PREVis questionnaire

There are 4 individual scales in PREVis, each measuring a particular dimension of perceived readability.

Undertand scale

`obvious`	It is **obvious** for me how to read this visualization • can you distinguish the different hydrodynamic attributes ? • can you distinguish between ocean- and terrestrial elements ? • can you geographically locate the area ?
`represent`	I can easily understand **how the data is represented** in this visualization • can you tell which attribute is represented by which symbol(s) or colour map (i.e. visual channel) ? • can you identify the baseline (i.e. 0-point) of the attribute from the symbol(s) or colour map ?
`understand`	I can **easily understand** this visualization => expected insight just from the visuals (→ how many can you ***easily*** identify ?): • the water at the northern coastline of island flows towards from the coastline • the water at the southern coastline of island flows away from the coastline • the ocean around the island has a turbulent, non-laminar flow, meaning: the flow direction varies visibly & has no easily-visible general flow direction • there are 3 counter-clockwise turning eddy-gyres north of the island • in the Irish Sea, between the mainland and the island, there are several smaller eddy gyres • the winding of eddies south of the island varies – some turn clockwise, some turn counter-clockwise • the eddies are areas with 0 m/s velocity at the center, and a divergence of 0 m/s at its boundary • flow direction, divergence and eddy-location are correlated • the seawater temperature is higher towards the coast than in the (northerly) open ocean • there is a deep ocean trench off the south-southeast center shoreline of the island

Reading data scale

`find`	I can easily **find specific elements** in this visualization • can you locate areas of fast-/slow-flowing water ? • can you locate areas of calm, nearly-steady waters ? • can you locate ocean trenches- and ridges ?
`identify`	I can easily **identify relevant information** in this visualization • can you identify & distinguish areas of fast-flowing water from areas with slow-flowing water ? • can you identify & distinguish areas of equal flow direction from areas with a different flow direction ? • can you distinguish between warm and cold water areas ? • can you distinguish between deep and shallow waters ?
`information`	I can easily **retrieve information** from this visualization • can you directly approximate the flow velocity (in [m/s]) in the visualization ? • can you directly read- or approximate the seabed elevation (i.e. bathymetry; in [m]) from the visualization ? • can you infer the ocean water temperature (in [°C]) from the visualization?

Layout scale

`messy`	I **don't** find this visualization **messy** • can you focus on individual visual elements in the visualization ? • can you distinguish ***lines*** from ***points*** ? • can you see the background even in densely-sampled areas ? • can you identify all separate colours, or do you get the impression that there are duplicate colours due to colour deficiencies ?
`crowd`	I **don't** find this visualization **crowded** • do you *perceive* a lot of occlusions in the visualization ? • do you perceive the visualization to be *nervous* ?
`distract`	I **don't** find **distracting parts** in this visualization • are there graphical elements that have nothing to do with the data, the scale or the orientation ? • If the visualization uses saturation/brightness and transparency: are there discrepancies between the overlay, the data scale and the background colour ?

Reading features scale

`visible`	I *perceive* data features (for example, a minimum, or an outlier, or a trend) to be **visible** in this visualization (i.e. they are ***visibly existent***)
`see`	I can **see** data features (for example, a minimum, or an outlier, or a trend) **clearly** in this visualization (i.e. they are ***distinct*** from there surrounding)