



Satellite Imaging Applied to Real Property Law: Evidentiary Reconstruction and the Transformation of Possession Analysis

A Technological Approach to Temporal Evidence in Property Disputes

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Abstract

This article examines the use of satellite imaging as an evidentiary tool in real property law. It argues that historical satellite imagery enables objective temporal reconstruction of land use, transforming the analysis of possession and prescriptive acquisition. By contrasting traditional testimonial and documentary evidence with satellite-based observation, the paper highlights a shift toward data-driven adjudication and explores its implications for legal reasoning.

Keywords

satellite imaging, real property law, possession, evidence, temporal reconstruction, legal technology

1. Introduction

The development of satellite imaging technologies has introduced a new evidentiary dimension into real property disputes. Traditionally, questions of possession, use, and territorial control have relied on testimonial evidence, documentary records, and physical inspection.

However, the availability of historical satellite imagery allows for the reconstruction of land use patterns over time with a level of objectivity previously unattainable.

This paper examines the application of satellite imaging as an evidentiary tool in real property law, focusing on its capacity to transform the analysis of possession and its implications for judicial decision-making.

2. The Limits of Traditional Evidence

In disputes involving possession or prescriptive acquisition, courts typically rely on:

- witness testimony
- notarial documentation
- declarations of use and occupation
- physical traces of possession

These forms of evidence, while legally valid, are often:

- partial
- contradictory
- susceptible to strategic construction

As observed in the case under analysis, testimonial evidence may lack precision, coherence, or reliability, particularly when it is based on indirect knowledge or reconstructed memory.

3. Satellite Imaging as Temporal Evidence

Satellite imagery introduces a fundamentally different type of evidence: objective temporal reconstruction.

Unlike traditional evidence, satellite images:

- are not produced by the parties
- are not influenced by litigation strategy
- provide visual data anchored in specific dates
- allow for longitudinal analysis of land use

In the present case, expert analysis confirmed that:

no continuous perimeter fencing existed on the property prior to 1993

This finding directly contradicted claims of long-standing possession and continuous occupation.

4. Reconstruction of Possession

Possession, in legal terms, requires continuity, publicity, and the intention to act as owner.

Satellite imagery allows courts to assess these elements with unprecedented clarity:

- Continuity → absence or presence of infrastructure over time
- Publicity → visible signs of occupation or exploitation
- Animus possidendi → inferred from sustained physical transformation of the land

In this context, the absence of key indicators—such as fencing, permanent structures, or organized use—undermines claims of prescriptive possession.

5. Conflict Between Narrative and Evidence

A central feature of the case is the divergence between:

- testimonial narratives asserting long-term possession
- satellite evidence demonstrating the absence of corresponding physical indicators

This divergence highlights a critical shift:

The transition from discursive evidence to empirical reconstruction.

Satellite imaging does not eliminate interpretation, but it constrains it within observable limits.

6. Intervention of the Claimant: Strategic Use of Satellite Evidence

A relevant aspect of this case lies in the active role of the claimant in introducing satellite imagery as part of the evidentiary strategy.

Rather than relying exclusively on traditional forms of proof, the claimant incorporated historical satellite images to reconstruct the factual evolution of the property over time.

This approach allowed for:

- challenging testimonial inconsistencies
- confronting documentary claims with observable reality
- introducing temporal objectivity into the dispute

In particular, the satellite analysis demonstrated the absence of perimeter fencing during the period in which the opposing party alleged continuous possession.

This strategic use of technology did not merely complement existing evidence—it reoriented the evidentiary framework of the case.

7. Legal Implications

The incorporation of satellite evidence into judicial reasoning has several implications:

- increased evidentiary rigor
- reduced reliance on subjective testimony
- enhanced capacity to detect inconsistencies
- improved temporal precision in assessing possession

It also raises new questions:

- What is the evidentiary weight of satellite data relative to traditional proof?

- How should courts address discrepancies between narrative and visual evidence?
- To what extent can absence of evidence (e.g., lack of fencing) be considered evidence of absence?

8. Toward a New Evidentiary Paradigm

Satellite imaging represents more than a supplementary tool. It signals the emergence of a new evidentiary paradigm in property law.

In this paradigm:

- land is not only described, but observed across time
- possession is not only claimed, but reconstructed
- judicial reasoning incorporates technological mediation

This shift aligns with broader transformations in legal practice, where data-driven evidence increasingly complements traditional forms of proof.

9. Conclusion

The use of satellite imagery in real property disputes marks a significant advancement in the analysis of possession.

By enabling objective temporal reconstruction, it reduces uncertainty, challenges constructed narratives, and strengthens judicial decision-making.

In doing so, it not only improves evidentiary standards but also redefines how law engages with space, time, and truth.