RED RIVER ANALYTICS · DATA PRODUCT

SATELLITE-DERIVED · CORS-CALIBRATED

Ground Subsidence Dataset

Parcel-level ground movement data for 203,000+ properties in the Shreveport-Bossier MSA

203K+	–2.6 mm/yr	–2.5 mm/yr	199K+
PARCELS ENRICHED	CADDO MEDIAN	BOSSIER MEDIAN	MULTI-TRACK PARCELS

The Shreveport-Bossier MSA subsides measurably — at a median of –2.6 mm/yr in Caddo Parish and –2.5 mm/yr in Bossier. Over a 30-year mortgage horizon, that translates to roughly 78mm of cumulative settlement at the median rate. For parcels already close to a flood zone boundary, the question is not whether subsidence matters — it is when the margin closes. No parcel-level subsidence data has been publicly available for this market until now. RRA has processed two independent Sentinel-1 satellite passes, calibrated against a permanent geodetic reference station, and joined the results to every parcel in both parishes.

KEY FINDINGS

WHO USES THIS DATA

- **P&C insurance carriers**
  Underwrite subsidence-driven structural risk and adjust premiums ahead of flood zone reclassification
- **Mortgage lenders and servicers**
  Assess long-term collateral stability — a parcel sinking toward the flood boundary is a 30-year risk
- **Foundation and structural contractors**
  Identify high-velocity parcels as qualified leads for foundation repair and remediation
- **Municipal engineers and planners**

–2.6 mm/yr	Caddo Parish median vertical velocity — persistent, measurable, and compounding annually
–2.5 mm/yr	Bossier Parish median — every parcel in both parishes is subsiding at a geodetically verified rate
~78mm	Cumulative settlement at the median rate over a 30-year mortgage horizon — a structural and drainage compounding risk
199K+	Parcels with multi-track confidence — dual-pass averaging reduces noise and improves per-parcel accuracy

Prioritize infrastructure maintenance for roads, utilities, and drainage in high-movement corridors

- **National data aggregators**
  Enrich national property intelligence products with a local subsidence layer unavailable elsewhere

DATA SOURCES

Derived from Sentinel-1 C-band satellite radar imagery processed over multi-year time series using two independent orbital passes (ascending Track 63 + descending Track 136). Vertical velocities computed from both passes and averaged for superior accuracy. Calibrated against a NOAA permanent geodetic station, anchoring measurements to a published ground-truth benchmark. Results spatially joined to parcel centroids.