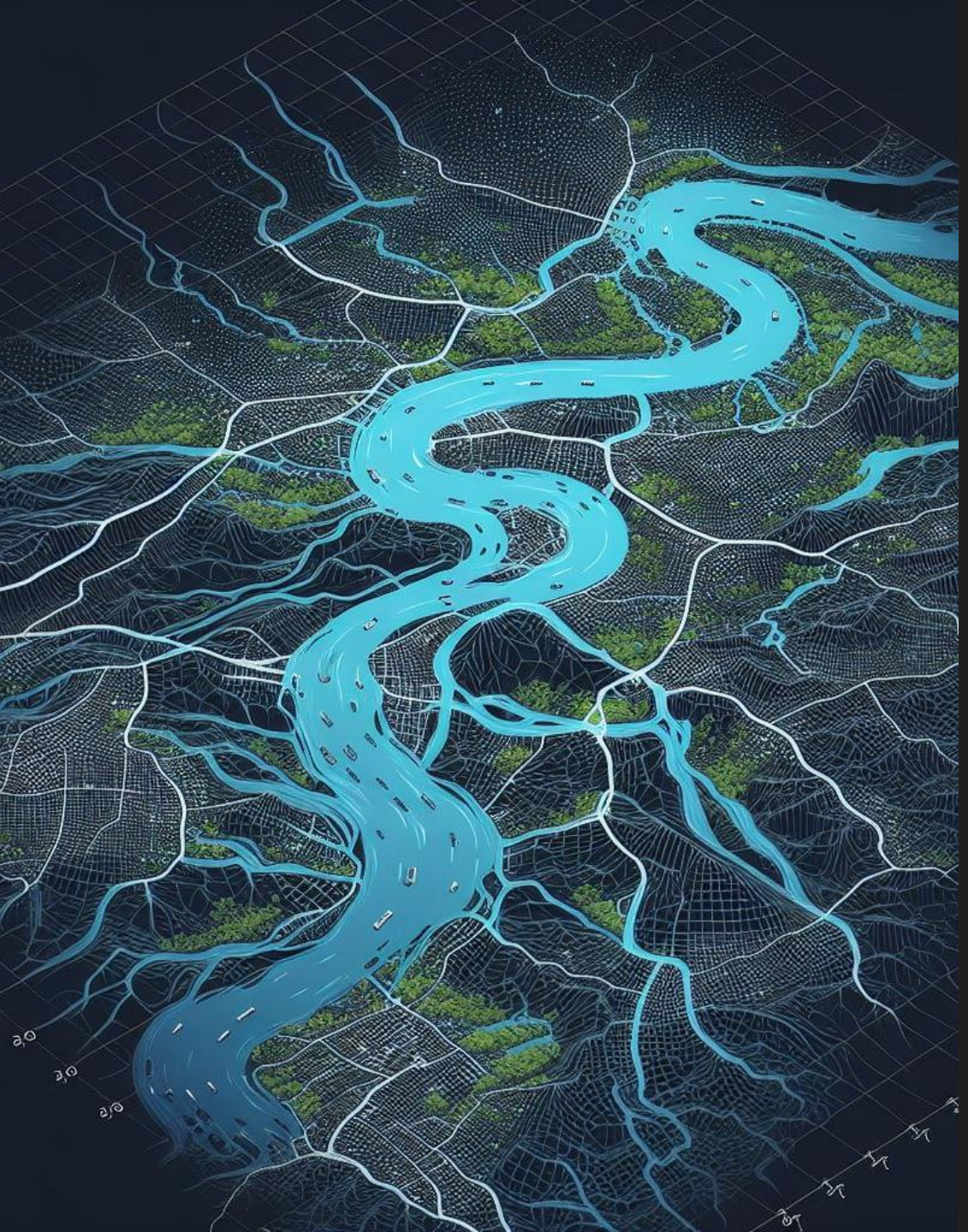
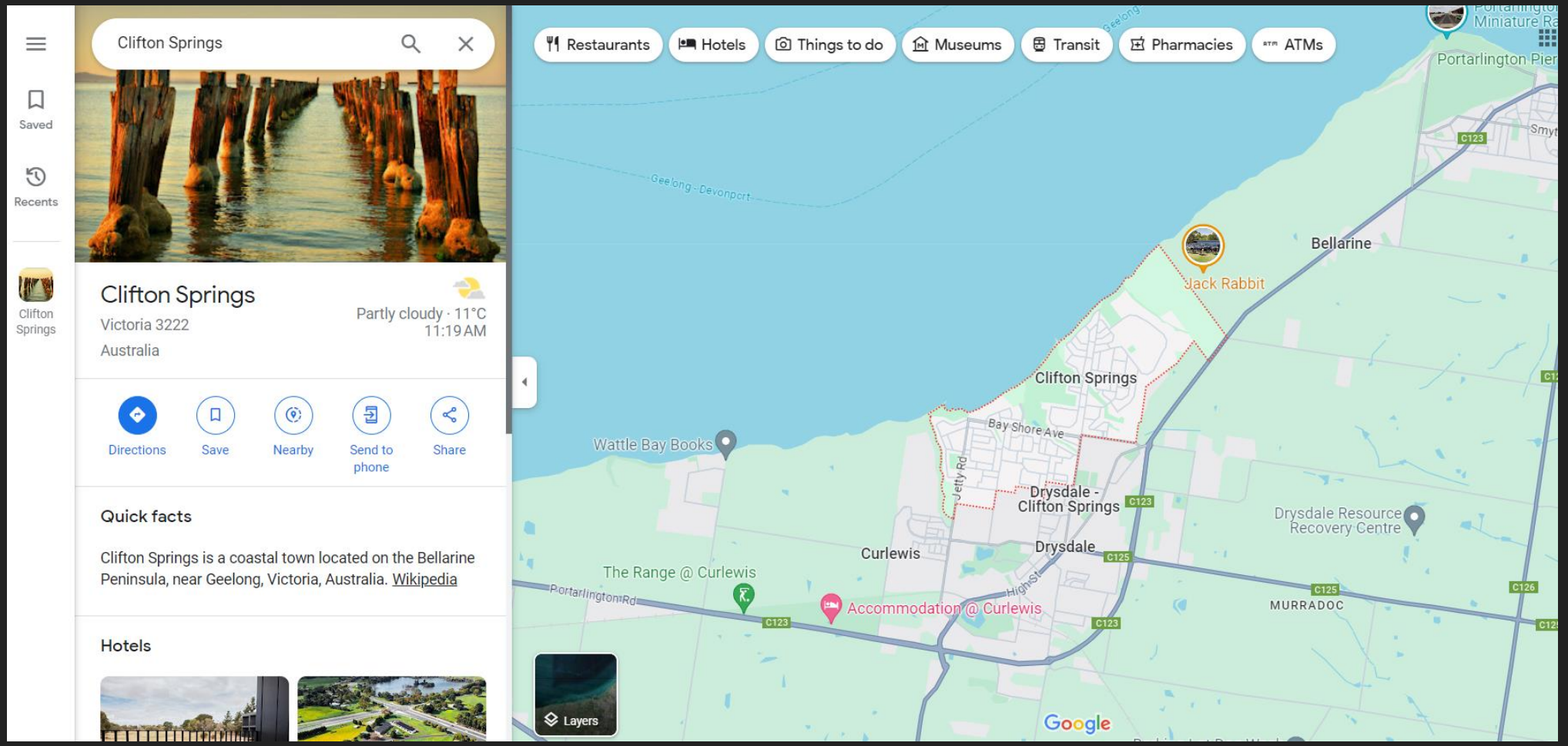


The Rasterization Journey

Stantec Maddie Giles | Data & Automation Analyst

THE CONTEXT


Clifton Springs
Saved
Recents
Clifton Springs
Clifton Springs
Victoria 3222
Australia
Partly cloudy · 11°C
11:19 AM
Directions
Save
Nearby
Send to phone
Share
Quick facts
Clifton Springs is a coastal town located on the Bellarine Peninsula, near Geelong, Victoria, Australia. Wikipedia
Hotels
Restaurants
Hotels
Things to do
Museums
Transit
Pharmacies
ATMs
Portarlington Pier
Geelong - Devonport
Bellarine
Jack Rabbit
Clifton Springs
Bay Shore Ave
Wattle Bay Books
Drysdale - Clifton Springs
Drysdale Resource Recovery Centre
Curlewis
Drysdale
The Range @ Curlewis
Portarlington Rd
Accommodation @ Curlewis
MURRADOC
C123
C125
C126
Layers
Google

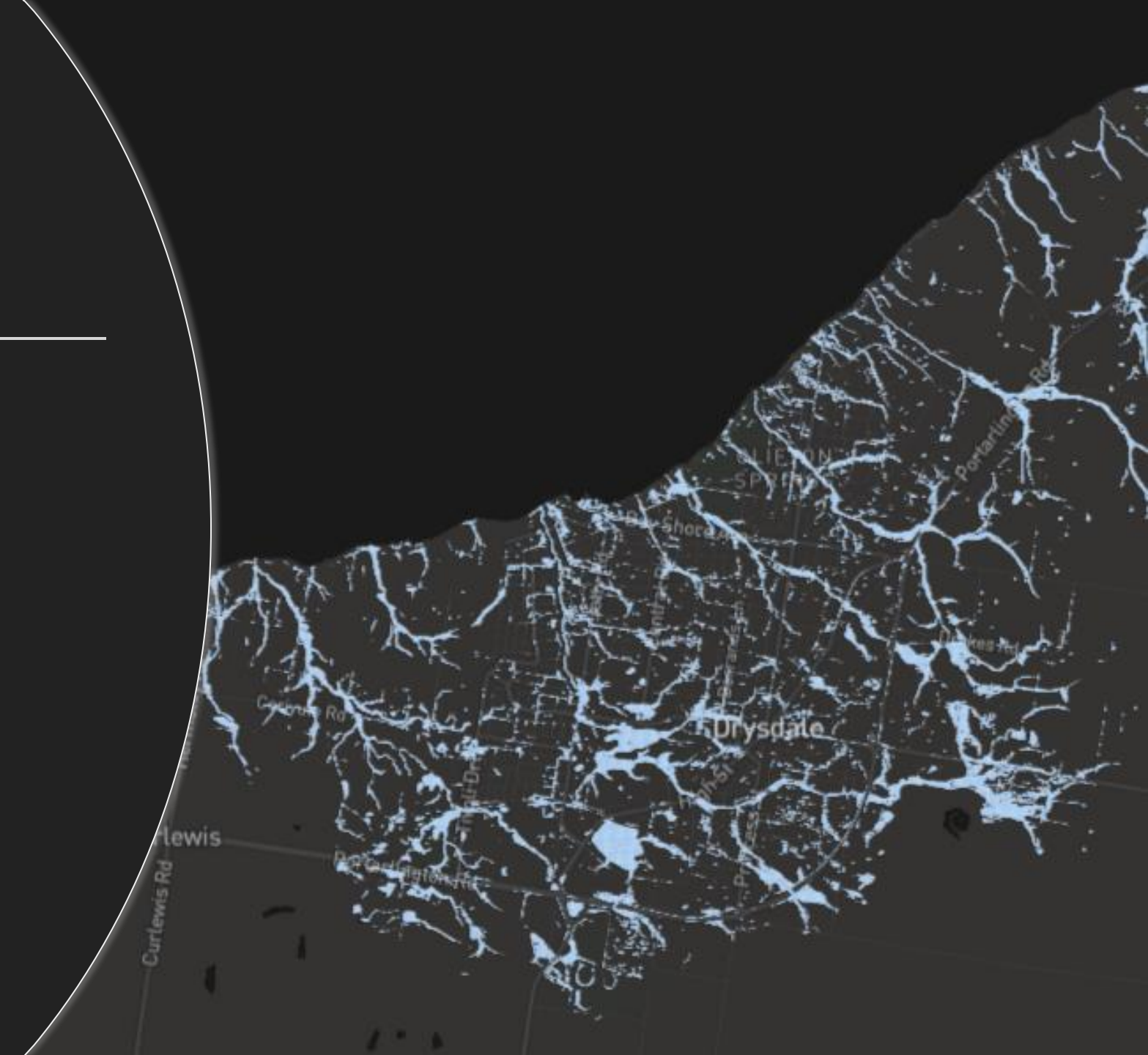
THE PROBLEM

Big datasets:

- MapInfo tab had ~500,000 features
- 4 different depth results to generate rasters for each flood ARI scenario

Client requirements

- ASCII format
- ESRI Geodatabase
- Different naming specifications for each
- ***Accurate rasters that were the same as the model outputs***



About Transformer Help
List of all Transformers
PDF Quick-Reference Guide
3D
Attributes
Calculated Values
Cartography and Reports
Coordinates
Data Quality
Filters and Joins
Format-Specific
Geometries
Integrations
Point Clouds
Rasters
Spatial Analysis
Strings
Web
Workflows

▶ These transformers generally control the flow of features in a workspace.

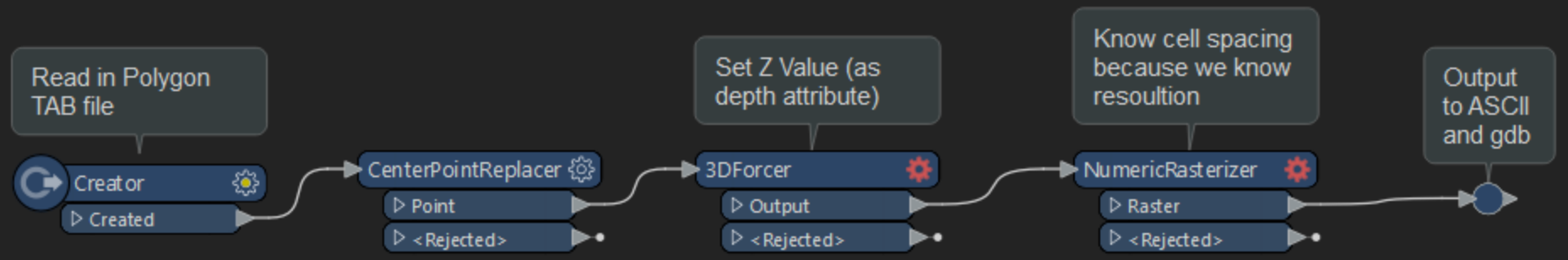
Vectors and Rasters

▼ These transformers generally involve using rasters and vector data together.

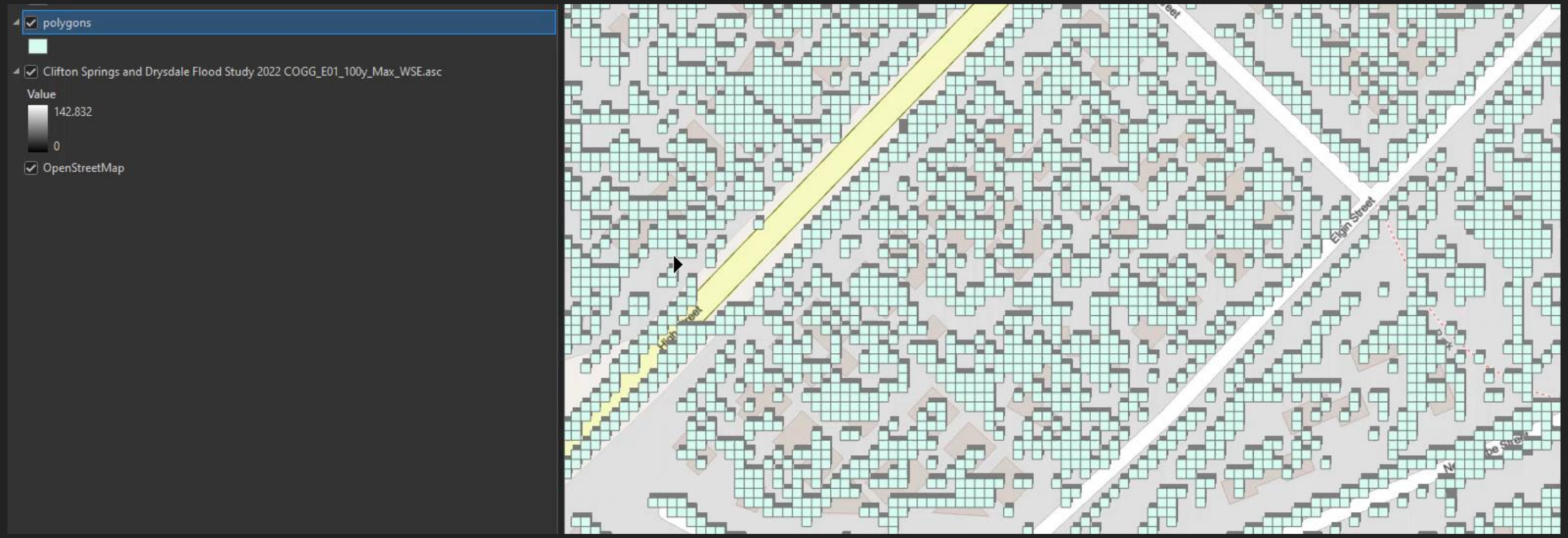
ImageRasterizer	Creates a raster representation of vector or point cloud input features, using the fme_color attribute over a solid background fill for vector features. Point clouds may be rendered using their color or intensity components.
NumericRasterizer	Creates a numeric raster representation of vector or point cloud input features, where cell values are taken from the z coordinates of the input features and overlaid on a uniform background.
MapnikRasterizer	Generates a raster from input vector and raster features, with fine control over symbolization and labeling, using the Mapnik toolkit.
PointCloudOnRasterComponentSetter	Sets point cloud component values by overlaying a point cloud on a raster. The component values for each point are interpolated from band values at the point location.
PointOnRasterValueExtractor	Extracts the band and palette values from a raster at the location of one or more input points and sets them as attributes on the feature.
RasterDEMGenerator	Produces a raster digital elevation model (DEM) by uniformly sampling a Delaunay triangulation generated from input points and breaklines.
VectorOnRasterOverlayer	Rasterizes vector or point cloud features onto an existing raster. For vector features the fme_color attribute sets pixel color, and point clouds may be rendered using their color or intensity components.

THE FIRST ATTEMPT

Should be super easy!

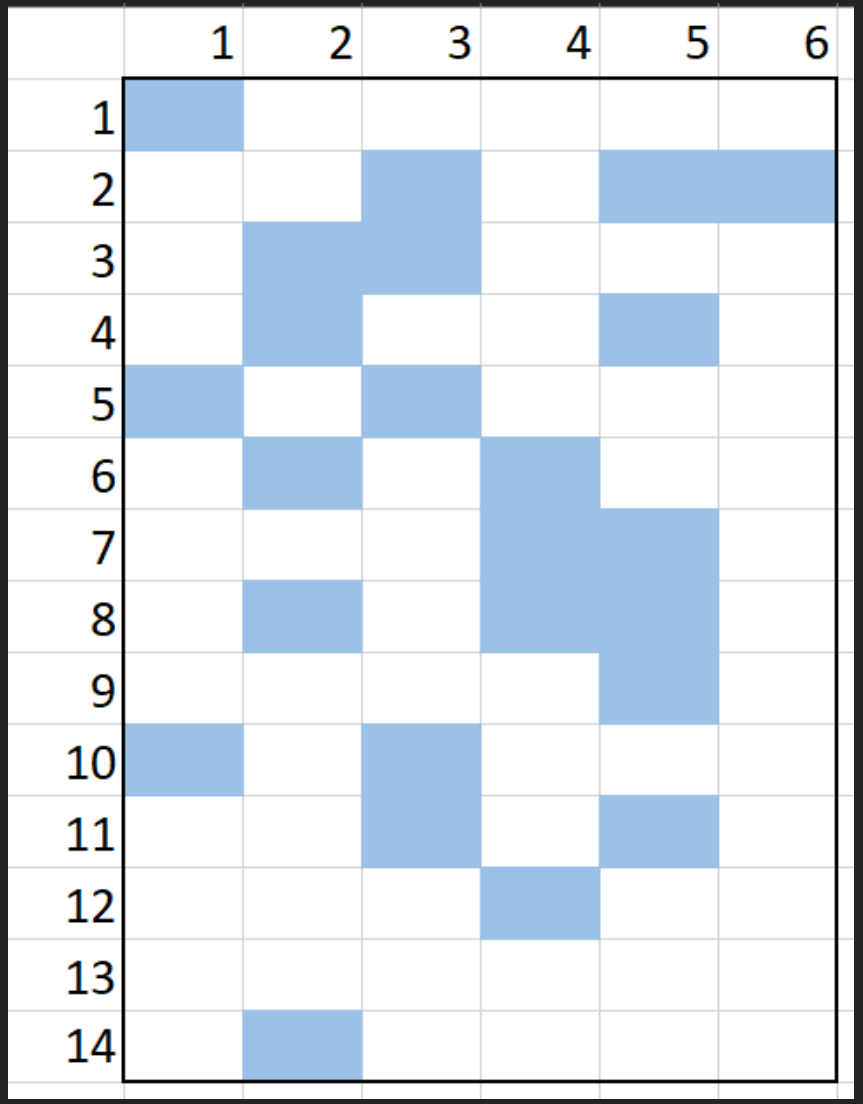


THE WHY THAT DIDN'T WORK….



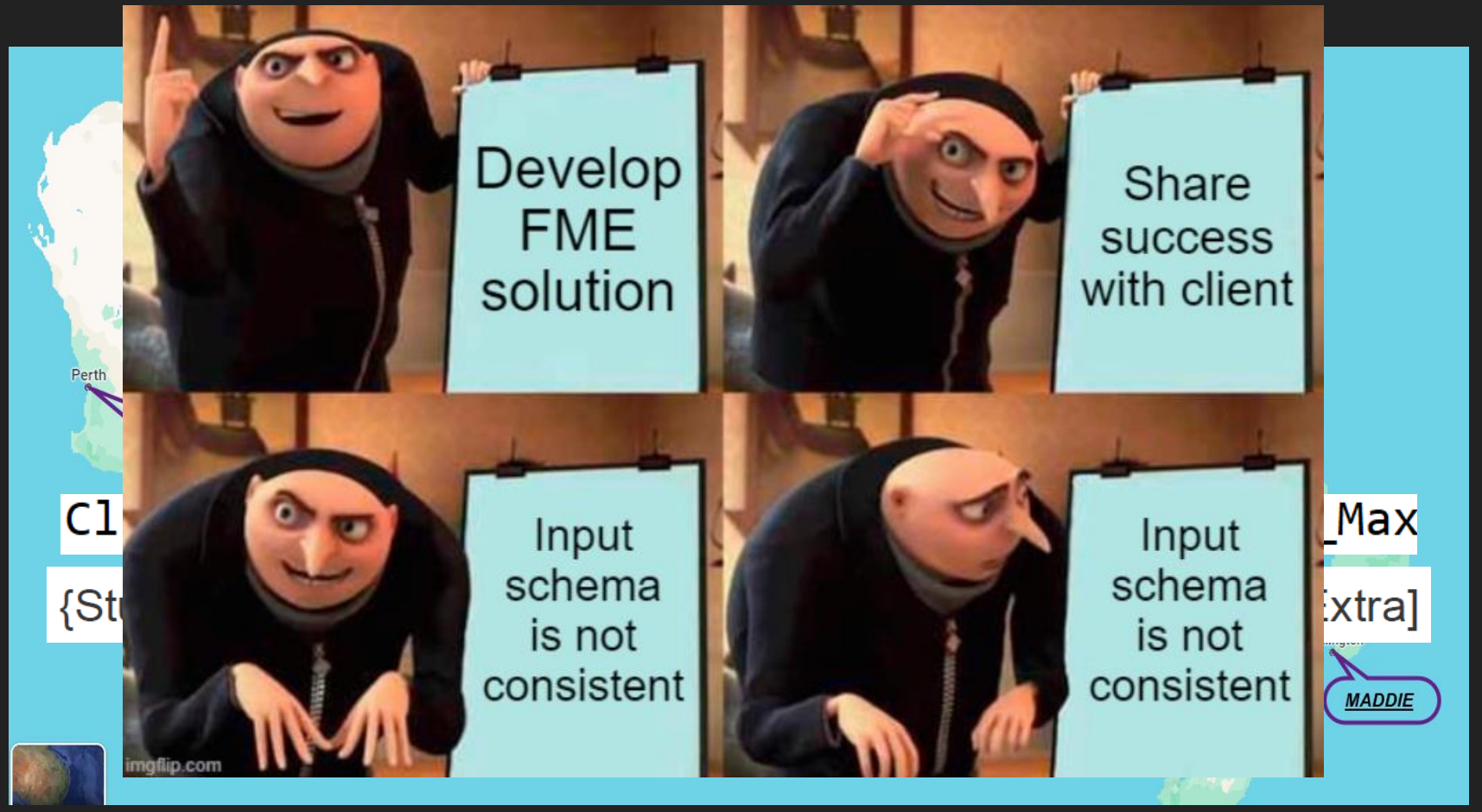
THE "ACTUAL" SOLUTION

1. Want to make the raster extent first.
2. Extract raster properties (rows and column number)
3. Same centerpoint replace with Z value
4. Generate raster using rows and column number specific to extent



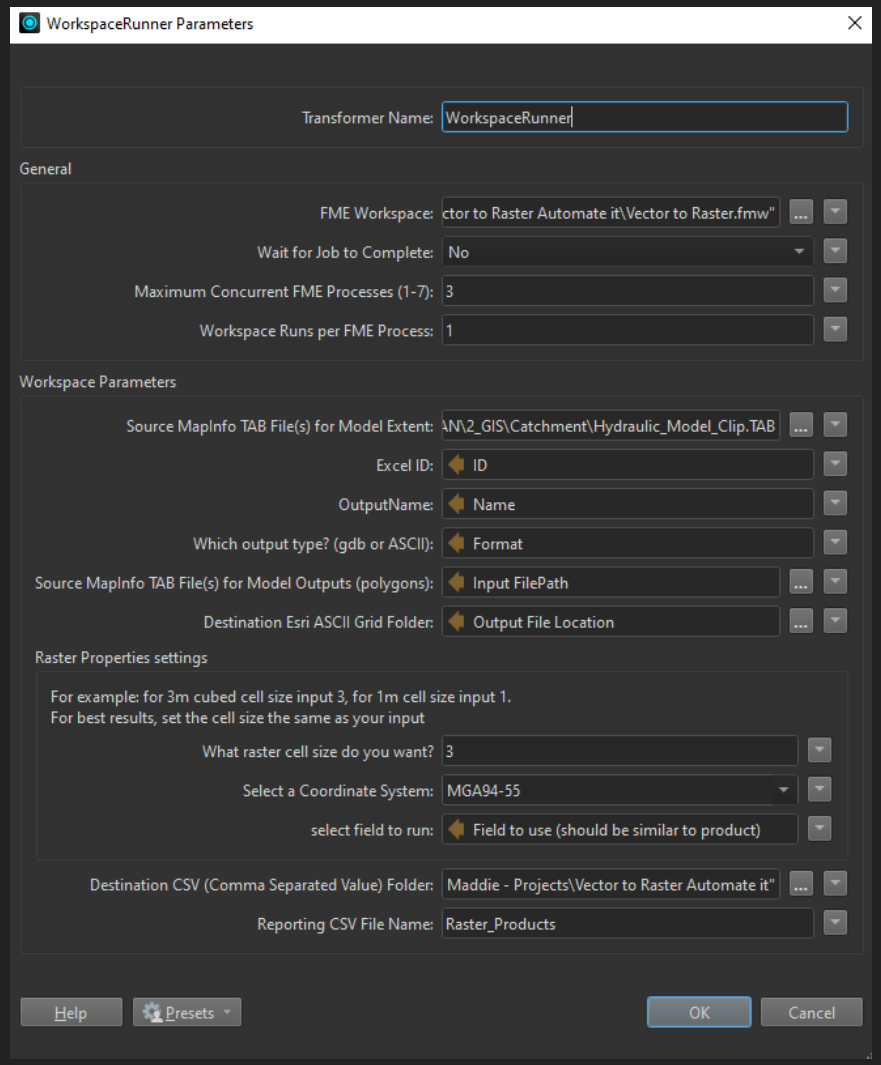
HOW TO SCALE? (In 10 super easy steps)

1. YAY – solution works!
2. Chat with internal client
3. OH_NO.gif
4. Confirm outputs
5. Get overwhelmed
6. Where IS the data??
7. Time to brainstorm



HOW TO SCALE? (~~In 10 super easy steps~~ It's just these three)

8. Workspace runner
9. Requires detailed input excel
    a) input file path location
    b) what field to use as z value
    c) output name
    d) what type of output required (ACII or .GDB)
    e) output save file path location
10. Borrow someone else's computer (thanks Dave!)

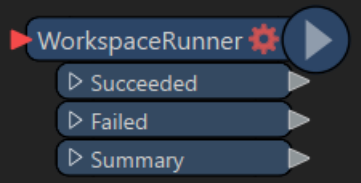


STATS / FUN FACTS

~16 hours for development / workspace set up / meetings

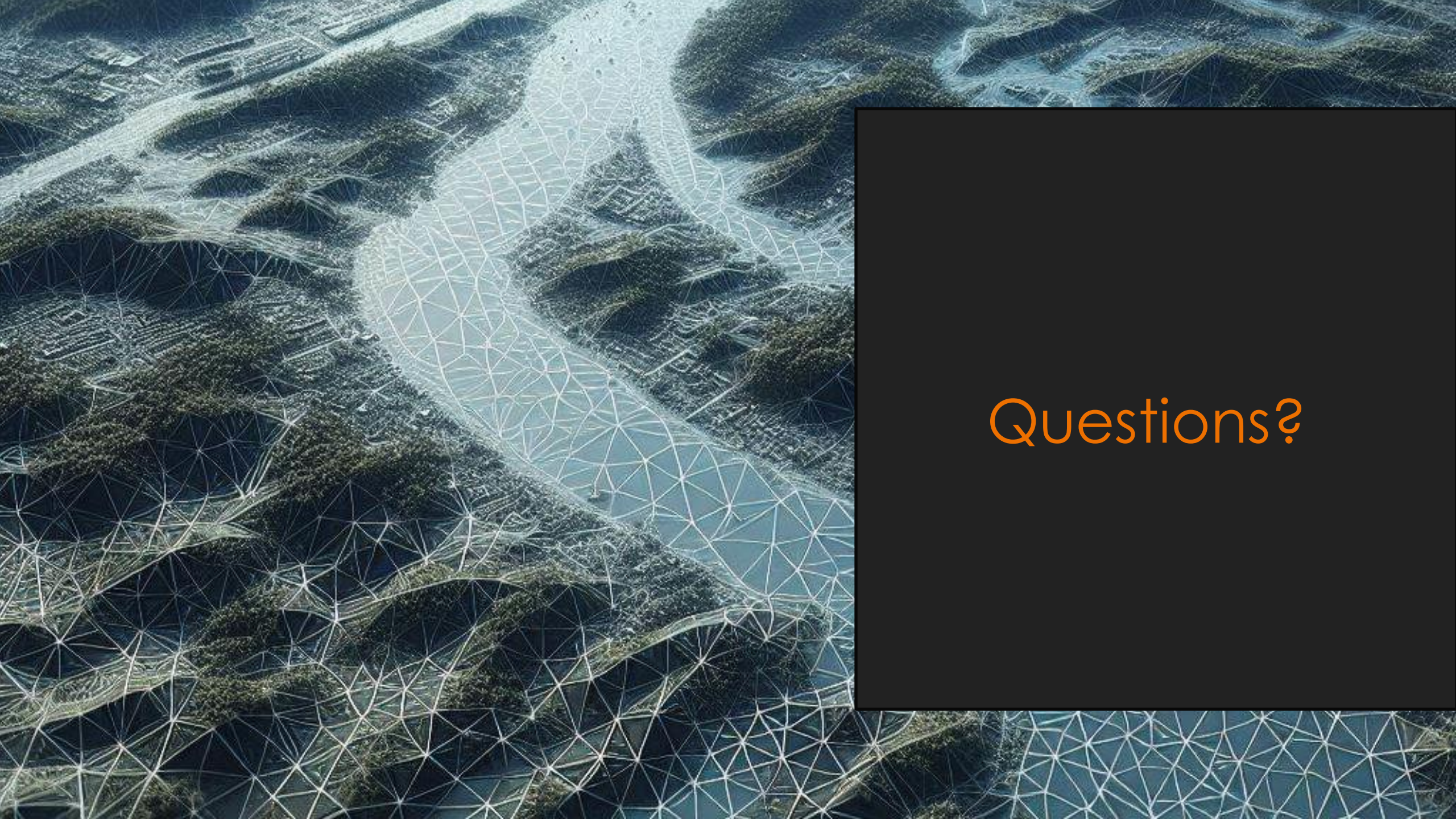
40 hours processing time

Saved a lot of time being able to parallel / bulk process



Happy Client

337 raster outputs ~ 25GB


Questions?