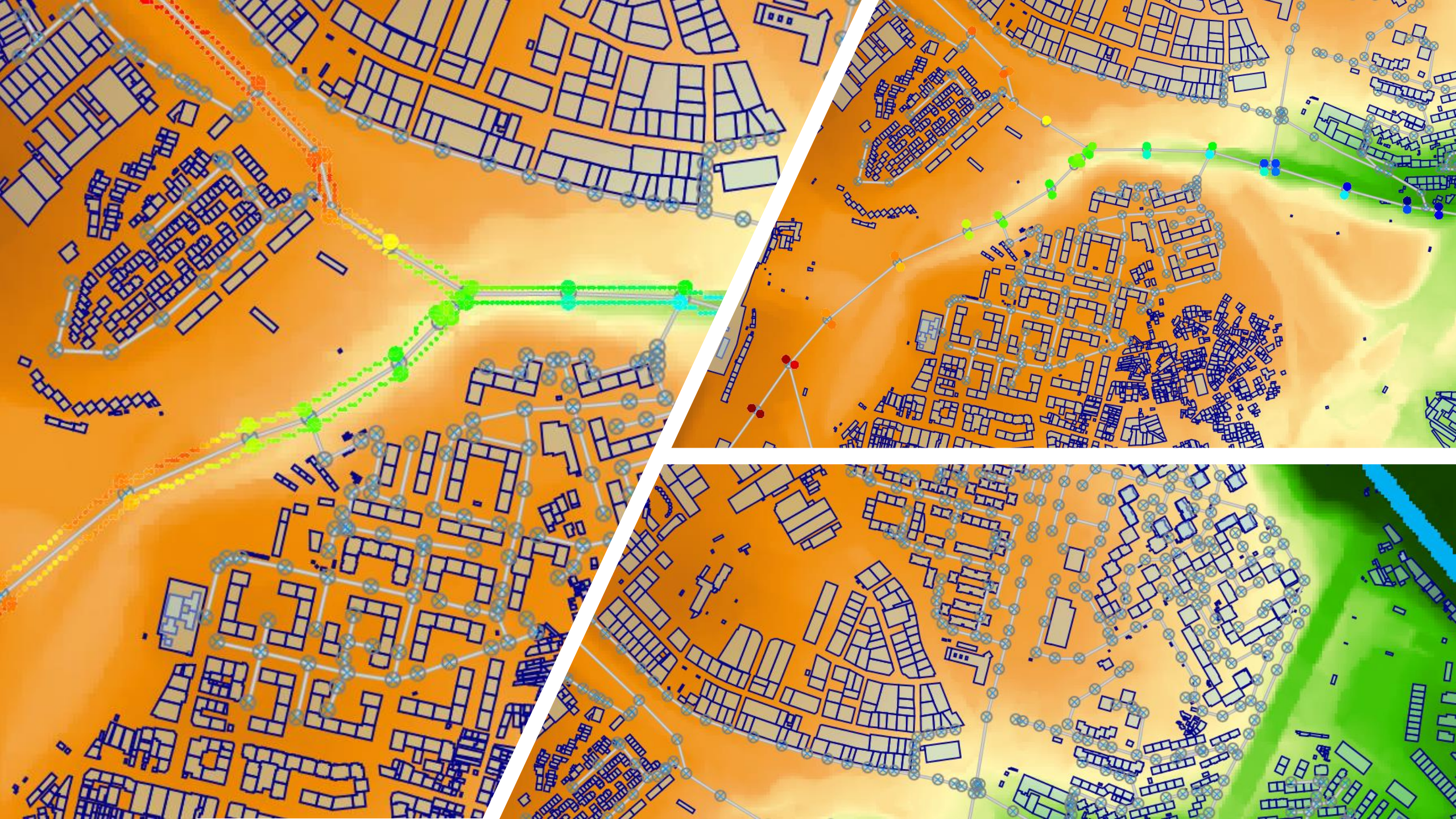
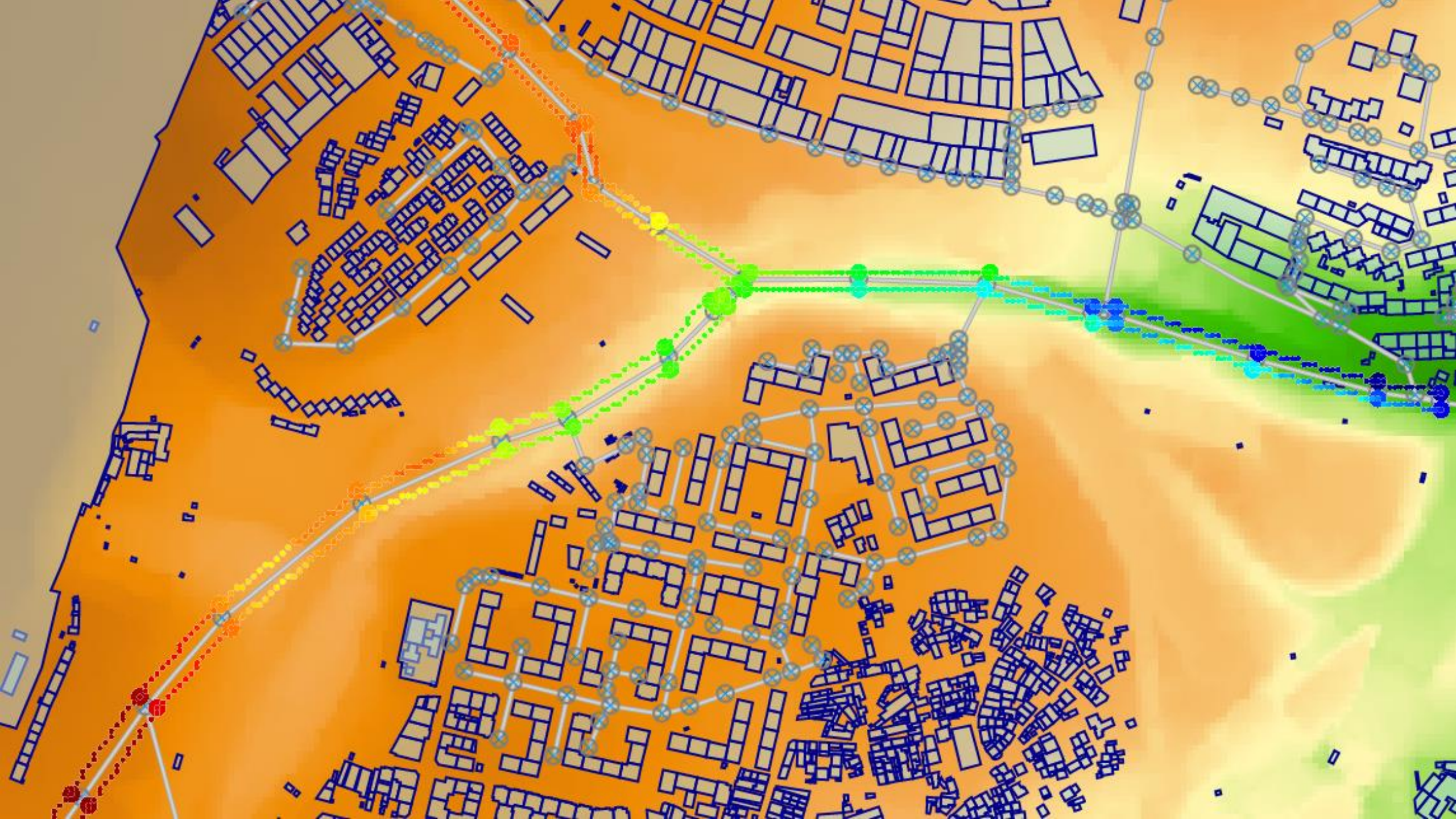
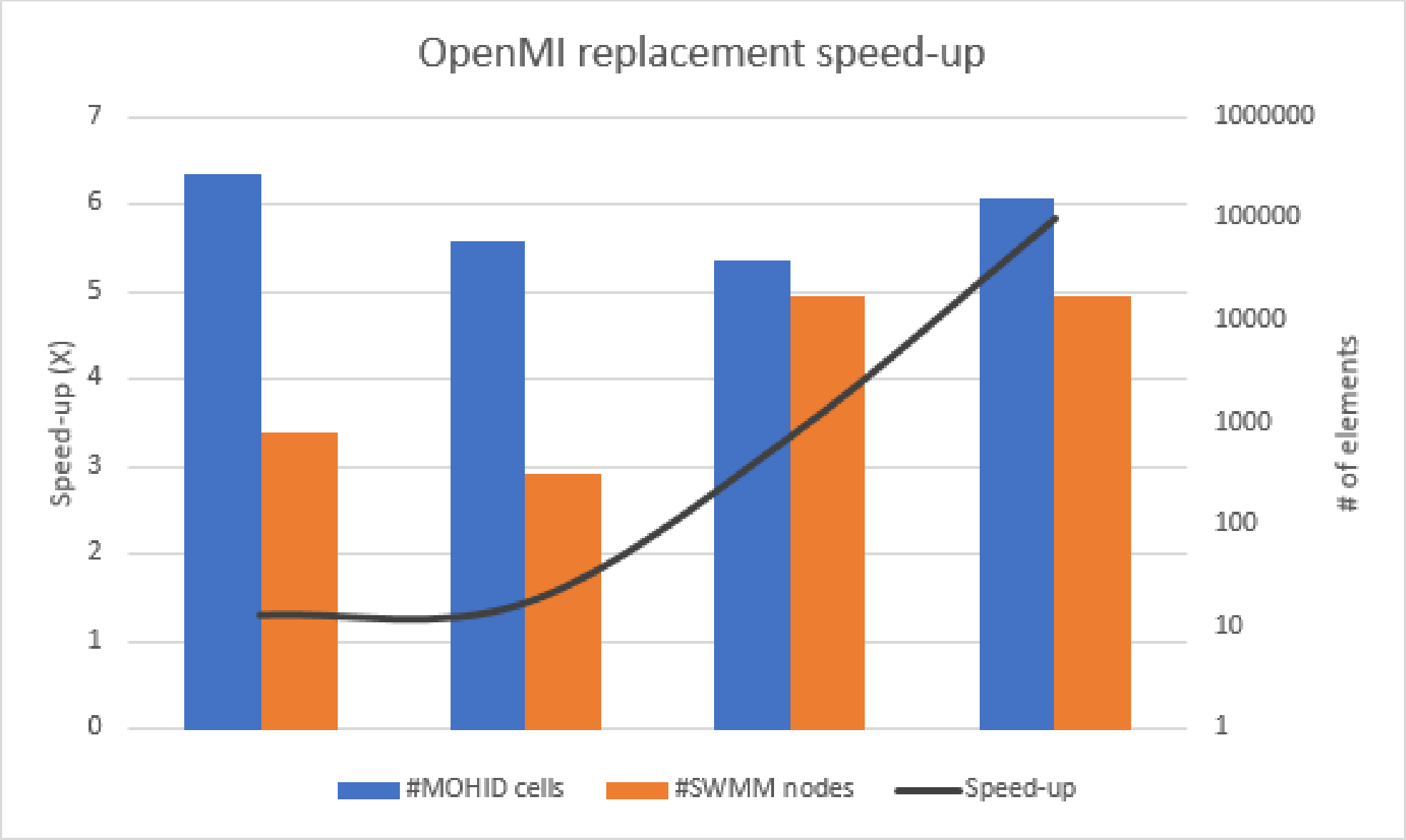




# MOHID – SWMM/SewerGEMS



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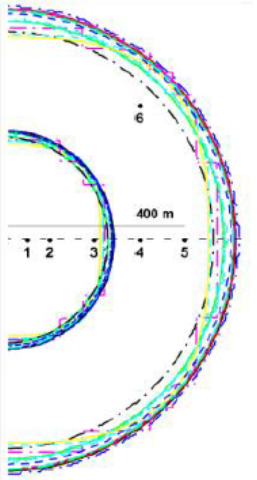
# Improved bottom friction algorithm

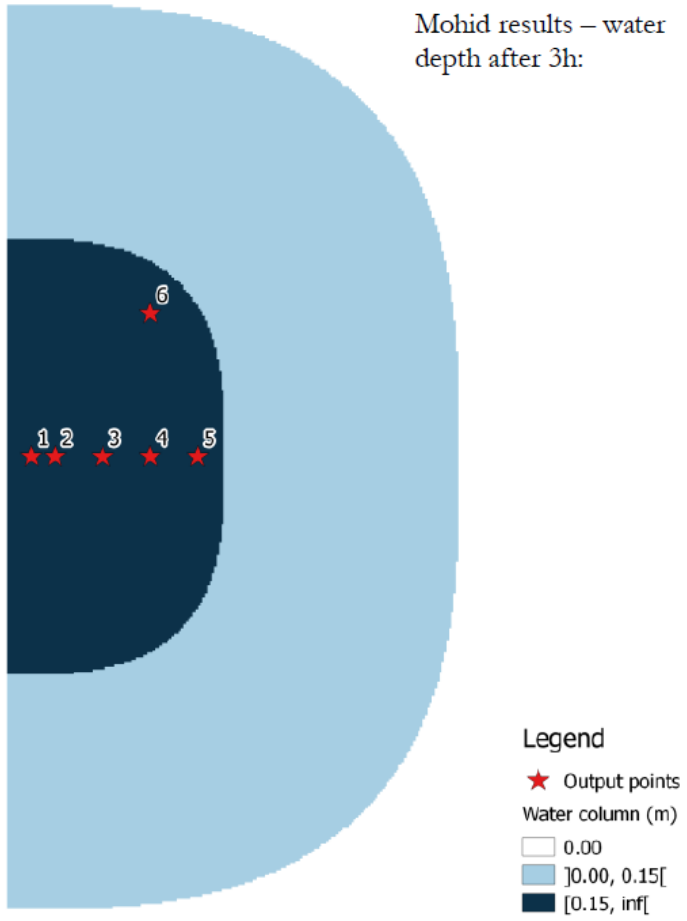
5

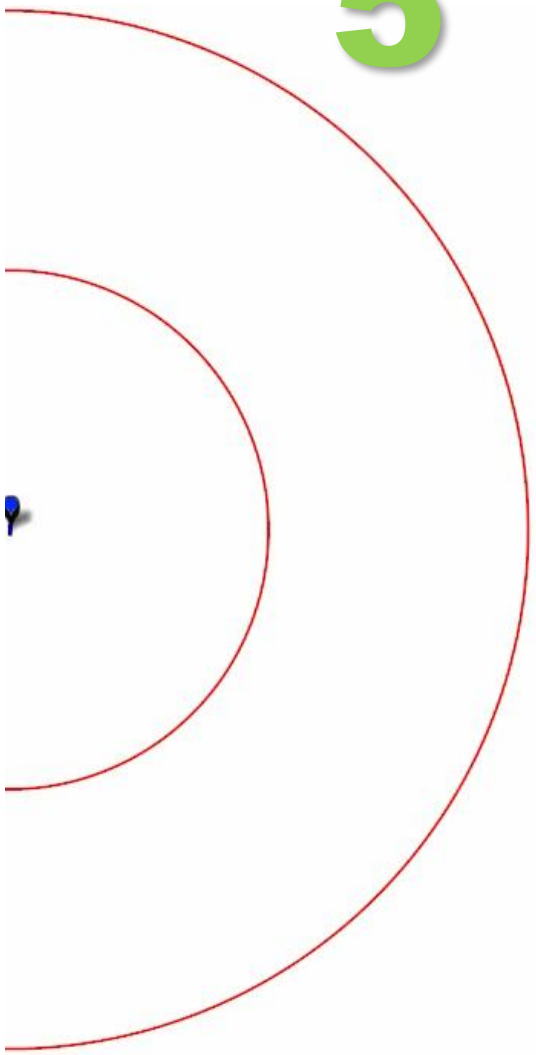
S. Néelz & G. Pender, 2013 results – 0.15m depth countours at times 1h (smaller half circles) and 3h (larger half circles):




Mohid results – water depth after 1h:


Mohid results – water depth after 3h:



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# New discharge type – Rating curve

6

```
!Outflow
<begindischarge>
NAME                        : Outlet
DESCRIPTION                 : Rating Curve
DISCHARGE_TYPE              : 5
<<begin_rating_curve>>
2.02 0
2.22 0.028
2.27 0.046
2.37 0.145
2.42 0.211
2.52 0.448
2.57 0.583
2.62 0.757
2.67 0.98
2.72 1.219
2.97 3.904
3.47 13.089
3.57 15.45
3.92 24.788
4.22 34.545
4.32 38.181
5.27 83.078
6.02 128.011
6.12 134.558
7.07 204.77
7.17 212.572
7.62 246.726
7.92 269.22
9.12 407.506
10.13 538.188
10.26 554.072
10.66 588.533
10.75 598.597
10.91 616.391
11.19 632.851
11.38 658.811
11.83 712.399
14.83 1370.361
<<end_rating_curve>>
I_CELL                      : 5
J_CELL                      : 5
K_CELL                      : 0
<enddischarge>
```

```
DISCHARGE_TYPE              : 5

<<begin_rating_curve>>
…
[water_level]   [flow]
…
<<end_rating_curve>>
```

 

# Others

- RunOff – Curvilinear grids 7
- RunOff – Time series outputs 8
- Inlets to manhole links visualization 9
- Drainage Network – Irregular cross-sections 10

 

# Academic licensing

- OpenFlows FLOOD academic licensing in 2020
  - Students (MSc, PhD)
  - Teaching


 

# Obrigado!

 