Brief description of match quality

We start with datasets

$$X = \{x_1, x_2, \ldots, x_n\}$$
$$Y = \{y_1, y_2, \ldots, y_n\},$$

both of size $n \times 3$, coregistered. X represents the after-flood image, and Y represents the before-flood. We match these sets using our graph algorithm. Let's represent this matching as

$$x_i \text{ matches to } y_{\phi(i)}.$$

There is also the trivial matching via coregistration, where x_i matches to y_i. Following your advice on Thursday, I decided to calculate match quality via

$$\left\| x_i - x_{\phi(i)} \right\|.$$

Here a large number represents a bad match, and a small number represents a good match. The graph in the picture shows all of the different match qualities, sorted so that it's easier to view.