

Technical Spotlight

Assessing pollution flow using OS MasterMap Water Network Layer

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Continuing with the theme of last month's article, around the first of four products being released to PSGA customers, in this article we shall be looking at the second: OS MasterMap Water Network Layer. To recap, this OS MasterMap derived dataset provides a highly detailed water network for Great Britain encompassing information on direction of flow, course navigation & elevation attribution. In essence, the dataset gives users accessibility to analyse water-related risks and because it is derived from OS MasterMap, this is further enhanced by the ability to combine with the OS MasterMap Topography layer for rich 3D insights.

To add context to when this product becomes powerful, let's take an example of how a public sector customer is reviewing the flow of pollution that has contaminated a local river system.

The customer has some initial questions to answer such as:

- What are the potential waterway routes for the pollution to flow to?
- Where does the polluted waterway source begin?
- Are there any waterways that feed back to the original polluted waterway, before the pollution begins?
- Are there any empty flat areas next to the polluted waterway, downstream of the pollution that would allow for a temporary cleaning solution to be built?



OS Water Network Layer can provide insight for every question listed here. Below are answers on methods that can be implemented, using the product:

What are the potential waterway routes for the pollution to flow to?

The product comes with centre lines and nodes for junction, start & end points for the waterways. This enables the product to be used as a routable network in a GIS system. The customer can build a network on the product and simulate the flow to determine all possible routes from the contamination point.

Where does the polluted waterway source begin?

Helpfully the product has node points to represent the source and end point of each waterway. This allows for the customer to pinpoint the source exactly and potentially introduce a solution upstream of the pollution area.

Are there any waterways that feed back to the original polluted waterway, before the pollution begins?

The layer includes all waterways including aqueducts and tunnels and for each, the direction of flow. This enables the customer to follow the flow from the contamination point and quickly determine which waterways, downstream of the pollution, could potentially flow back to the original waterway.

Are there any empty flat areas next to the waterway, downstream of the pollution that would allow for a temporary cleaning solution to be built?

As highlighted previously, because the data is derived from our OS MasterMap product series, it has an embedded connection to our OS MasterMap Topography layer. This means that you can merge both datasets together and complete an analysis of suitably flat land area next to the waterway to answer the question.

