Diagnostics

The measurement unit for all reported numbers is: metre

There was a total of 13579163624 units area lost during the intersection, which constitutes 5.91% of the source shape area and 5.58% of the target shape area

# 1. Statistics about shapes

## 1.1 Statistics about source shape

Smallest area (that is also found in the intersection): ID (RMSect) = EC3M 2, area = 2216, % of total source shape area = 0.00000

Total source shape area = 229711211101

Average source shape area = 24882064

The smallest source shape area is 11227.13 times smaller than the average

## 1.2 Statistics about target shape

Smallest area (that is also found in the intersection): ID (AREA\_ID) = S01002020, area = 11991, % of total target shape area = 0.00000

Total target shape area = 243290374725

Average target shape area = 16668291

The smallest target shape area is 1390.06 times smaller than the average

## 1.3 Statistics about intersected shape

NB: The smallest area from either the source or the target shapes is 2216. The smallest possible area in the intersect is 158% of that, or 3500 units.

Smallest intersected area: ID (INTERSECT\_ID) = SO19 8\_E02003579, area = 3500, % of total intersected shape area = 0.00000

Total target shape area = 228416677273

Average target shape area = 4534776

The smallest target shape area is 1295.52 times smaller than the average

# 2. Tolerance value simulations

If the tolerance is set at 0.001% (0 units), the total area lost would be 0 (0.00000% of total intersect area), which costitutes an increase of 0.00 times compared to the previous tolerance value. The statistics for the new intersected area shape are as follows. The smallest area's ID is EH6 5\_S01002273 and its area is 0 (0.00000% of total intersect area). The total intersect area is now 228420877392, and the average intersect area is 4246925. The smallest intersect area is 121528267.33 times smaller than the average intersect area, which constitues a change of 0.00 times from the previous tolerance value.

If the tolerance is set at 0.010% (0 units), the total area lost would be 2 (0.00000% of total intersect area), which costitutes an increase of 39.42 times compared to the previous tolerance value. The statistics for the new intersected area shape are as follows. The smallest area's ID is NE37 1\_E02001695 and its area is 0 (0.00000% of total intersect area). The total intersect area is now 228420877391, and the average intersect area is 4247952. The smallest intersect area is 14254482.01 times smaller than the average intersect area, which constitues a change of 0.12 times from the previous tolerance value.

If the tolerance is set at 0.050% (1 units), the total area lost would be 23 (0.00000% of total intersect area), which costitutes an increase of 14.75 times compared to the previous tolerance value. The statistics for the new intersected area shape are as follows. The smallest area's ID is N1 4\_E02000358 and its area is 1 (0.00000% of total intersect area). The total intersect area is now 228420877369, and the average intersect area is 4250323. The smallest intersect area is 3769076.43 times smaller than the average intersect area, which constitues a change of 0.26 times from the previous tolerance value.

If the tolerance is set at 0.100% (2 units), the total area lost would be 56 (0.00000% of total intersect area), which costitutes an increase of 2.40 times compared to the previous tolerance value. The statistics for the new intersected area shape are as follows. The smallest area's ID is N15 4\_E02000422 and its area is 2 (0.00000% of total intersect area). The total intersect area is now 228420877337, and the average intersect area is 4251906. The smallest intersect area is 1838340.45 times smaller than the average intersect area, which constitues a change of 0.49 times from the previous tolerance value.

If the tolerance is set at 0.500% (11 units), the total area lost would be 596 (0.00000% of total intersect area), which costitutes an increase of 10.67 times compared to the previous tolerance value. The statistics for the new intersected area shape are as follows. The smallest area's ID is G74 1\_S01005897 and its area is 11 (0.00000% of total intersect area). The total intersect area is now 228420876797, and the average intersect area is 4259597. The smallest intersect area is 373865.33 times smaller than the average intersect area, which constitues a change of 0.20 times from the previous tolerance value.

If the tolerance is set at 1% (22 units), the total area lost would be 1731 (0.00000% of total intersect area), which costitutes an increase of 2.91 times compared to the previous tolerance value. The statistics for the new intersected area shape are as follows. The smallest area's ID is S61 1\_E02001628 and its area is 22 (0.00000% of total intersect area). The total intersect area is now 228420875661, and the average intersect area is 4265005. The smallest intersect area is 192152.43 times smaller than the average intersect area, which constitues a change of 0.51 times from the previous tolerance value.

If the tolerance is set at 5% (111 units), the total area lost would be 20501 (0.00000% of total intersect area), which costitutes an increase of 11.84 times compared to the previous tolerance value. The statistics for the new intersected area shape are as follows. The smallest area's ID is DE15 0\_E02004119 and its area is 111 (0.00000% of total intersect area). The total intersect area is now 228420856892, and the average intersect area is 4289674. The smallest intersect area is 38678.04 times smaller than the average intersect area, which constitues a change of 0.20 times from the previous tolerance value.

If the tolerance is set at 10% (222 units), the total area lost would be 58133 (0.00000% of total intersect area), which costitutes an increase of 2.84 times compared to the previous tolerance value. The statistics for the new intersected area shape are as follows. The smallest area's ID is EH10 4\_S01001993 and its area is 222 (0.00000% of total intersect area). The total intersect area is now 228420819260, and the average intersect area is 4308201. The smallest intersect area is 19401.14 times smaller than the average intersect area, which constitues a change of 0.50 times from the previous tolerance value.

If the tolerance is set at 20% (443 units), the total area lost would be 166343 (0.00000% of total intersect area), which costitutes an increase of 2.86 times compared to the previous tolerance value. The statistics for the new intersected area shape are as follows. The smallest area's ID is G53 7\_S01003101 and its area is 444 (0.00000% of total intersect area). The total intersect area is now 228420711049, and the average intersect area is 4335593. The smallest intersect area is 9764.49 times smaller than the average intersect area, which constitues a change of 0.50 times from the previous tolerance value.

If the tolerance is set at 50% (1108 units), the total area lost would be 686465 (0.00000% of total intersect area), which costitutes an increase of 4.13 times compared to the previous tolerance value. The statistics for the new intersected area shape are as follows. The smallest area's ID is RM3 7\_E02004469 and its area is 1110 (0.00000% of total intersect area). The total intersect area is now 228420190928, and the average intersect area is 4394809. The smallest intersect area is 3958.66 times smaller than the average intersect area, which constitues a change of 0.41 times from the previous tolerance value.

If the tolerance is set at 90% (1995 units), the total area lost would be 1781336 (0.00001% of total intersect area), which costitutes an increase of 2.59 times compared to the previous tolerance value. The statistics for the new intersected area shape are as follows. The smallest area's ID is EH1 1\_S01002117 and its area is 1995 (0.00000% of total intersect area). The total intersect area is now 228419096057, and the average intersect area is 4456436. The smallest intersect area is 2233.69 times smaller than the average intersect area, which constitues a change of 0.56 times from the previous tolerance value.

If the tolerance is set at 100% (2216 units), the total area lost would be 2094287 (0.00001% of total intersect area), which costitutes an increase of 1.18 times compared to the previous tolerance value. The statistics for the new intersected area shape are as follows. The smallest area's ID is CB5 8\_E02003722 and its area is 2218 (0.00000% of total intersect area). The total intersect area is now 228418783105, and the average intersect area is 4469423. The smallest intersect area is 2015.51 times smaller than the average intersect area, which constitues a change of 0.90 times from the previous tolerance value.

If the tolerance is set at 150% (3324 units), the total area lost would be 3856040 (0.00002% of total intersect area), which costitutes an increase of 1.84 times compared to the previous tolerance value. The statistics for the new intersected area shape are as follows. The smallest area's ID is PR7 7\_E02005193 and its area is 3326 (0.00000% of total intersect area). The total intersect area is now 228417021352, and the average intersect area is 4525708. The smallest intersect area is 1360.90 times smaller than the average intersect area, which constitues a change of 0.68 times from the previous tolerance value.

If the tolerance is set at 158% (3500 units), the total area lost would be 4200120 (0.00002% of total intersect area), which costitutes an increase of 1.09 times compared to the previous tolerance value. The statistics for the new intersected area shape are as follows. The smallest area's ID is SO19 8\_E02003579 and its area is 3500 (0.00000% of total intersect area). The total intersect area is now 228416677273, and the average intersect area is 4534776. The smallest intersect area is 1295.52 times smaller than the average intersect area, which constitues a change of 0.95 times from the previous tolerance value.

# 3. Source and target shapes visualisation





