

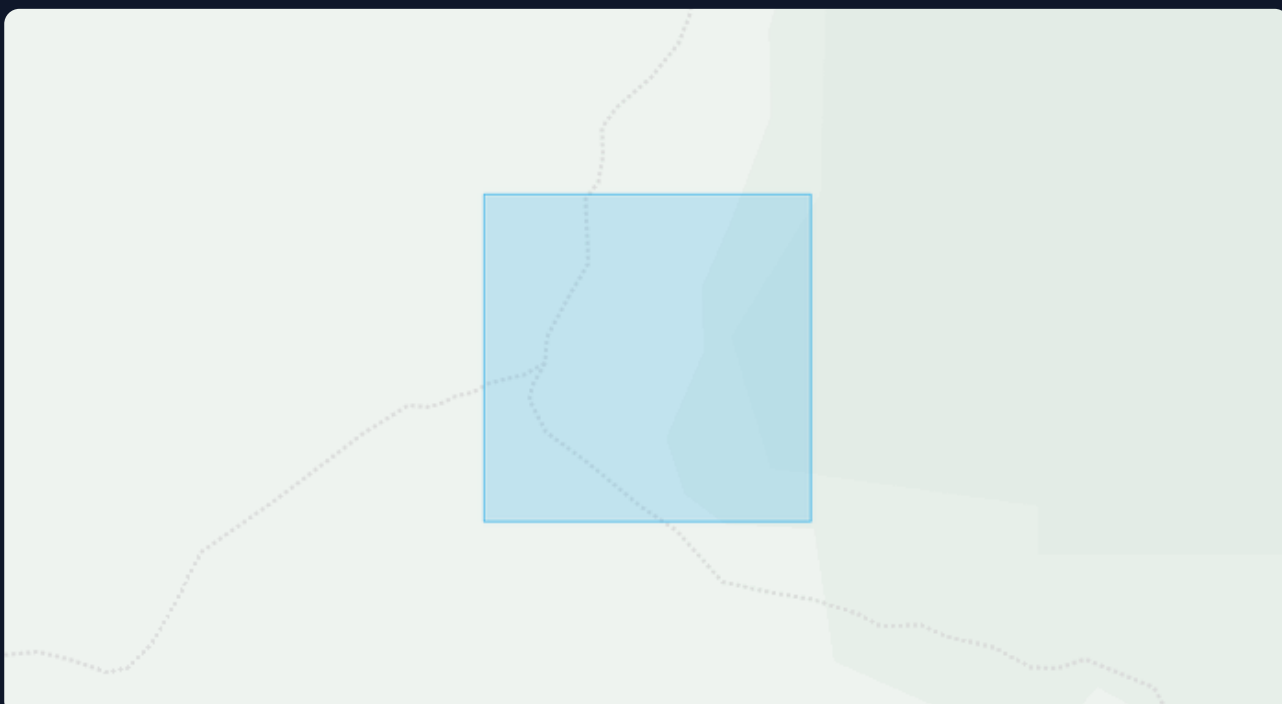
Land pre-screening Mexico

Tepoztlán · Morelos · Mexico

Point : 18.98271, -99.04403

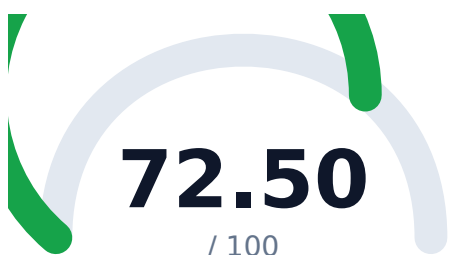
Area of interest : 4 vertices · 3.99 ha

Issued : 2026-07-16 · Reference : D89BEFD5



Public-data red-flag pre-screening — this report informs a decision, it does not replace legal or technical due diligence (see methodology & limits at the end of this document).

Executive summary



FAVORABLE

Data coverage : 100 %

≥ 70 FAVORABLE · 45–69 CONDITIONAL · < 45 UNFAVORABLE

Land tenure / legal — **100** (weight 25 %)

Security — **45.60** (weight 20 %)

Natural risks — **71.80** (weight 15 %)

Access & services — **80** (weight 15 %)

Market & economic dynamism — **54.50** (weight 15 %)

Environment & soil — **74** (weight 10 %)

Synthesis

The parcel sits at 1,734 meters above sea level in the municipio of Tepoztlán, Morelos, on the southern flank of the Trans-Mexican Volcanic Belt. Nearest settled places are the small community of Amatlán de Quetzalcoatl (roughly 1 km away, population ~1,000) and the town of Tepoztlán itself about 6 km distant (14,000 inhabitants in the locality, nearly 55,000 across the municipio). The zone is classified as rural, with a local density of roughly 34 inhabitants per km². Economic activity in the immediate surroundings is minimal — a single formal establishment (a hotel) appears within 1 km — but the broader municipio has posted strong population growth of 2.8% per year between 2010 and 2020, driven in part by real-estate and tourism pressure from the Mexico City metropolitan area. Housing finance activity recorded 103 operations in 2025, down 43% year on year, which signals a cooling in formal transaction volume worth monitoring.

The seismic exposure is the most significant physical risk. The site sits within a zone that recorded 126 earthquakes of magnitude 4 or greater within 300 km over the past five years, including a M7.0 event near Acapulco in 2021 and a M6.5 in January 2026. Any structure must comply with the highest seismic design standards. The terrain compounds this: mean slope is 14.6% with a southwest aspect, a relief roughness of nearly 17 meters, and elevation variation of 120 meters across the area. Earthworks and adapted foundations will be required. On the positive side, no fire hotspots were detected in the past five days, no deforestation alerts over the past twelve months, and the JRC historical record shows zero surface water presence, meaning no recurrent flooding signal. Popocatepetl is an active ongoing event in the wider region but sits beyond the immediate footprint. The climate is temperate-humid: annual rainfall reached approximately 1,450 mm over the last twelve months, concentrated between June and October, with monthly peaks exceeding 500 mm in September. The soil classification — Leptosols with a 25% probability — indicates thin soils over rock, limiting agricultural potential despite a favorable pH of 6.1 and decent organic carbon content.

Three points of attention stand out for any investor or land buyer. First, and most critically, the parcel falls inside Parque Nacional El Tepozteco (IUCN Category II, designated 1937) and is within 5 km of the Corredor Biológico Chichinautzin (IUCN Category Ia). Land-use changes, construction, and clearing are almost certainly subject to federal environmental authorization from SEMARNAT; this must be verified and resolved before any acquisition closes. Second, the SESNSP data for Tepoztlán shows 68 cases of despojo (land dispossession) in 2025 alone, a figure that has been elevated and persistent across years — thorough title verification at the Registro Público de la Propiedad and a notarial due diligence are non-negotiable. Third, the steep and irregular topography combined with high seismicity means that civil

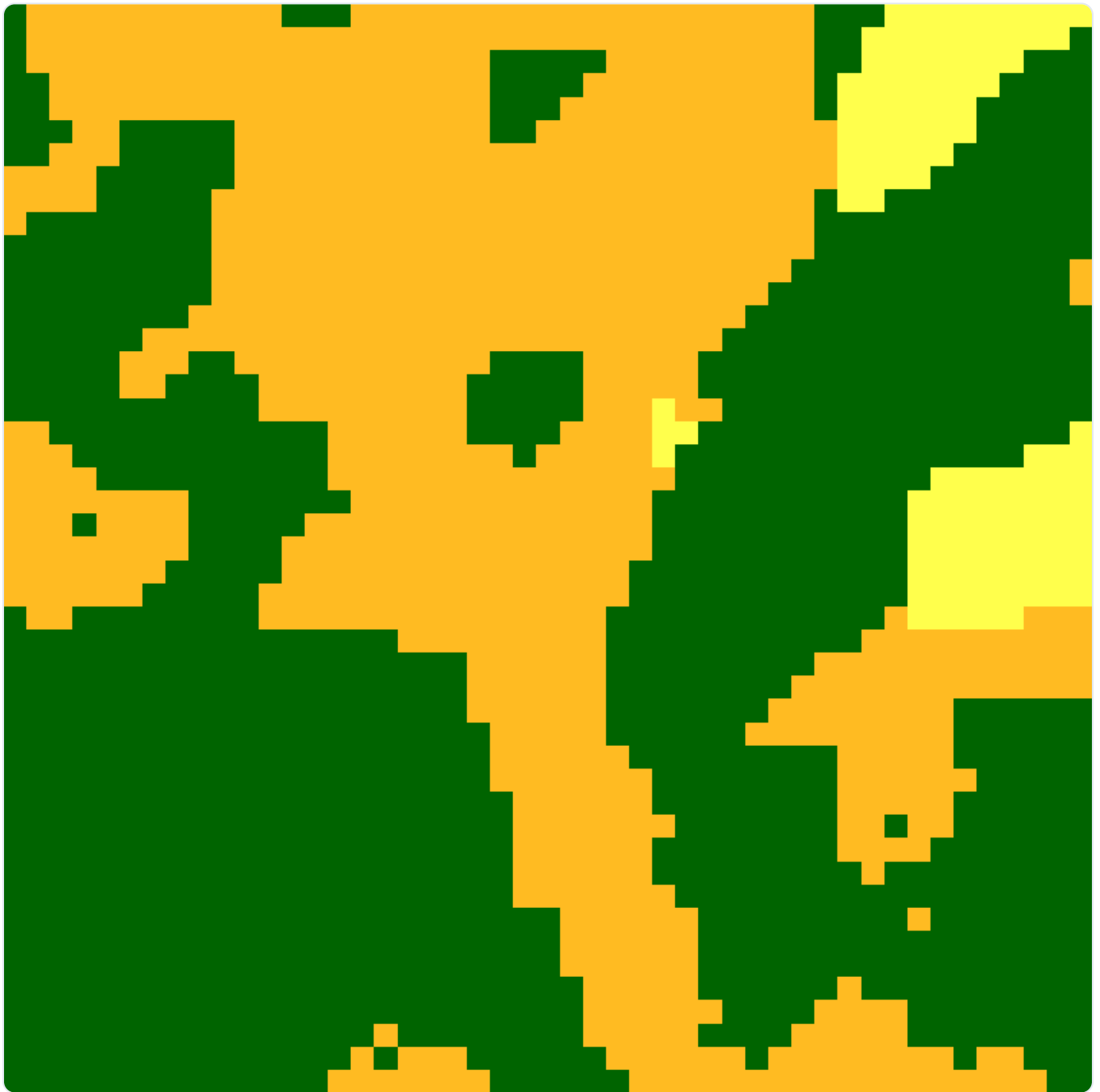
engineering costs will be materially higher than on a flat, low-risk site; a formal topographic survey and structural seismic assessment should precede any development budget.

Land tenure. In Mexico, a large share of the territory falls under the ejidal or communal regime — that is the norm, not a red flag. This report identifies the tenure type where data is available (RAN) and outlines the associated acquisition steps (e.g. dominio pleno for ejidal land); title verification remains the responsibility of a local notary/lawyer.

Area imagery



Satellite view of the study area (polygon outlined) — imagery © Esri, Maxar, Earthstar Geographics.



■ tree cover 54.30 % ■ shrubland 40.50 % ■ grassland 5.20 %

Land cover — ESA WorldCover 10 m (2021), dominant cover at satellite scale (does not detect scattered or recent built-up).

Scoring detail

Each indicator is traceable: public source → observed value → points assigned. Dimensions without available data are excluded from the total and weights are renormalized (coverage shown on the executive page).

Land tenure / legal — 100/100 (weight 25 % · effective 25 %)

FACTUAL identification of the tenure type (RAN via WFS IDE SEDATU: certified núcleos agrarios). The ejido is the NORM in Mexico (~half of the territory) — it is information, never a blocker. The weighting reflects ONLY the relative procedural complexity of the acquisition steps. Layer of CERTIFIED núcleos: a non-certified núcleo would not appear in it — notarial verification is essential in all cases.

Indicator	Value	Points	Reading
Tenure type — procedural complexity (RAN)	0 class	100	outside any certified núcleo agrario — presumed private property, standard purchase procedure (title to be verified at the Registro Público de la Propiedad)
Identified núcleo agrario	hors núcleo agrarien certifié — propriété privée présumée	—	Factual identification of the núcleo (name, type, municipio, certification) — information, not a score.

Security — 45.60/100 (weight 20 % · effective 20 %)

SESNSP municipal crime incidence. Absolute volumes not normalized by population → YoY trends preferred; per capita rates will come with INEGI indicadores (C1 ⑦). Despojo ★ = land dispossession, the key indicator for a land buyer.

Indicator	Value	Points	Reading
Despojo ★ — cases in the last full year	68 cases/yr	15	frequent despojo — strong land-tenure vigilance required
Despojo — YoY trend	33.30 %	40	increasing
Intentional homicide (homicidio doloso) — YoY trend	-2.70 %	75	stable
Extortion — YoY trend	—	—	data unavailable
Total crime incidence — YoY trend	9.20 %	75	stable

Natural risks — 71.80/100 (weight 15 % · effective 15 %)

Seismicity, terrain slope (Copernicus DEM), active fires, deforestation, ongoing events. Flood-proneness as such remains unevaluated (no flood-zone layer) — slope is a partial proxy.

Indicator	Value	Points	Reading
M4+ earthquakes (5 years, 300 km radius)	126 events	55	notable seismicity — seismic building codes to be verified
Mean terrain slope (DEM)	14.60 %	60	marked slope — earthworks and geotechnical study to be planned
Active fires (5 days, extended area)	0 detections	100	no active fires detected
Deforestation alerts (12 months, per km²)	0 alerts/km²/yr	100	no deforestation alerts
Ongoing natural events (EONET)	1 events	55	ongoing natural event(s) in the region

Access & services — 80/100 (weight 15 % · effective 15 %)

Current proxy: distance to the nearest town (GeoNames, 30 km search radius; in dense urban areas — GeoNames neighborhoods without population — WorldPop density prevails: distance 0). Water/electricity (INEGI) and road/airport distances will come with the C1 [🔗](#) connectors.

Indicator	Value	Points	Reading
Distance to a town $\geq$ 5,000 inhabitants	6 km	80	town within reach
Water / electricity (INEGI)	—	—	Deferred: municipal census indicator IDs (water/electricity coverage) cannot be reliably identified via the BISE API (CL_INDICATOR catalog → 401). See PROVIDERS_AUDIT §5.

Market & economic dynamism — 54.50/100 (weight 15 % · effective 15 %)

Business density and mix (DENUE, 1 km radius), population density (WorldPop), housing finance dynamics (SNIIV) and municipal population growth (INEGI BISE).

Indicator	Value	Points	Reading
Economic establishments (1 km radius)	1 establishments	45	low economic activity
Diversity of activities (DENUE classes)	1 classes	50	poorly diversified activity
Population density (area)	34 hab/km²	60	populated rural area
Housing financing — YoY trend (SNIIV)	-42.80 %	30	housing financing sharply decreasing
Municipal population growth (INEGI)	2.82 %/yr	90	strong population growth — structural land demand

Environment & soil — 74/100 (weight 10 % · effective 10 %)

Protected areas (WDPA — protection status at the point and within a 5 km radius: regulatory land-use constraints to be verified) and SoilGrids (pH, clay — relevance for foundations/drainage in construction use). WRB classification shown for information purposes.

Indicator	Value	Points	Reading
Protected areas (WDPA)	2 class	35	the point is INSIDE a protected area — land-use restrictions likely, regulatory verification essential (CONANP/SEMARNAT)
Soil pH (0-5 cm)	6.10 pH	100	pH within the usual range
Clay content (0-5 cm)	25.40 %	100	balanced texture
Soil classification (WRB)	Leptosols	—	

Monitored blocking signals

Signal	Value	Status	Rule
Despojo sharply increasing in the municipio	33.30	not triggered	Land dispossession sharply increasing ($\geq +50\%$ YoY with significant volume) → verdict capped at CONDITIONAL regardless of the score.
Non-buildable slope	14.60	not triggered	Mean slope $\geq 30\%$ (Copernicus GLO-30 DEM) → buildability strongly compromised, verdict capped at CONDITIONAL. Flood-proneness as such remains unevaluated (no flood-zone layer available).

Annex — collected data

Public data collected at the date of issue, presented as-is with its reading. Unavailable sources are flagged.

Nearby places (GeoNames)

place	region	country	population	distance_km
Amatlán de Quetzalcoatl	Morelos	Mexico	1,029	1.10
Tlapetaloya	Morelos	Mexico	46	1.20
Santo Domingo Ocotitlán	Morelos	Mexico	1,541	3.90
Ignacio Bastida (Santa Catarina Tlayca)	Morelos	Mexico	1,164	5.60
Colonia Obrera	Morelos	Mexico	1,316	5.70
Tlalnepantla	Morelos	Mexico	3,872	5.80

... 7 entries in total.

Elevation (Open-Meteo)

- 1734 m: mid-altitude (tierra templada)

Field	Value
elevation_m	1,734

Seismicity (USGS)

- high seismicity: 126 M4+ earthquakes in 5 years within 300 km; strongest event M7 — possible structural impact in the region

Field	Value
count_m4plus_5y_300km	126

strongest

mag	date	place	depth_km
7	2021-09-08	Acapulco, Mexico	20
6.50	2026-01-02	0 km W of San Marcos, Mexico	18
6	2022-12-11	7 km W of Corral Falso, Mexico	18
5.70	2023-12-07	12 km SSW of Huehuetlan el Chico, Mexico	54
5.60	2025-03-15	5 km W of San Pedro Tidaá, Mexico	62

Active fires (NASA FIRMS)

- no thermal hotspot detected over 5 days in the area

Field	Value
bbox	-99.54,18.48,-98.54,19.48
count_5days	0

Deforestation alerts (Global Forest Watch)

- no deforestation alert over 12 months in the 4-vertex polygon — no recent forest loss detected
- GFW integrated alerts (GLAD-L + GLAD-S2 + RADD, ~10 m): tree-cover loss detected by satellite — includes legal logging, fires and agricultural clearing

Field	Value
zone	polygone 4 sommets
since	2025-07-16
area_km2	0.04
period_days	365
alerts_total	0
latest_alert	—

Air quality (OpenAQ)

- 3 monitoring station(s) within 25 km — see latest updates per station

station	locality	measures	distance_km	last_update
Cuernavaca 01	Cuernavaca	co, no, no2, nox, o3, pm10, pm25, so2	21.20	2026-07-16T00:00:00Z
Palacio Municipal Cuautla	Cuautla	co, no, no2, nox, o3, pm10, pm25, so2	21	2026-07-16T00:00:00Z
Ajusco	Tlalpan	o3, pm25	22.70	2025-03-09T17:00:00Z

Ongoing natural events (NASA EONET)

- 1 ongoing natural event(s) in the wider area — see details

title	category	last_seen
Popocatepetl Volcano, Mexico	Volcanoes	2025-04-10T00:00:00Z

Soil (ISRIC SoilGrids)

- Leptosols : thin soils over rock — low agricultural potential, often on slopes
- pH 6.1: moderately acidic — suitable range for most crops
- good organic matter content (34.3 g/kg carbon)
- clay-loam texture (25.4% clay, 44.5% sand) — good water retention
- SoilGrids 250 m data (global model) — confirm with a soil analysis before any agricultural project

Field	Value
wrb_classification	Leptosols

properties_0_5cm

unit	property	value_0_5cm
g/kg	clay	25.40
cg/kg	nitrogen	3.67
pH	phh2o	6.10
g/kg	sand	44.50
dg/kg	soc	34.30

class_probabilities

class	probability_pct
Leptosols	25
Luvisols	16
Cambisols	14

Flood-proneness / surface water (JRC)

- No surface water detected over the area (JRC 1984-2021) — no sign of recurrent flooding.
- JRC Global Surface Water data (~30 m) — confirm with a local hydrological study.

Field	Value
tile	occurrence_100W_20Nv1_4_2021.tif
source	JRC Global Surface Water (occurrence 1984-2021, ~30 m)
resolution_m	30
valid_pixels	56
ever_water_pct	0
max_occurrence_pct	0
permanent_water_pct	0
mean_water_occurrence_pct	0

Land cover (ESA WorldCover 10 m)

- Land cover: 53.6% shrubland · 45.7% tree cover · 0.8% grassland.
- ESA WorldCover 10 m (2021) — dominant cover at satellite scale; does not detect scattered or recent built-up (the drone survey is the on-site reference).

Field	Value
tile	ESA_WorldCover_10m_2021_v200_N18W102_Map.tif
source	ESA WorldCover 10 m (2021, v200)
dominant	shrub
resolution_m	10
valid_pixels	506

classes

pct	code
53.60	shrub
45.70	tree
0.80	grassland

Population (WorldPop)

- density 34 inhab/km²: rural area
- WorldPop 2020 estimate (100 m grid) — current population may differ

Field	Value
year	2,020
zone	polygone 4 sommets
area_km2	0.04
density_per_km2	34
total_population	1

24-month climate (ERA5, Open-Meteo)

- 1,450 mm of precipitation over the last 12 months — abundant rainfall
- -34.3% vs the previous 12 months — marked year-on-year variation (compare with the NDVI curves)
- mean temperature 18.22 °C over 12 months (ERA5 reanalysis ~9 km — local microclimates may differ)

Field	Value
source	Open-Meteo Archive (réanalyse ERA5)
precip_yoy_pct	-34.30
temp_mean_12m_c	18.22
precip_last_12m_mm	1,449.80
precip_prev_12m_mm	2,205.30

months

month	precip_mm	temp_mean_c
2024-07	316.70	19.04
2024-08	300	18.97
2024-09	546.60	18.62
2024-10	464.50	17.33
2024-11	25.90	17.25
2024-12	0.60	15.97

... 24 entries in total.

Solar resource — climatology (NASA POWER)

- GHI ~2,191 kWh/m²/yr — exceptional resource (desert-level)
- clear-sky index 0.88 (actual GHI / clear-sky GHI) — low cloud attenuation

Field	Value
source	NASA POWER (climatologie long terme, communauté RE)
temp_mean_c	17.14
clear_sky_index	0.88
dni_annual_kwh_m2	1,954
ghi_annual_kwh_m2	2,191
seasonality_min_max	0.70

months

month	temp_c	dni_kwh_m2_day	ghi_kwh_m2_day
JAN	14.21	5.99	5.07
FEB	16	6.58	5.95
MAR	17.95	6.83	6.75
APR	20.13	6.45	7.13
MAY	20.59	4.78	6.63
JUN	19	4.04	6.21

... 12 entries in total.

Photovoltaic yield (Global Solar Atlas)

- specific yield ~1,819 kWh/kWp/yr (Solargis PV simulation) — excellent specific yield
- optimal panel tilt: 22° (close to horizontal at these latitudes)

Field	Value
source	Global Solar Atlas 2.0 (Solargis, ESMAP, Banque mondiale)
temp_c	18.90
elevation_m	1,730
dni_kwh_m2_year	1,971.80
ghi_kwh_m2_year	2,135.10
optimal_tilt_deg	22
diffuse_kwh_m2_year	773.70
gti_opta_kwh_m2_year	2,275.40
pvout_specific_kwh_kwp_year	1,819.10

Terrain slope and aspect (Copernicus DEM)

- mean slope 14.6% (aspect SO) — marked slope — earthworks/adapted structures to plan
- irregular relief (RMS deviation from plane 16.9 m) — micro-topography to survey on site
- 90 m DEM estimate (Copernicus GLO-90) — pre-feasibility, does not replace a topographic survey

Field	Value
dem	Copernicus GLO-30 (COG AWS, 30 m)
grid	12×12 px (30 m)
zone	emprise AOI
source	Copernicus DEM GLO-30 (30 m), ajustement de plan sur 144 pixels
aspect_deg	209
roughness_m	16.90
slope_mean_deg	8.30
slope_mean_pct	14.60
aspect_cardinal	SO

Protected areas (WDPA)

- the site is INSIDE a protected area: El Tepozteco (Parque Nacional, IUCN II) — land-use restrictions likely, regulatory verification essential
- WDPA database (UNEP-WCMC) — coverage of regional/local areas may be incomplete; local authorities are authoritative

Field	Value
source	WDPA — World Database on Protected Areas (UNEP-WCMC, via ArcGIS Living Atlas)
protection_class	2

inside

iso3	name	status	area_km2	governance	designation
MEX	El Tepozteco	Designated	232.60	Federal or national ministry or agency	Parque Nacional

within_5km

iso3	name	status	area_km2	governance	designation
MEX	Corredor Biológico Chichinautzin	Designated	373	Federal or national ministry or agency	Área de Protección de Flora y Fauna

Economic activity (INEGI DENUE)

- 1 establishments within 1 km — sparse economic fabric (rural/residential area)
- DENUE census (INEGI) — formal establishments only

Field	Value
source	INEGI DENUE
radius_m	1,000
establishments	1

sample

name	activity	staff_bracket
HOTEL HACIENDA VENTANA DEL CIELO	Hoteles con otros servicios integrados	11 a 30 personas

top_activities

count	activity
1	Hoteles con otros servicios integrados

Crime incidence (SESNSP, Mexico)

- intentional homicides stable: 36 in 2025 vs 37 in 2024 (-3%)
- ⚠ 68 despojo case(s) (land dispossession) in 2025 — check tenure disputes before any acquisition
- organized crime reported in 2025: 0 kidnapping(s), 1 extortion(s)
- SESNSP data up to 2026-05 (current year partial)
- figures at the whole-municipality level (prosecutor filings) — not the immediate vicinity of the point, unreported crime not included

Field	Value
source	SESNSP incidencia delictiva municipal (import DB)
entidad	Morelos
full_year	2,025
municipio	Tepoztlán
cve_municipio	17,020
entidad_matched	yes

years

robo	year	total	despojo	extorsion	secuestro
181	2,021	797	61	0	1
224	2,022	940	69	1	0
186	2,023	1,037	81	1	0
205	2,024	1,008	51	1	0
198	2,025	1,101	68	1	0
54	2,026	437	29	2	0

top_full_year

count	subtipo
189	Amenazas
156	Violencia familiar
91	Daño a la propiedad
86	Otros delitos del Fuero Común
75	Lesiones culposas
74	Otros robos

Land tenure — núcleos agrarios (RAN)

- outside any certified agrarian nucleus — presumed private property, title to confirm at the Registro Público de la Propiedad
- 1 certified agrarian nucleus(es) within 5 km
- layer of CERTIFIED nuclei (PHINA/RAN) — a non-certified nucleus would not appear; notarial verification essential

Field	Value
inside	no
source	RAN — Registro Agrario Nacional (WFS IDE SEDATU)
summary	hors núcleo agrarien certifié — propriété privée présumée
layer_note	couche nationale des núcleos agrarios CERTIFIÉS (PHINA/RAN via IDE SEDATU) — les núcleos non certifiés n'y figurent pas

Housing market (SNIIV, SEDATU)

- 103 housing financings in 2025 (-43% vs 2024) — proxy for local solvent demand
- figures at the whole-municipality level (INFONAVIT, FOVISSSTE, banks...) — the informal market is not included

Field	Value
source	SNIIV (SEDATU) CuboAPI
municipio	Tepoztlán
cve_municipio	17,020

financing_by_year

year	actions	amount_mxn
2,024	180	64,414,941
2,025	103	22,478,197
2,026	36	14,925,950

financing_top_orgs

org	year	actions
INFONAVIT	2,025	99
FOVISSSTE	2,025	2
BANCA (CNBV)	2,025	2

Municipal demographics (INEGI)

- municipality population: 54,987 inhab. (2020)
- +2.82 %/yr (2010→2020) — strong population growth — structural land demand

Field	Value
source	INEGI Banco de Indicadores (BISE)
municipio	Tepoztlán
cve_municipio	17,020
growth_period	2010→2020
annual_growth_pct	2.82

population_by_year

year	population
1,995	26,503
2,000	32,921
2,005	36,145
2,010	41,629
2,020	54,987

Methodology & limits

This report aggregates Mexican and international public data (SESNSP, INEGI/DENUE, USGS, NASA FIRMS/EONET, Global Forest Watch, ISRIC SoilGrids, WorldPop, GeoNames, Open-Meteo — sources cited in each section) around the point or area of interest, then applies the R1 “MX land pre-screening” grid: land tenure 25%, security 20%, natural hazards 15%, access & services 15%, market & economic momentum 15%, environment & soil 10%. Each indicator is traceable (value → points → reading rule); dimensions without available data are excluded from the total with weight renormalization, and the resulting coverage is shown on the executive page. Two blocking signals cap the verdict at **CONDITIONAL** regardless of score: sharply rising despojo in the municipio, and manifestly flood-prone terrain or unbuildable slope.

Disclaimer. DataTerra provides a **red-flag pre-screening** based exclusively on public data available at the date of issue. This document is neither legal advice, nor a land survey, nor due diligence: it does not replace the verification of titles and easements with official registries, nor the support of a local lawyer or notary, which we expressly recommend before any commitment. Third-party data may contain errors or update delays; DataTerra cannot be held liable for decisions made solely on the basis of this document.