

Ghost of the Creek | Engraved Memory, The Unwritten Laws, 100 x 125 cm

Forty years of the creek mouth's waterline, as satellites saw it, each year laid over the last.

The data

The data are 878 clear satellite pictures of the north creek mouth at La Saladita, taken by Landsat and Sentinel-2 satellites from 1986 to 2026, each made of squares 30 m on a side.

The method

In each picture, a water index compares green light with shortwave infrared light. It is above zero over water and below zero over land:

$$\text{water index} = (\text{green} - \text{shortwave infrared}) / (\text{green} + \text{shortwave infrared})$$

For each year with at least 3 clear scenes, the middle value of that year's pictures is taken square by square, smoothed, and the line is drawn where the index crosses zero: that year's water's edge. The rust line does the same with all the pictures together. An AI image model (OpenAI) then chose the ink for each year on the fixed lines, and the print was rendered from the exact geometry.

What the checks found

A computer compared the finished painting with the exact lines: 53/53 lines recovered, each in its place, with nothing added. On the print file itself, each line's own ink was found along its path in 3,154 of 3,427 samples; the rest lie under a later line drawn on top. Before any of this, the checking software was tried on 10 self-test images that were deliberately altered (lines moved, deleted, added or mirrored), and it caught every one. The full technical record is available on request.

Sources & verification

Every line in the finished image matches the geometry computed from the satellite record. All 53 lines are there, each in its place, and nothing was added. The checking software was first tried on deliberately broken copies and caught every one. The full record is available on request, so anyone can rerun the checks.

What the checks establish: every shape in the finished image matches the geometry computed from the data or the published model. They do not test the model against nature itself; that rests on the data and the published science named above.