

LA SALADITA, GUERRERO

The Unwritten Laws

Las leyes no escritas

Works and their anatomy boards
Obras y sus láminas de anatomía

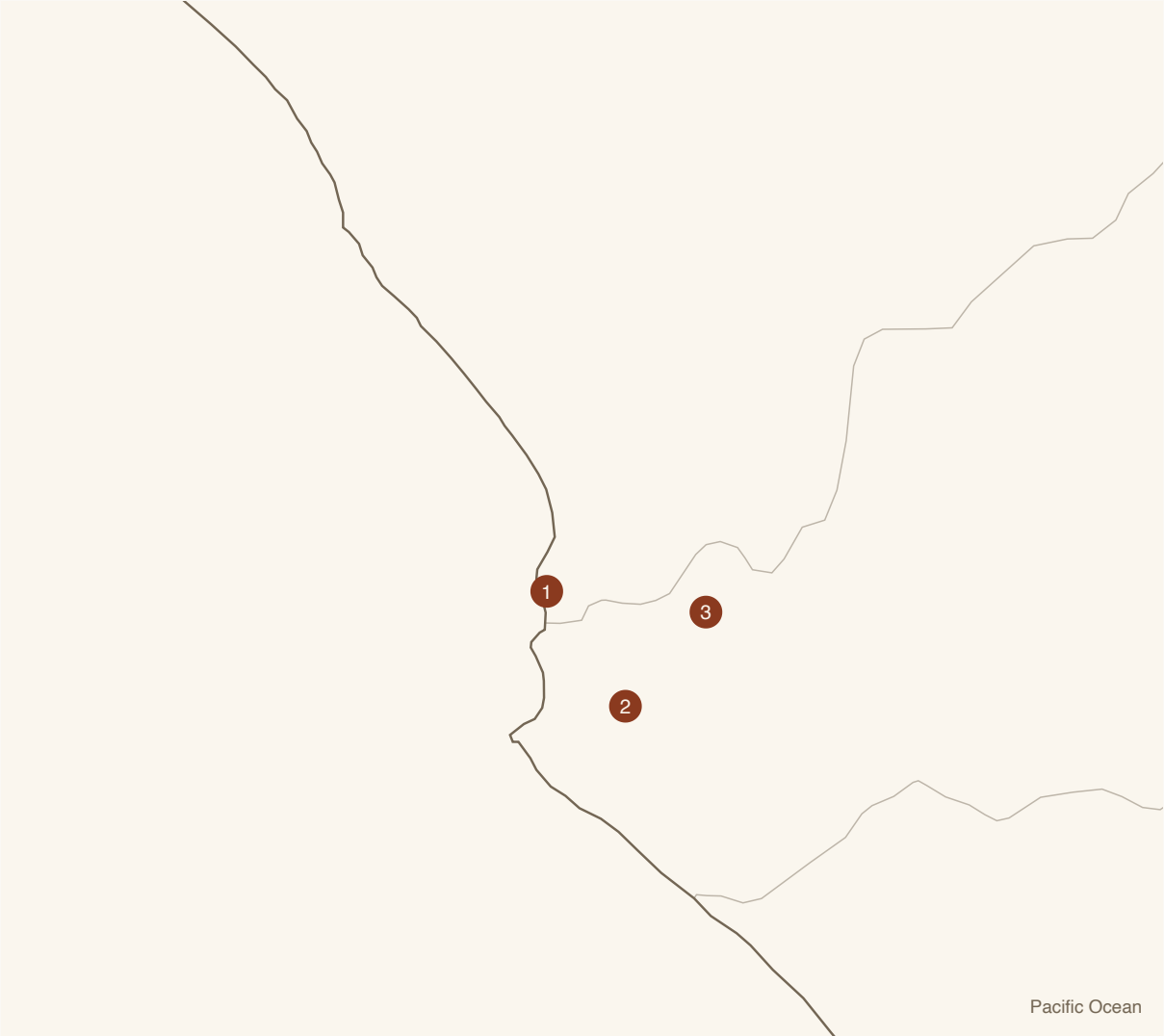
ART BY ADDIE CONNER
OBRA DE ADDIE CONNER

THE UNWRITTEN LAWS

La Saladita holds what the eye can't see: the hour two of the air's tides cancel, forty years of a creek mouth on the move, how the sea's foam divides itself into cells, how a crocodile's skin splits as it grows. These works give it a form, drawn from what satellites and instruments measured here, or computed from the science behind it, and shaped with AI and mathematics. Nature made the relationships; the artist chose how they are seen.

LAS LEYES NO ESCRITAS

La Saladita guarda lo que el ojo no ve: la hora en que dos de las mareas del aire se cancelan, cuarenta años de la boca de un estero en movimiento, cómo la espuma del mar se divide en celdas, la forma en que se abre la piel de un cocodrilo al crecer. Estas obras le dan forma, a partir de lo que satélites e instrumentos midieron aquí, o calculadas con la ciencia que lo explica, y trazadas con inteligencia artificial y matemáticas. La naturaleza hizo las relaciones; la artista eligió cómo se ven.



Where the data come from

De dónde vienen los datos

- 1 **Ghost of the Creek** · north creek mouth (satellite record)
boca norte del estero (registro satelital)
- 2 **Shoreline Memory** · the coast (satellite study area)
la costa (zona del estudio satelital)
- 3 **Three Invisible Clocks** · weather station in the village (approximate)
estación meteorológica en el pueblo (aproximada)

NO SINGLE PLACE · SIN UN LUGAR ÚNICO

- **The Meeting of Territories** · computed from a published law of how crocodile skin cracks
calculada con una ley publicada de cómo se agrieta la piel del cocodrilo
- **Where the Foam Rests** · computed from the physics of foam
Donde descansa la espuma · calculada con la física de la espuma

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The Meeting of Territories, 110 x 145 cm

The Meeting of Territories

110 x 145 cm

Where a crocodile's skin splits as it grows, computed from the science of how its face takes shape.

WHAT YOU SEE

A crocodile's face is built by cracking: as the embryo's jaws grow fast, its hard skin splits into random plates. Here 56 plates meet at a jaw tip: olive, with one rust plate, the largest scale of the whole head, parted by pale seams where the cracks ran. Its cousin, the American crocodile, lives in the lagoons and mangroves of Mexico's Pacific coast, the coast La Saladita stands on.

MADE FROM

Computed from the published science of how crocodile skin cracks, drawn with mathematics, its colors chosen with AI.

Donde se abre la piel de un cocodrilo al crecer, calculado con la ciencia de cómo se forma su cara.

LO QUE SE VE

La cara del cocodrilo se forma agrietándose: mientras las mandíbulas del embrión crecen rápido, su piel dura se parte en placas al azar. Aquí se juntan 56 placas en la punta de la mandíbula: verde olivo, una color óxido, la escama más grande, y juntas claras donde corrió la grieta. Su primo, el cocodrilo americano, vive en las lagunas y manglares del Pacífico mexicano, la costa de La Saladita.

DE QUÉ ESTÁ HECHA

Calculada con la ciencia publicada de cómo se agrieta la piel del cocodrilo, trazada con matemáticas, con colores elegidos con inteligencia artificial.

CROCODILE 04 | The Meeting of Territories, 110 x 145 cm

Anatomy board: source → model / geometry → defining relationships → artwork with the exact aligned overlay

THE LAW, BY CITATION

Crocodile head scales are not developmental units. They form by physical cracking of stiff skin as the head grows, so the polygons are random, most junctions are three-way, and the left and right sides do not match.

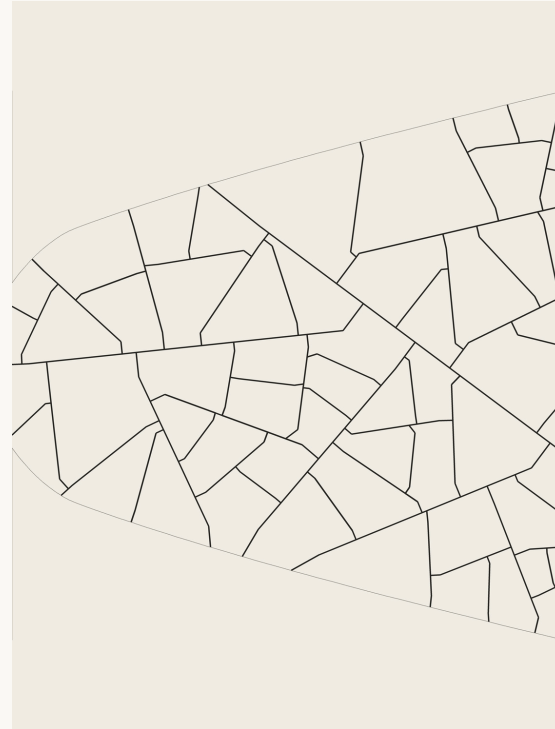
Milinkovitch et al. 2013, Science 339:78-81 (*Crocodylus niloticus*, the Nile crocodile).

Later cracks meet older ones at right angles: Goehring et al. 2010, Soft Matter 6:3562; Goehring 2013, Phil. Trans. R. Soc. A 371:20120353.

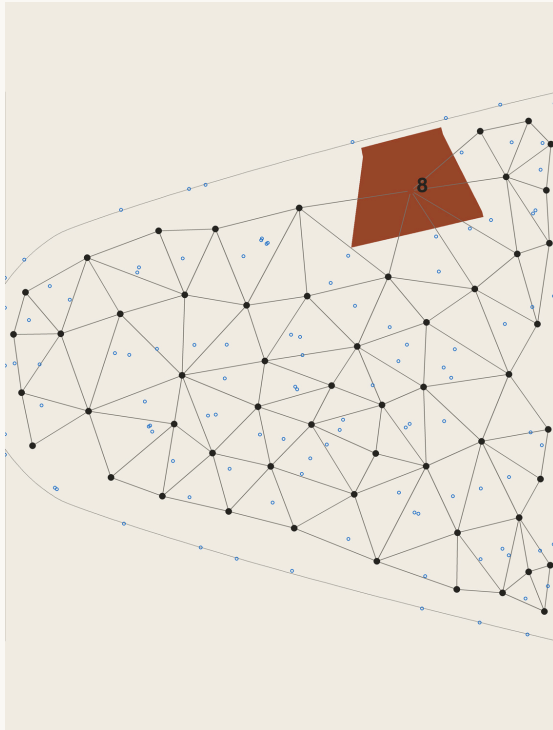
Scope: measured on the Nile crocodile; applied here at genus level. The shapes are computed from the law, not drawn from any one animal.

No published figure is reproduced here.

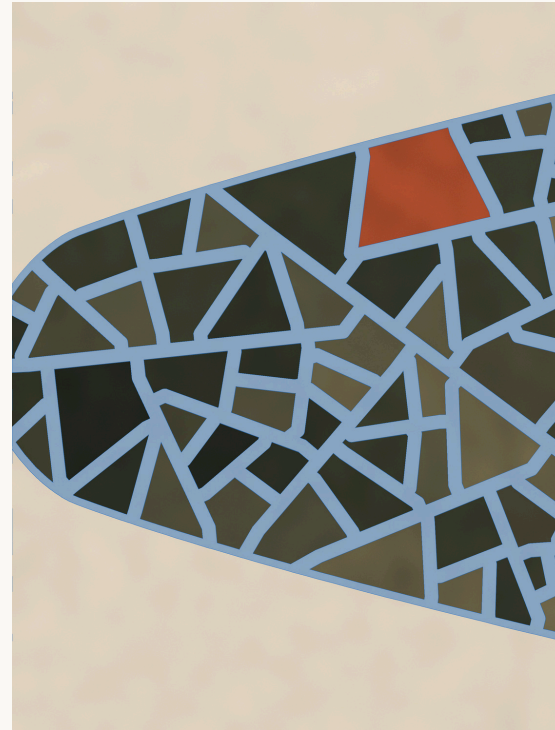
1 SOURCE. The published law, by citation only. Computed from the physics of cracking skin.



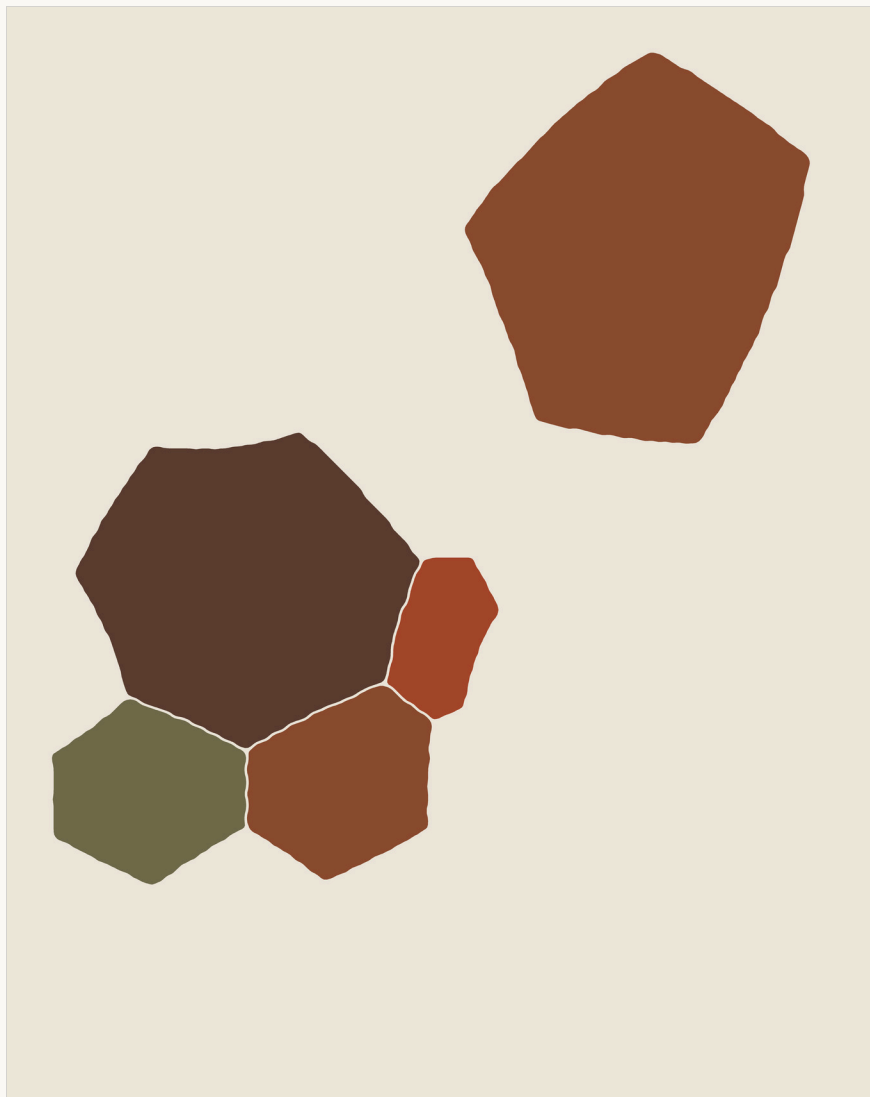
2 MODEL / GEOMETRY. The computed crack network inside the crop: 56 cracks of the 237 on the whole simulated head (crocodile.py, seed 7), drawn from the pack's crack polylines; gray = head silhouette.



3 DEFINING RELATIONSHIPS. Region graph: 56 plates (nodes at centroids), 136 adjacencies, 119 junctions (blue rings). Rust = region 8, the single largest scale of the whole head.



4 ARTWORK + OVERLAY. The finished check copy (2276 x 3000) with the pack's seam mask laid over it at the same pixel grid (blue). Topology check PASS: 61/61 regions, 153/153 adjacencies, 0 invented.



Where the Foam Rests, 80 x 100 cm

Where the Foam Rests

Donde descansa la espuma

80 x 100 cm

How foam divides itself: its walls meet in threes, at nearly equal angles.

WHAT YOU SEE

When bubbles crowd together, their walls pull as short as they can, so the walls always meet three at a time at 120 degrees, the pattern Plateau found in soap films. Here five foam cells in rust, umber, olive and red show it: a cluster at lower left and one cell alone at upper right, parted by pale seams. It is one of the patterns on La Saladita's patterns page.

MADE FROM

Computed from the physics of soap films worked out by Plateau and Taylor, drawn with mathematics, its cells placed by a small learned program.

Cómo se divide la espuma: sus paredes se juntan de tres en tres, en ángulos casi iguales.

LO QUE SE VE

Cuando las burbujas se amontonan, sus paredes se jalan hasta quedar lo más cortas posible, y siempre se juntan de tres en tres a 120 grados, el patrón que Plateau encontró en las películas de jabón. Aquí cinco celdas de espuma en óxido, café, olivo y rojo lo muestran: un grupo abajo a la izquierda y una celda sola arriba, con costuras claras.

DE QUÉ ESTÁ HECHA

Calculada con la física de las películas de jabón que describieron Plateau y Taylor, trazada con matemáticas, con las celdas colocadas por un pequeño programa que aprendió.

WHERE THE FOAM RESTS, 80 x 100 cm

Anatomy board: source → model / geometry → defining relationships → artwork with the exact aligned overlay

THE SOURCE, BY CITATION

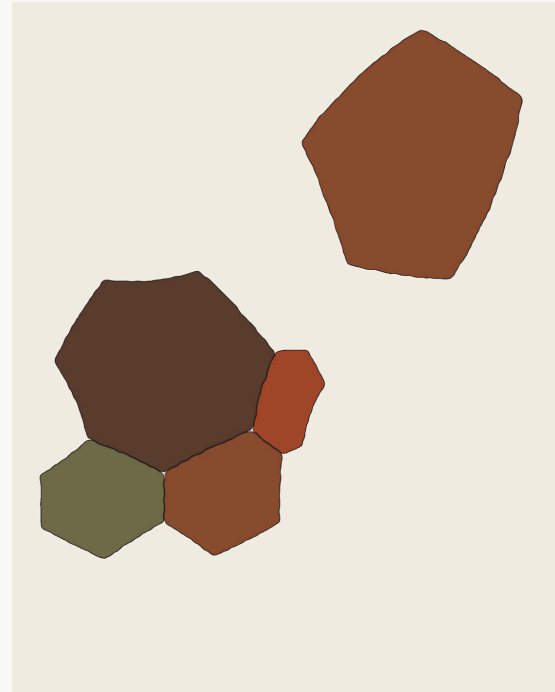
Plateau's laws for a dry two-dimensional foam: walls meet in threes at 120 degrees, each wall a circular arc (Plateau 1873; Taylor 1976, *Annals of Mathematics* 103:489).

Measured on: soap films and foams in general; established physics, computed here for this work.

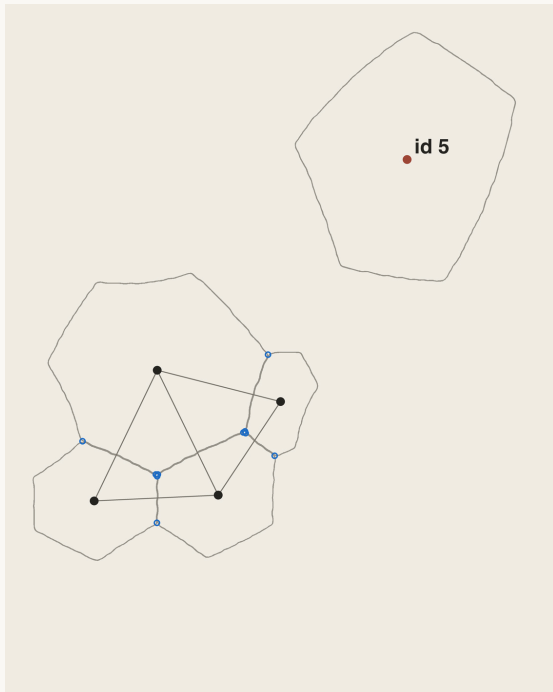
Simulated here: every wall and junction, by a foam relaxation to minimum wall length at fixed cell areas. Placement of the cell groups by a learned model (seed 3).

No published figure is reproduced here.

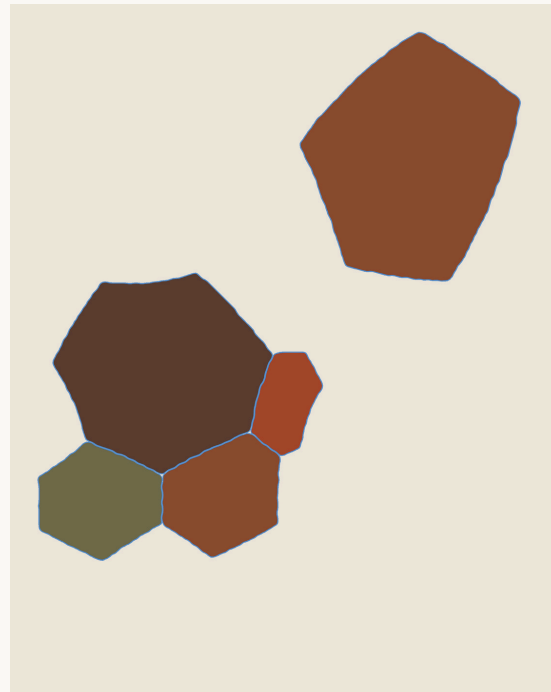
1 SOURCE. The published law, by citation only. Computed from the physics of foam.



2 MODEL / GEOMETRY. The production pack built from the work's own vector file: 5 cells with their 7 px (2.3 mm at 80 cm) seams, the region-ID map the check reads.



3 DEFINING RELATIONSHIPS. The region graph: 8 regions (cells and ground), 10 junction points from the pack raster (triple points and frame contacts). The lone cell is labelled by its id.



4 ARTWORK + OVERLAY. The finished file (2400 x 3000 px) with the pack's seam mask laid over it at the same pixel grid (blue).
topology_check PASS: 8/8 regions matched, silhouette IoU 0.9978, density r 1.0.



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

Ghost of the Creek | Engraved Memory

100 x 125 cm

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

WHAT YOU SEE

The creek mouth at La Saladita, kept as one drawn memory: each thin line is where the water's edge sat in one year, 1986 to 2026, laid over the year before, slate blue to warm gray, with the long-term middle in rust. Where lines bunch, the beach held; where they loop apart, the mouth moved. Shoreline Memory reads the same satellite archive as the coast's edge.

MADE FROM

Made from 878 Landsat and Sentinel-2 satellite pictures, traced and drawn with mathematics, its ink chosen with AI.

Cuarenta años de la orilla en la boca del estero, vistos desde satélites, cada año encima del anterior.

LO QUE SE VE

La boca del estero de La Saladita, guardada como una sola memoria dibujada: cada línea es la orilla del agua en un año, de 1986 a 2026, encima del año anterior, de azul pizarra a gris cálido, con el término medio en óxido. Donde las líneas se abren, la boca se movió. Shoreline Memory lee el mismo archivo de satélite como el borde de la costa.

DE QUÉ ESTÁ HECHA

Hecha con 878 imágenes de los satélites Landsat y Sentinel-2, trazadas con matemáticas, con la tinta elegida con inteligencia artificial.

GHOST OF THE CREEK | Engraved Memory, 100 x 125 cm

Anatomy board: source → model / geometry → defining relationships → artwork with the exact aligned overlay

THE SOURCE, BY CITATION

878 satellite scenes of the north creek mouth, La Saladita, 1986 to 2026: Landsat and Sentinel-2 (Landsat: USGS, public domain; Sentinel: Copernicus, 'Contains modified Copernicus Sentinel data'), on a 30 m grid.

Water index MNDWI per scene; the waterline is where MNDWI crosses zero.

Yearly median waterline: the MNDWI = zero contour of the per-pixel median of a year's scenes, for the 29 years with at least 3 clear scenes, interpolated x12 (bicubic) before contouring. The 40-year median the same over all 878 scenes.

Finding page: lasaladita.com/findings/shoreline/ (an observation). The open-coast edge holds; the creek mouth opens and closes and its channel wanders.

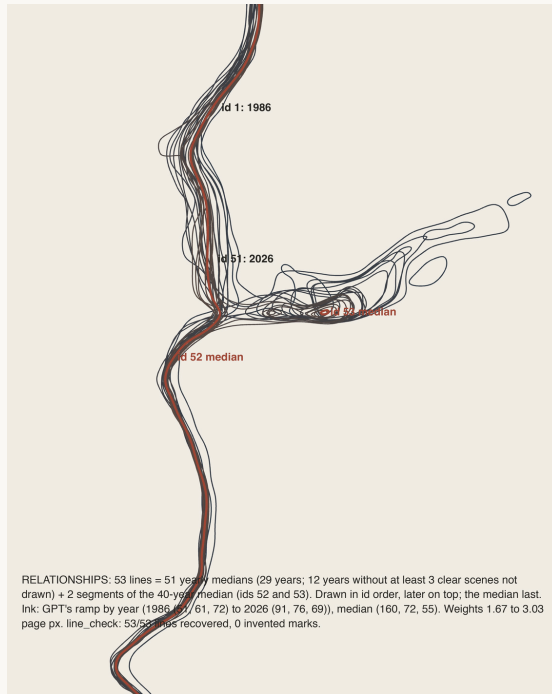
OBSERVED: every line, measured from orbit; nothing simulated; no model fitted.

No published figure is reproduced here.

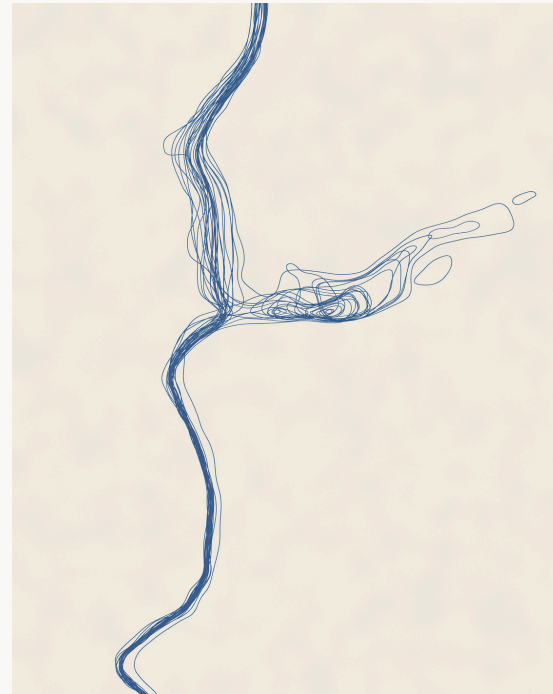
1 SOURCE. The satellite record and the contour rule, by citation only. A local observation, measured from orbit.



2 MODEL / GEOMETRY. The point field: 290,224 per-scene waterline points (the pack's dot-density reference, dark = many) with the 53 yearly-median and 40-year-median lines over them. 120,050 candidate points farther than 90 m from every yearly line were excluded as offshore glint (ledger in the pack). The points are not drawn in the artwork.



3 DEFINING RELATIONSHIPS. The 53 lines by id, in the work's own ink per year; the 40-year median (ids 52 and 53) in rust, on top. Labels mark the first (1986) and last (2026) years. The line-ID map (later lines on top) is the identity the check reads.



4 ARTWORK + OVERLAY. The finished check copy (2400 x 3000) with the pack's line mask laid over it at the same pixel grid (blue).
 line_check PASS: 53/53 lines, median offset 0.0 px, ink precision 1.0, density r 0.994.

OBSERVED — yearly median waterlines at the north creek mouth from 878 Landsat/Sentinel-2 scenes 1986–2026 (Landsat public domain; Copernicus attribution "Contains modified Copernicus Sentinel data"), with the stated smoothing, measured from orbit. | AI and mathematics turned the satellite record into these lines; every line checked against its data. | Surface design GPT (OpenAI), geometry computed from the satellite record, Addie Conner artist.



Shoreline Memory, 100 x 77.8 cm

Shoreline Memory

100 x 77.8 cm

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

WHAT YOU SEE

The same satellite archive as Ghost of the Creek, read as the coast's edge between sea and sand: at La Saladita's north creek mouth, each pale line is where the water's edge sat in one year, 1986-2026, over the sea in deep teal and the land in sand, more opaque with each year. Where lines bunch, the edge held; where they loop apart, the mouth moved.

MADE FROM

Made from 878 Landsat and Sentinel-2 satellite pictures, with every line computed and drawn by code.

Cuarenta años de la orilla en la boca del estero, vista desde satélites, un año encima del otro.

LO QUE SE VE

El mismo archivo de satélite que Ghost of the Creek, leído como el borde de la costa entre mar y arena: en la boca del estero de La Saladita, cada línea clara es la orilla del agua en un año, de 1986 a 2026, sobre el mar azul verdoso y la tierra color arena. Donde las líneas se abren, la boca se movió.

DE QUÉ ESTÁ HECHA

Hecha con 878 imágenes de los satélites Landsat and Sentinel-2, con cada línea calculada y dibujada por un programa.

SHORELINE MEMORY | the creek mouth, 100 x 77.8 cm

Anatomy board: source → model / geometry → defining relationships → artwork with the exact aligned overlay

THE SOURCE, BY CITATION

878 satellite scenes of the north creek mouth, La Saladita, 1986-2026 (Landsat and Sentinel-2; Landsat: USGS, public domain; Sentinel: Copernicus, 'Contains modified Copernicus Sentinel data'), on a 30 m grid.

Water index MNDWI per scene; the waterline is where MNDWI crosses zero.

Yearly waterline: the MNDWI = zero contour of the per-pixel median of a year's scenes, for the 29 years with at least 3 clear scenes, upsampled x24 (bicubic) before contouring.

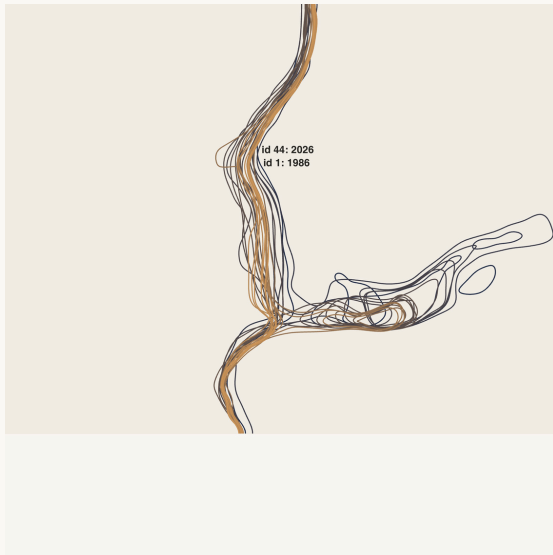
Finding page: lasaladita.com/findings/shoreline/ (an observation).

OBSERVED: every line, measured from orbit; nothing simulated; no model fitted. No published figure is reproduced here.

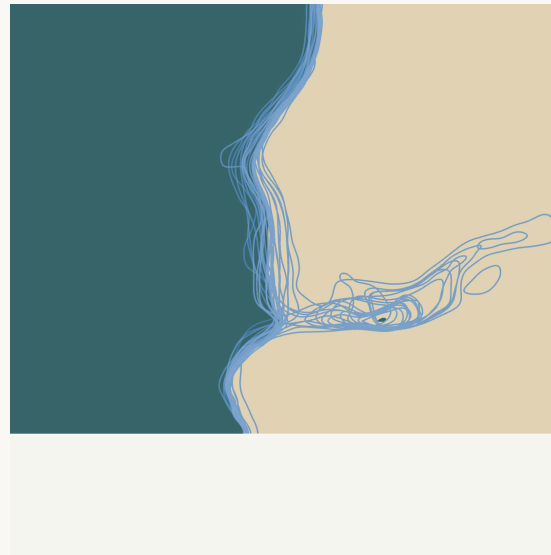
1 SOURCE. The satellite record and the contour rule, by citation only. A local observation, measured from orbit.



2 MODEL / GEOMETRY. The 44 yearly line pieces read back from the render's own plot, at the pack raster (3000 x 2333 px), in the pack's reference ink.

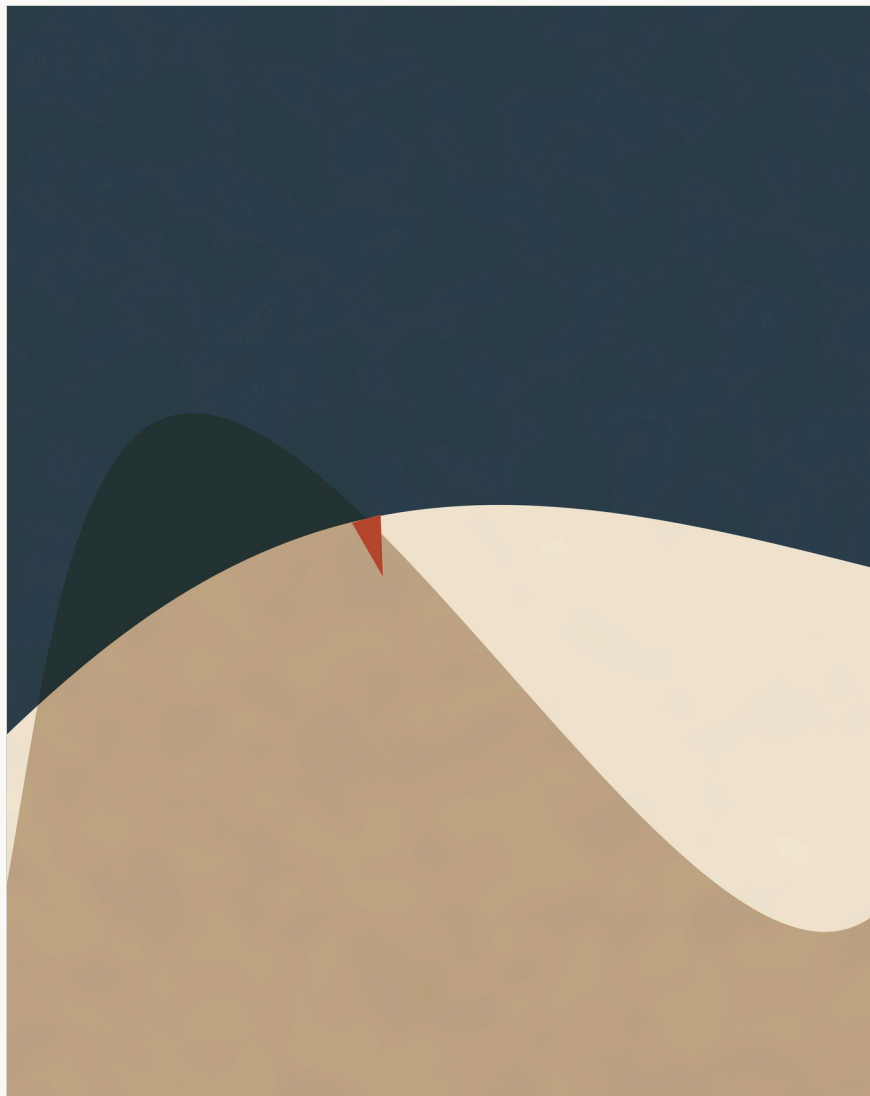


3 DEFINING RELATIONSHIPS. The lines coloured by year, earliest dark to latest light, from the pack table (year per line). Labels mark the first and last years by line id.



4 ARTWORK + OVERLAY. The check copy of the print master (3000 x 2333 px) with the pack's line mask laid over it at the same grid (blue). Light line check PASS: 44 of 44 lines recovered.

OBSERVED — yearly median waterlines at the north creek mouth from 878 Landsat/Sentinel-2 scenes 1986–2026 (Landsat public domain; Copernicus attribution "Contains modified Copernicus Sentinel data"), measured from orbit: forty years of the creek mouth. | AI and mathematics turned the satellite record into these lines; every line checked against its data. | Line check on the finished file: PASS. Addie Conner artist.



Three Invisible Clocks | Almost Zero, 120 x 150 cm

Three Invisible Clocks | Almost Zero

120 x 150 cm

The air's three daily tides, at the hour two of them cancel.

WHAT YOU SEE

The air over La Saladita rises and falls in pressure on three daily rhythms, every 24, 12 and 8 hours, pushed by the Sun. The blue field follows one wave and the sand field another. Where they touch, they cancel, and the small rust wedge is the eight-hour wave left standing, at 06:22 on an average January morning.

MADE FROM

Made from nearly three years of readings from a barometer at La Saladita, fitted and drawn with mathematics, its colors chosen with AI.

Las tres mareas diarias del aire, a la hora en que dos de ellas se cancelan.

LO QUE SE VE

El aire de La Saladita sube y baja de presión en tres ritmos diarios, cada 24, 12 y 8 horas, empujado por el Sol. El campo azul sigue una onda y el color arena otra; donde se tocan se cancelan, y la cuñita color óxido es la onda de ocho horas que se queda sola, a las 06:22 de una mañana promedio de enero.

DE QUÉ ESTÁ HECHA

Hecha con casi tres años de lecturas de un barómetro en La Saladita, ajustadas y trazadas con matemáticas, con colores elegidos con inteligencia artificial.

THREE INVISIBLE CLOCKS | Almost Zero, 120 x 150 cm

Anatomy board: source → model / geometry → defining relationships → artwork with the exact aligned overlay

THE SOURCE, BY CITATION

Addie Conner's own weather station at La Saladita, Guerrero: barometer readings averaged to hours, November 2023 to September 2026 (air_tides data pack).

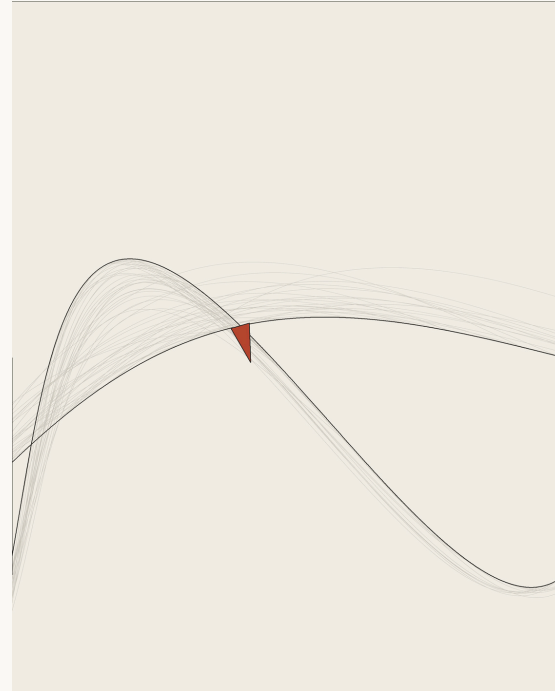
Harmonic fit: ordinary least squares of sine and cosine waves at the 24-, 12- and 8-hour solar periods, per calendar month, all years pooled (monthly_harmonics_pooled_calendar_month.csv). No machine-learning model found or fitted these.

January: 24-h wave 0.69062 mb, peak 5.94534 h; 12-h wave 1.24596 mb, peak 10.48393 h; 8-h wave 0.22665 mb, peak 2.68971 h. The 8-h band is above its noise floor in January (200 fake frequencies null; eight_hour_amplitude_path.csv).

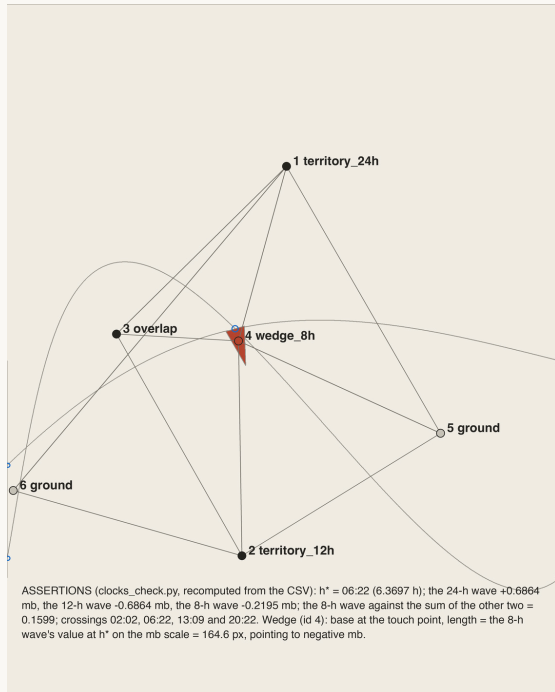
OBSERVED: the fitted amplitudes and phases. COMPUTED: the 06:22 crossing where the 24-h and 12-h waves sum to zero (+0.6864 mb / -0.6864 mb), leaving the 8-h wave (-0.2195 mb). That cancellation is computed from the fitted waves. Nothing is simulated.

No published figure is reproduced here.

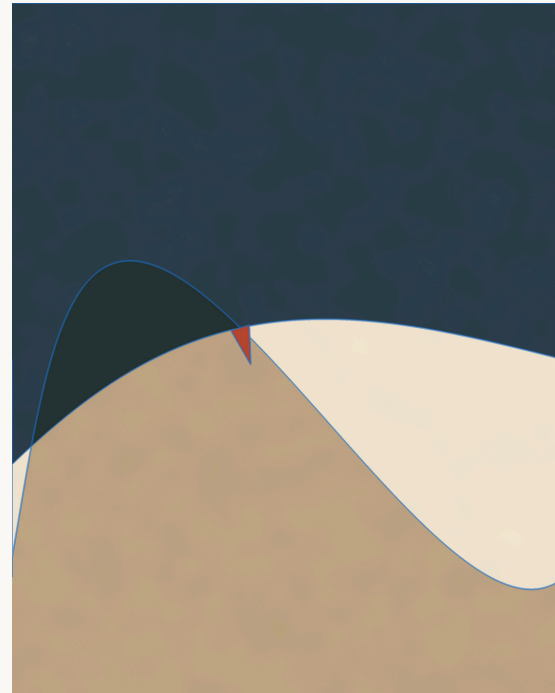
1 SOURCE. Addie's own station record and the harmonic fit, by citation only. A local observation; the cancellation is computed from the fit.



2 MODEL / GEOMETRY. The fitted edges in one clock space (78 ref-mm per hour, 250 ref-mm per mb, rotated -16 degrees): territory A above the 24-h wave, territory B below the negative of the 12-h wave; the overlap where their sum is below zero; the rust wedge, the 8-h wave's value at the crossing. Faint: the 34 station months' own 24-h and 12-h edges (73 lines, in the pack, not drawn in the artwork).



3 DEFINING RELATIONSHIPS. Region graph: 6 regions (A, B, overlap, wedge, two paper regions), 10 adjacencies, 4 frame-contact junctions (blue rings), the touch point ringed. Rust = the wedge, id 4. The assertions are the values clocks_check.py recomputes from the CSV.



4 ARTWORK + OVERLAY. The finished check copy (2400 x 3000) with the pack's boundary and seam mask laid over it at the same pixel grid (blue). topology_check PASS (silhouette IoU 0.9997, 3/3 figure regions); clocks_check PASS (wedge 160.3 px vs 164.6 px expected).

HOW IT WAS MADE

Each work starts from a record: satellite images of the coast, the barometer of a weather station in the village, or a published law of physics or biology. Mathematics turns that record into shapes. AI agents wrote and ran the code that computes and draws them, and for several works the surface colors were chosen with an AI model (GPT, OpenAI). Each finished image was then compared with the data it came from, shape by shape. The anatomy boards show that comparison in four steps: the source, the computed geometry, the relationships that define it, and the finished work with the data laid over it at the same pixel grid.

Every shape checked against its data.

DATA SOURCES · FUENTES DE DATOS

Landsat imagery, 1986–2026: U.S. Geological Survey (public domain).

Sentinel-2 imagery: contains modified Copernicus Sentinel data.

Barometer readings, weather station at La Saladita, Guerrero, November 2023 – September 2026 (the artist's own station).

NO PUBLISHED FIGURE IS REPRODUCED IN THIS BOOK. · DRAFT FOR PROOF, OCTOBER 2026. © ADDIE CONNER.

CÓMO SE HIZO

Cada obra parte de un registro: imágenes de satélite de la costa, el barómetro de una estación meteorológica en el pueblo, o una ley publicada de la física o la biología. Las matemáticas convierten ese registro en formas. Agentes de inteligencia artificial escribieron y corrieron el código que las calcula y las dibuja, y en varias obras los colores se eligieron con un modelo de IA (GPT, OpenAI). Después, cada imagen terminada se comparó con los datos de donde salió, forma por forma. Las láminas de anatomía muestran esa comparación en cuatro pasos: la fuente, la geometría calculada, las relaciones que la definen y la obra terminada con los datos encima, en la misma cuadrícula de píxeles.

Cada forma comprobada contra sus datos.

J. Plateau, *Statique expérimentale et théorique des liquides*, 1873; J. E. Taylor, *Annals of Mathematics* 103:489, 1976.

M. C. Milinkovitch et al., *Science* 339:78–81, 2013; L. Goehring et al., *Soft Matter* 6:3562, 2010; L. Goehring, *Phil. Trans. R. Soc. A* 371:20120353, 2013.

Map: coastline and rivers © OpenStreetMap contributors (ODbL).

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LA SALADITA, GUERRERO