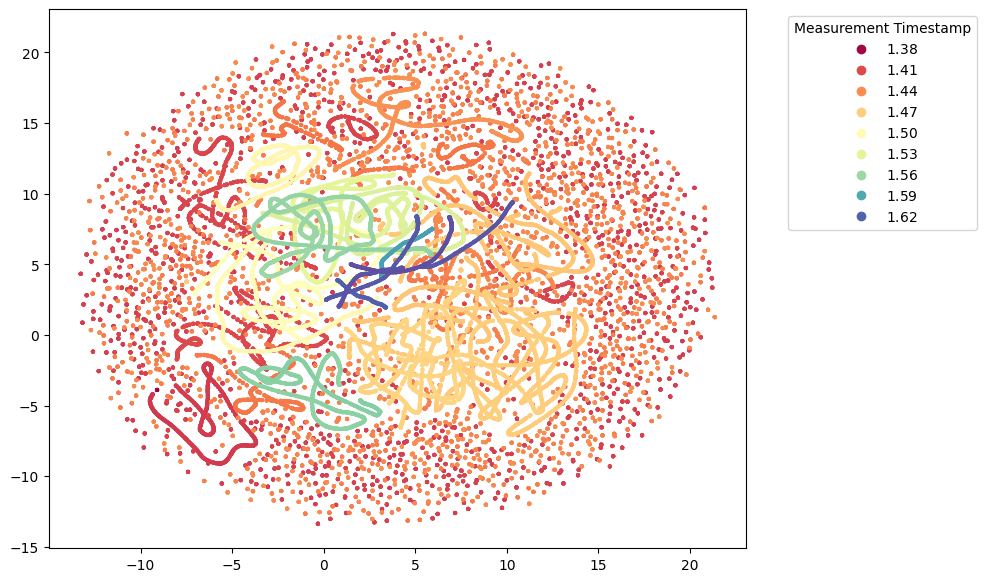
UMAP by sorting Measurement Timestamp, and Beach Name

data\_sorted = data.sort\_values(by=['Measurement Timestamp','Beach Name'])

A picture containing map, screenshot

Description automatically generated



UMAP by sorting Beach Name and Measurement Timestamp

data\_sorted = data.sort\_values(by=['Beach Name','Measurement Timestamp'])

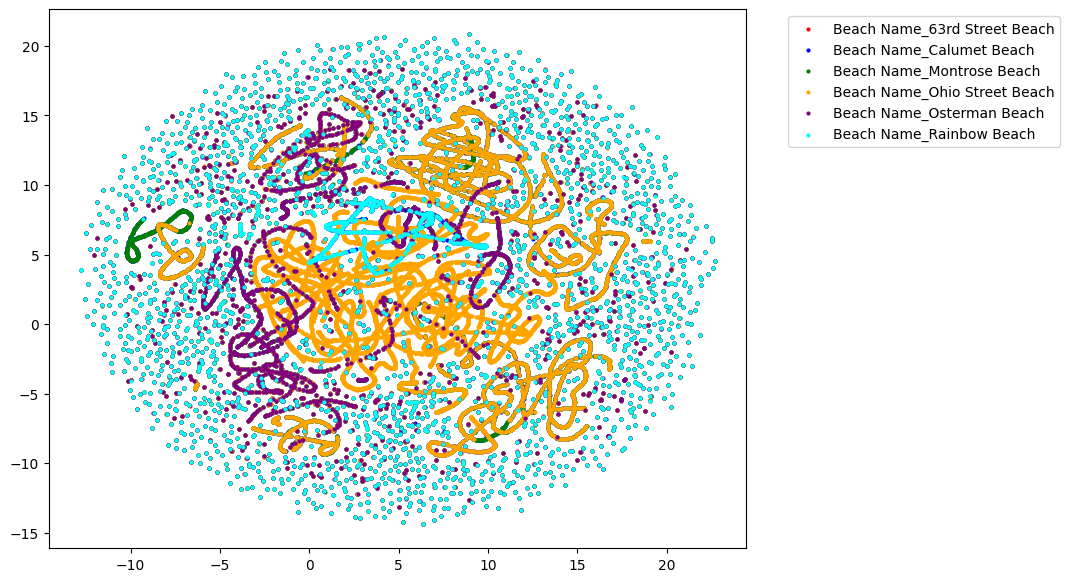
A screenshot of a computer

Description automatically generated with low confidence

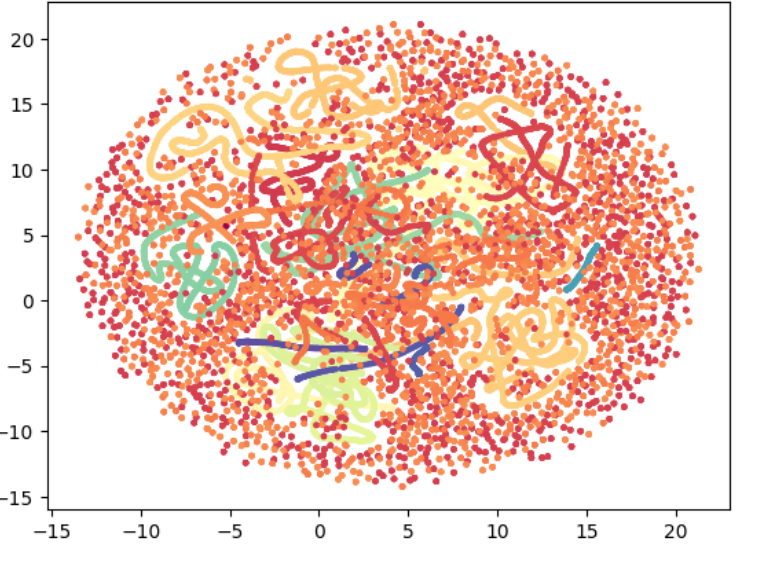
Using the

A picture containing screenshot, colorfulness

Description automatically generated

The **apply()** method is used to apply the **timestamp()** function to each value in the 'timestamp' column. The **timestamp()** function converts each datetime object to a numeric representation.

encoded\_data\_pre['Measurement Timestamp'] = encoded\_data\_pre['Measurement Timestamp'].apply(lambda x: x.timestamp())



reducer = umap.UMAP(random\_state=SEED,

n\_neighbors = 5,

n\_components = 2,

min\_dist = 0.7)

