

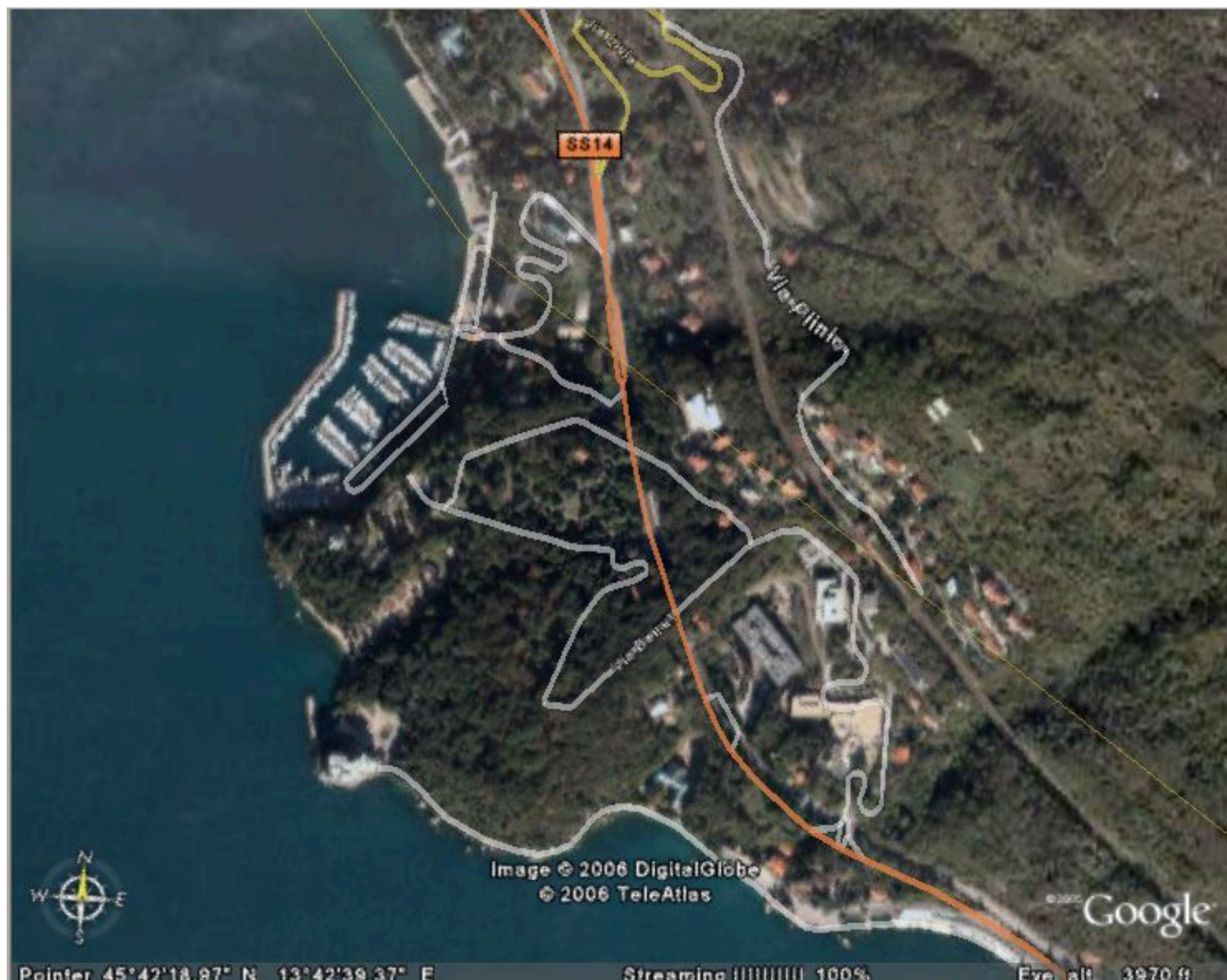
A Wireless Solution in North of Argentina: Tafí del Valle Project

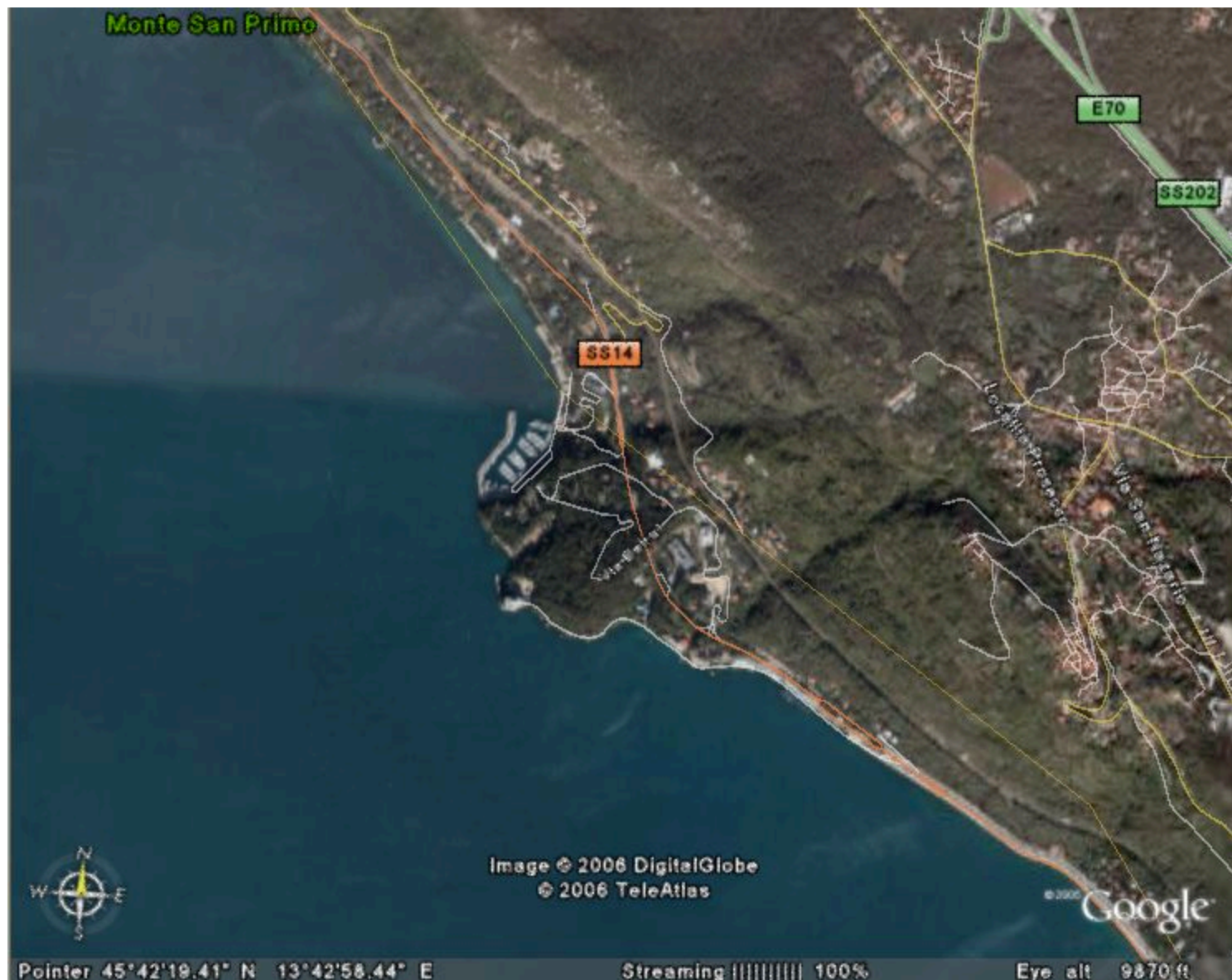
*Joaquin M. Lopez - Yenca Migoya Orué
Universidad Tecnológica Nacional
Facultad Regional Tucuman - Argentina*

Participants Institutions

- **Upper Atmosphere and Radiopropagation Group (GASuR)**
- **National Technological University- Regional Faculty of Tucuman – Argentina**
- **National University of Tucuman**
- **Government of Tucuman**







Monte San Primo

E70

SS202

SS14

Loc. Madonna

Via San

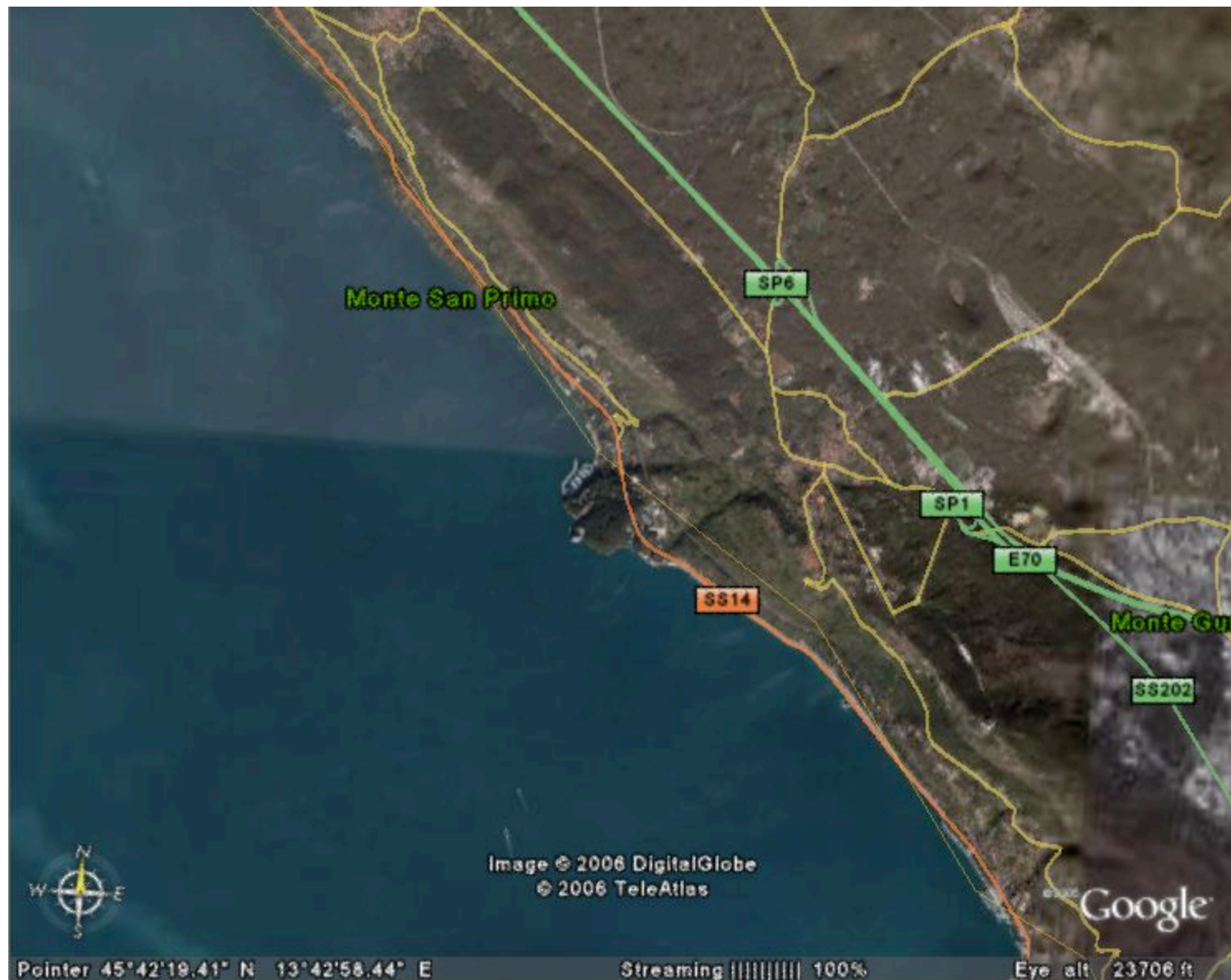
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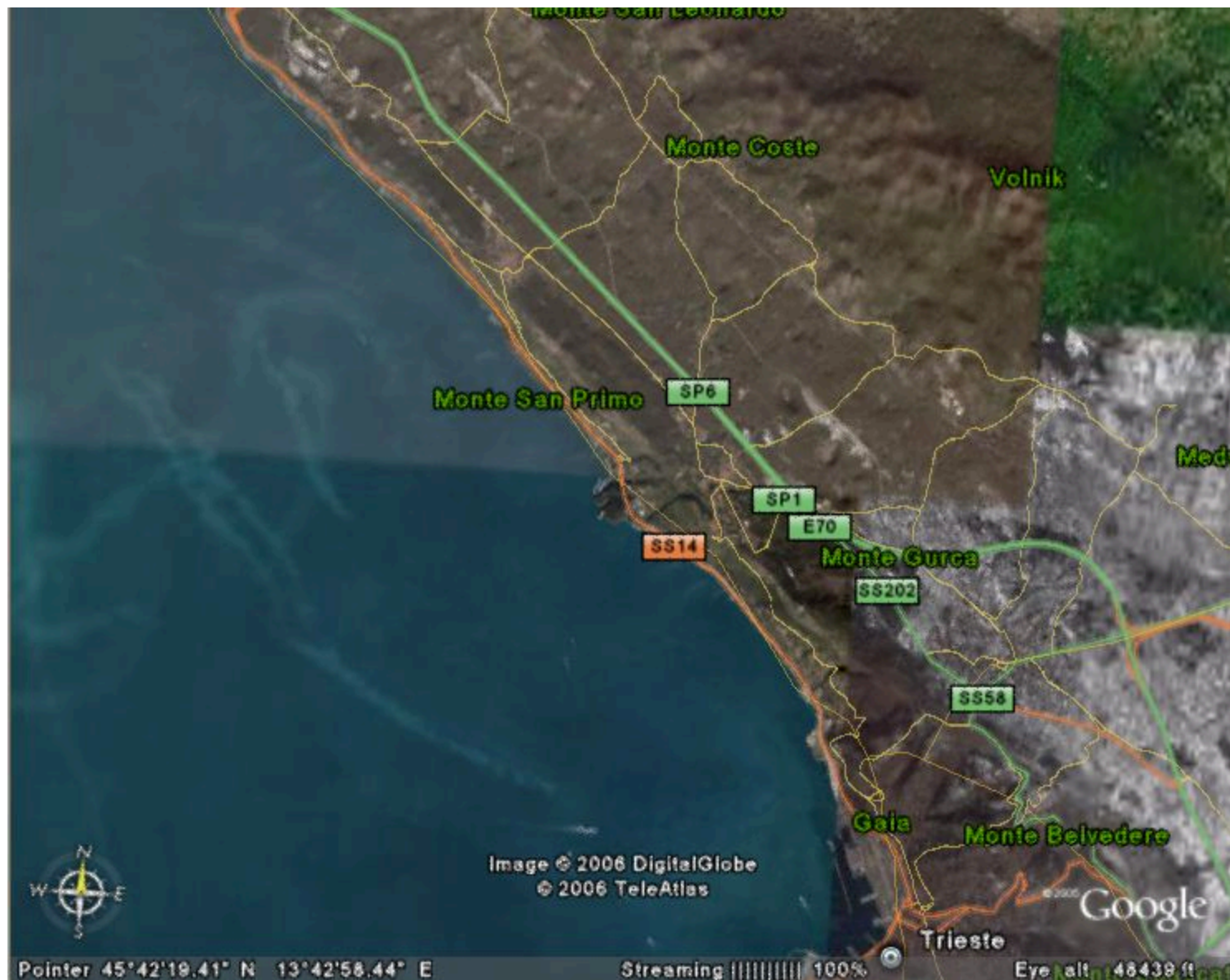
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Streaming ||||| 100%

Eye alt 9870 ft



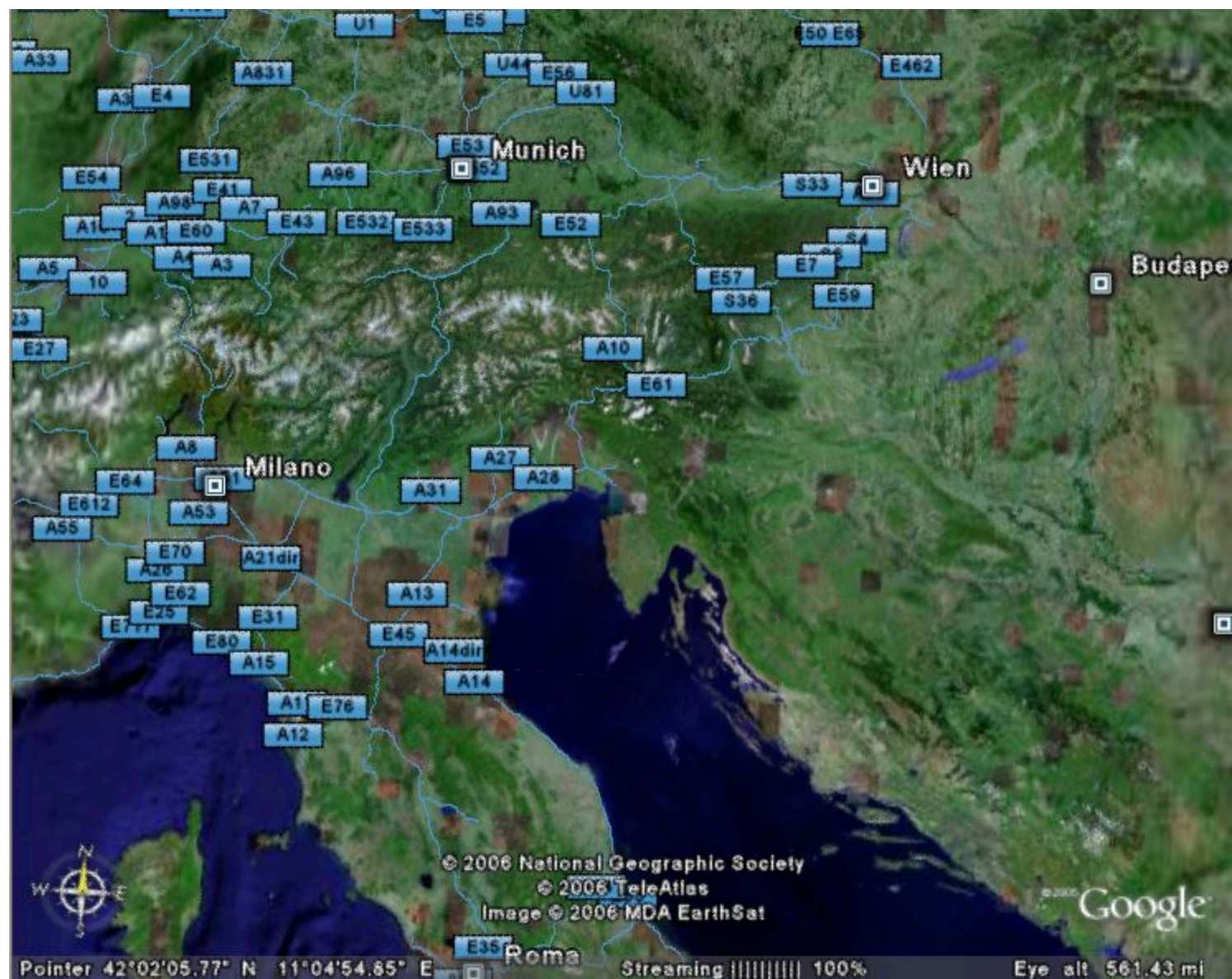






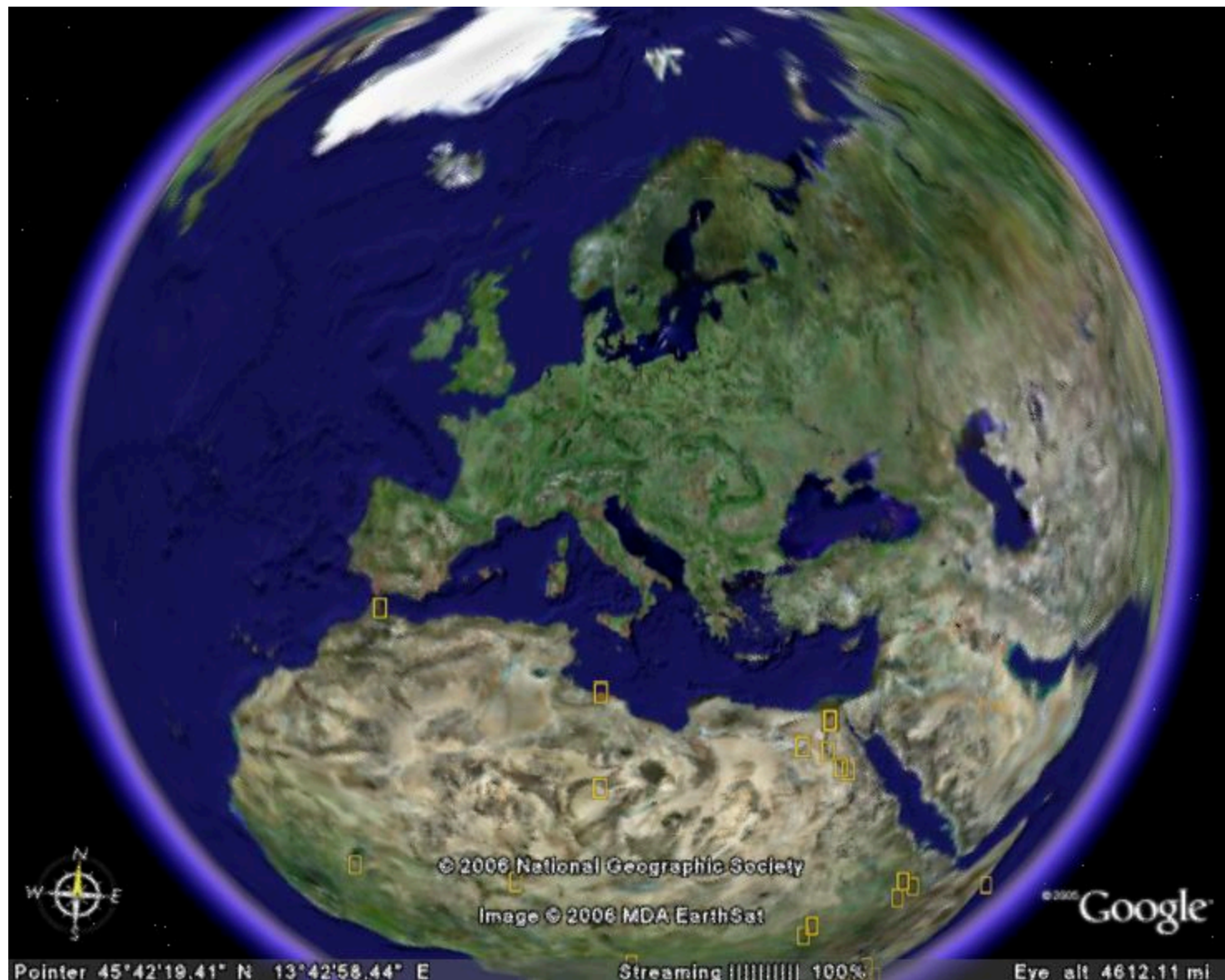












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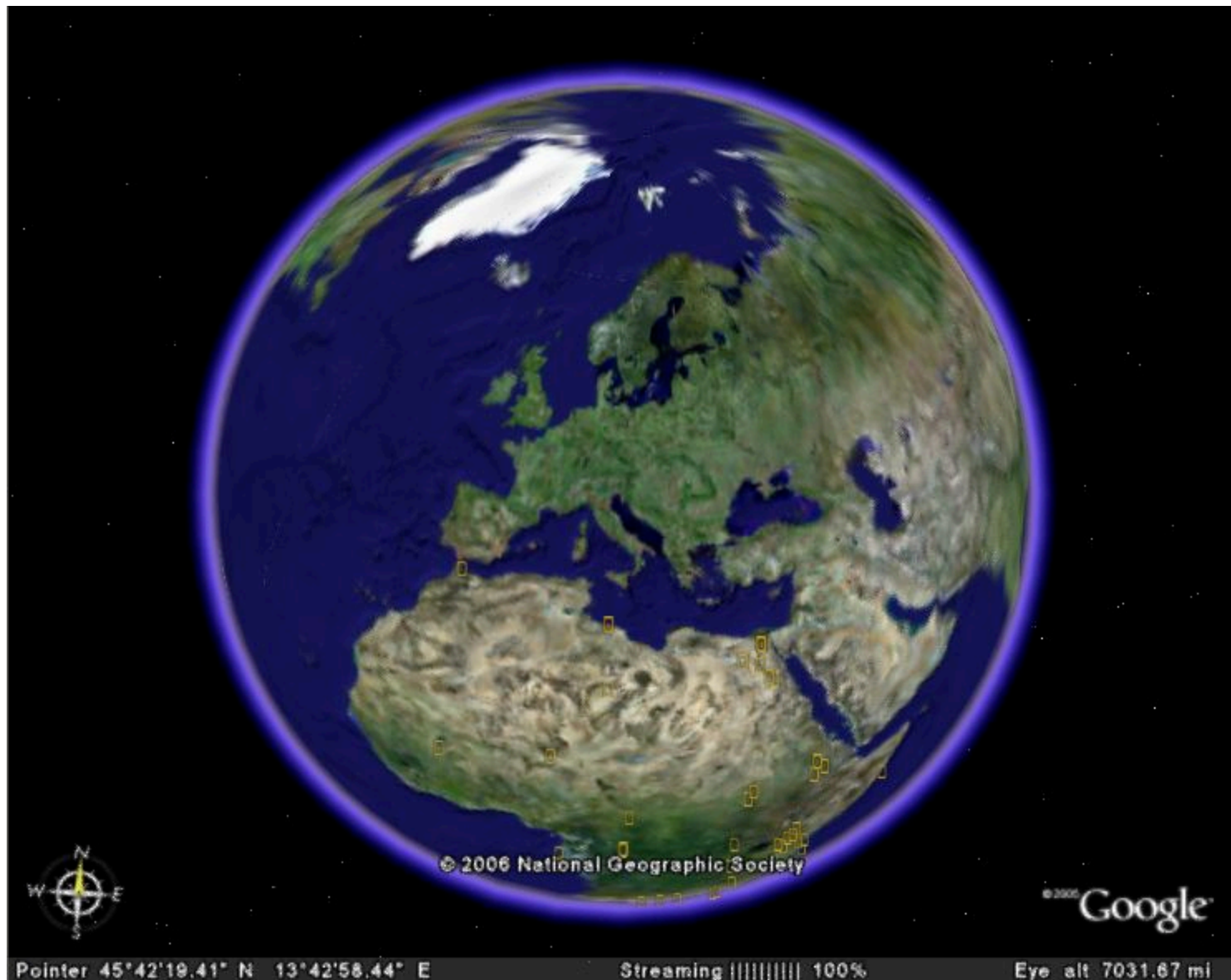
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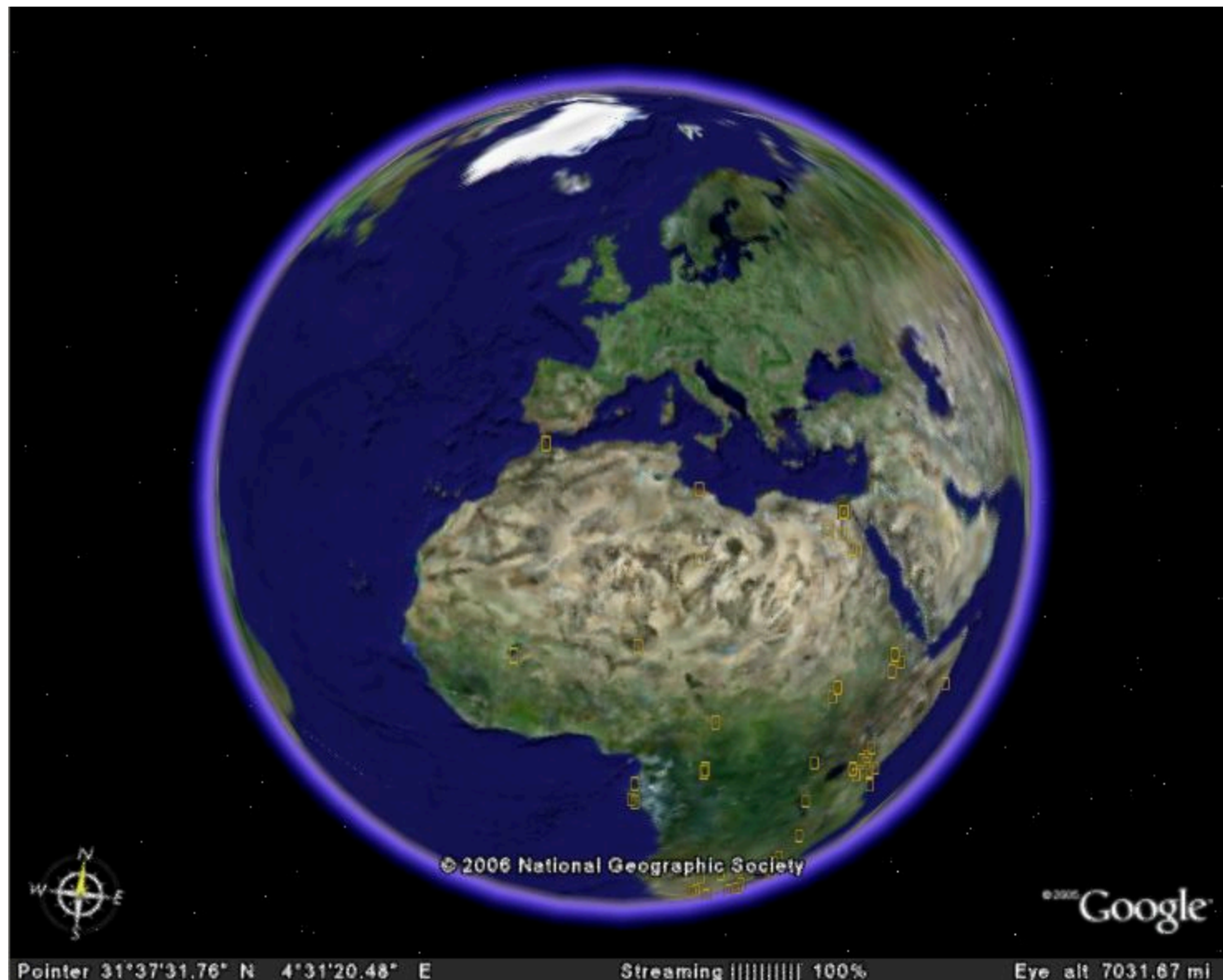
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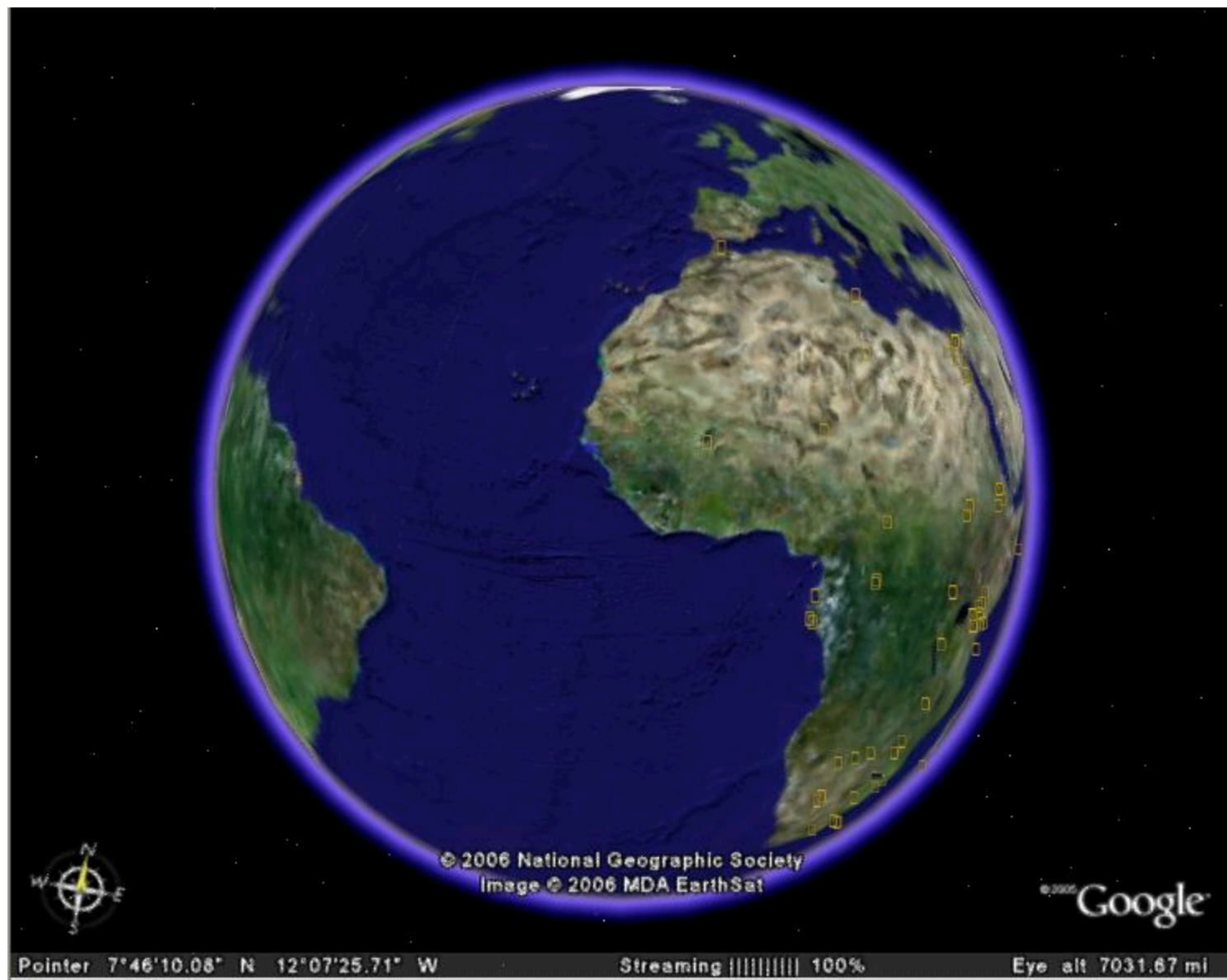
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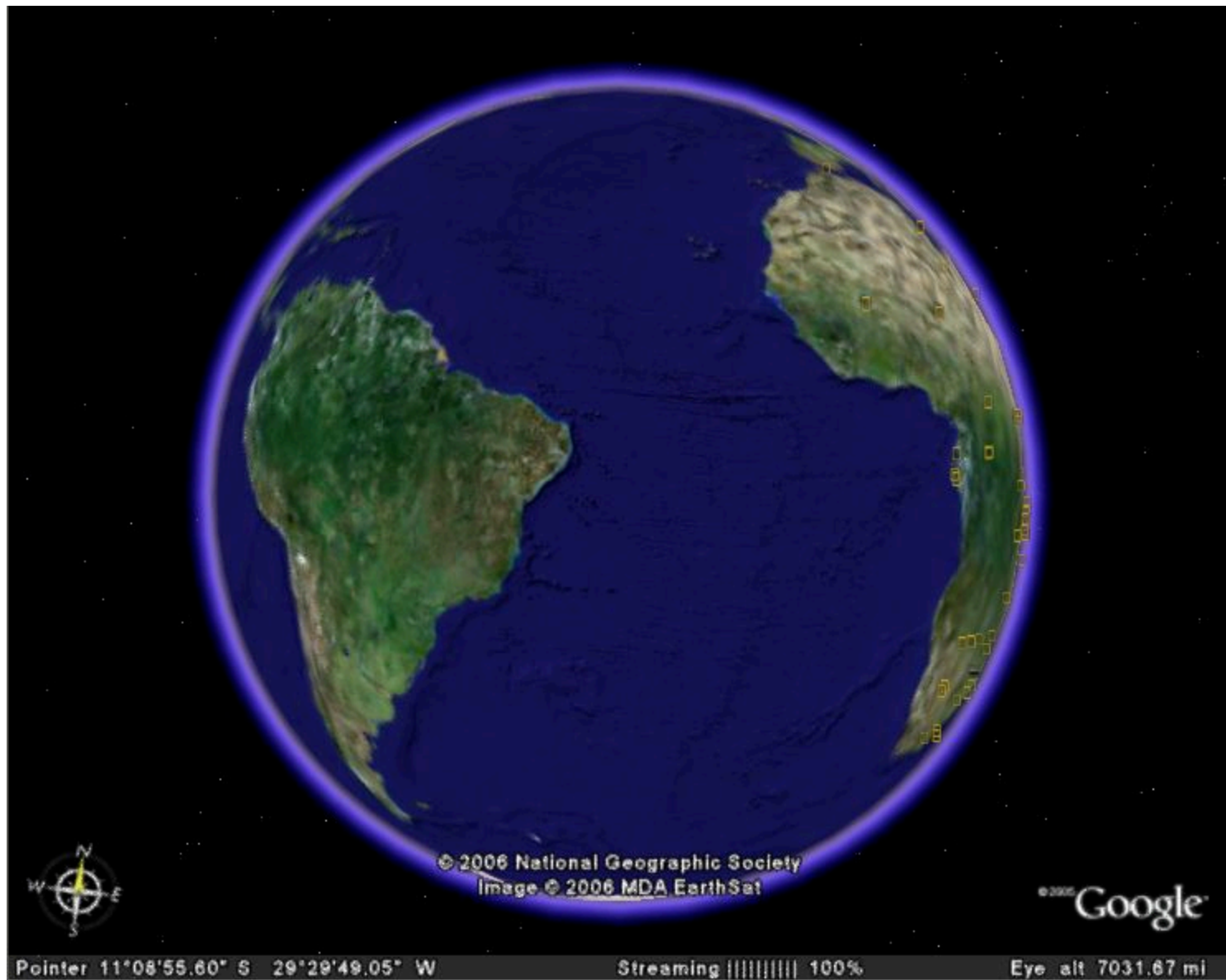
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Pointer 7°46'10.08" N 12°07'25.71" W

Streaming ||||| 100%

Eye alt 7031.67 mi



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Pointer 11°08'55.60" S 29°29'49.05" W

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Eye alt 7031.67 mi

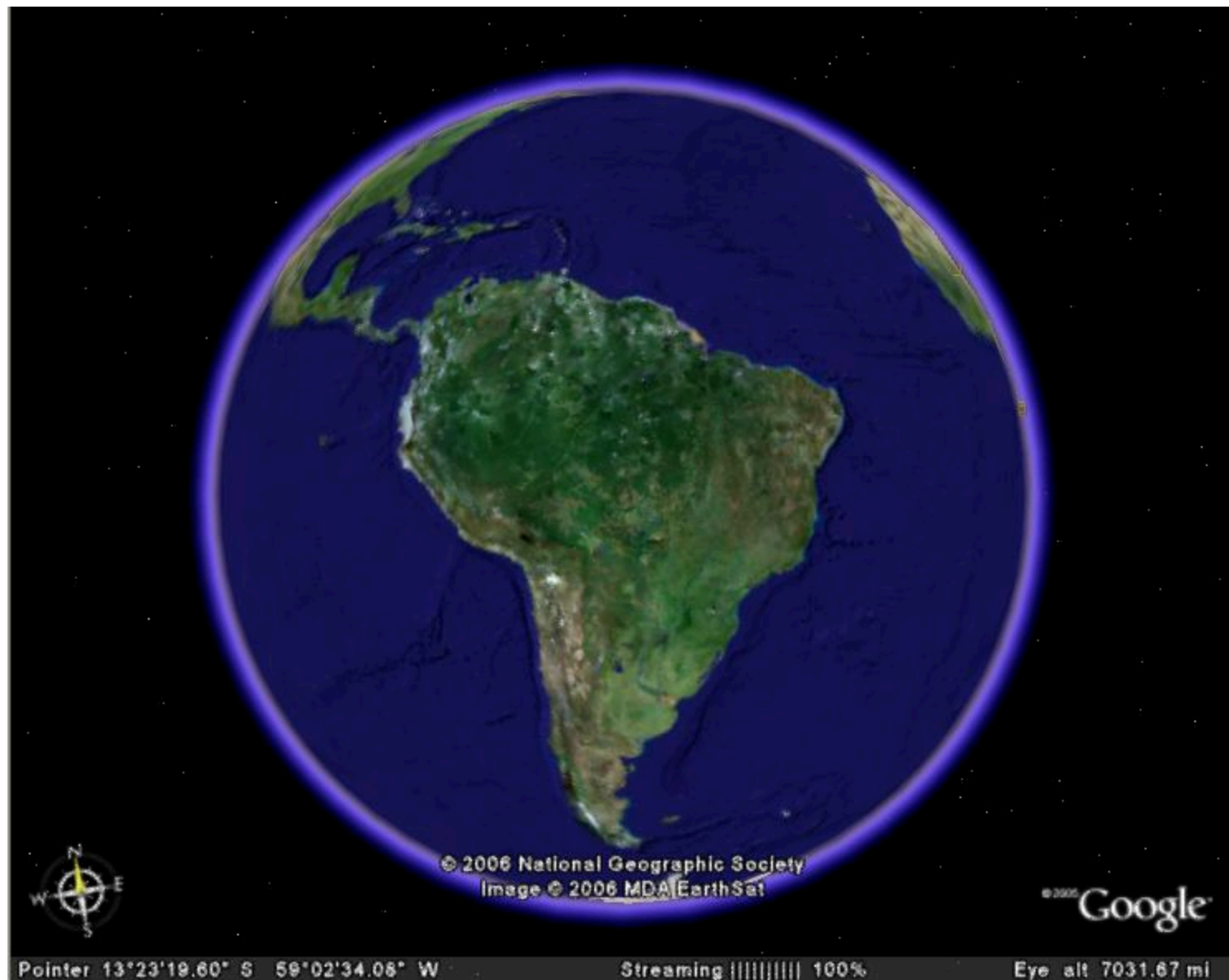




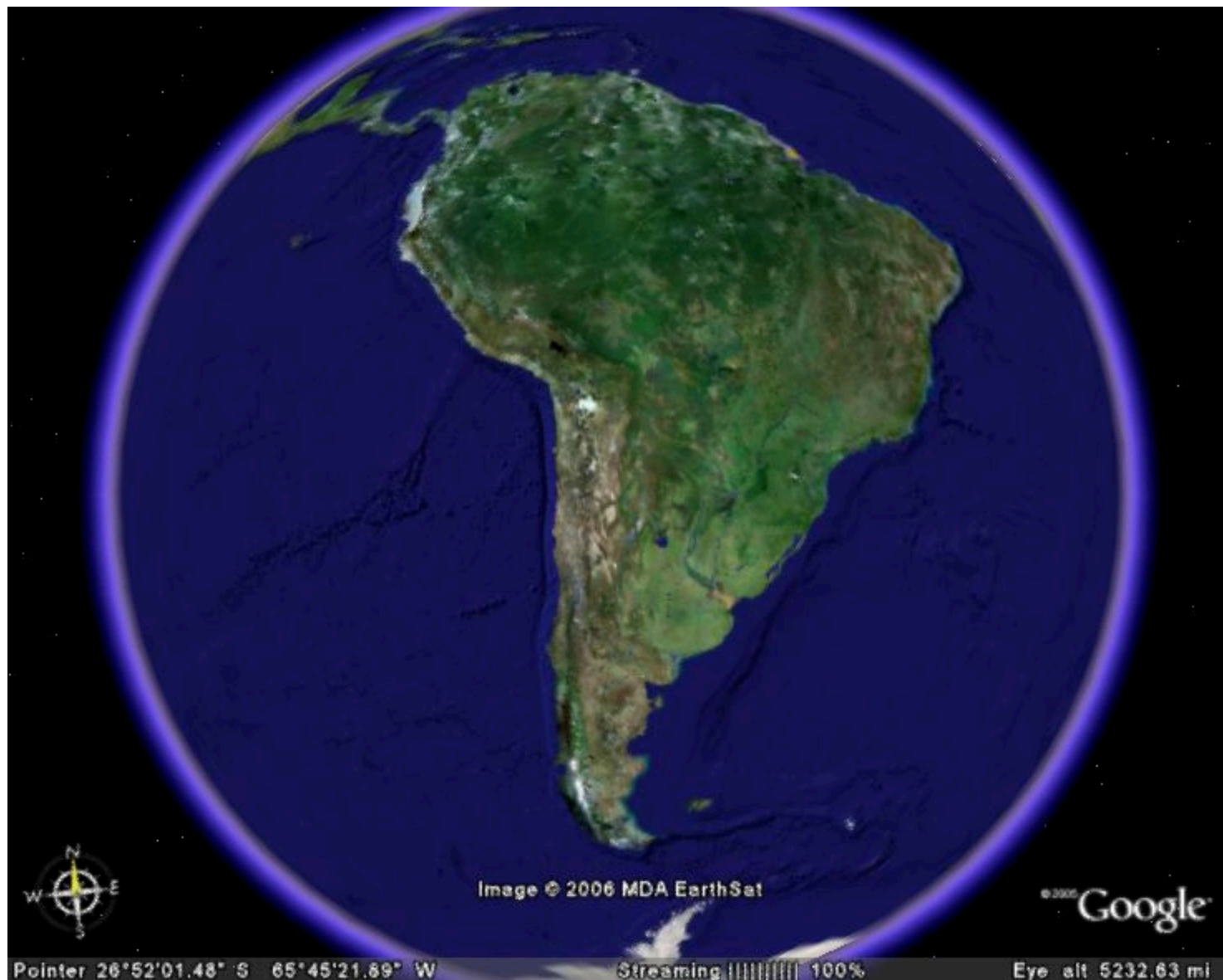
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Eye alt 7145.85 mi



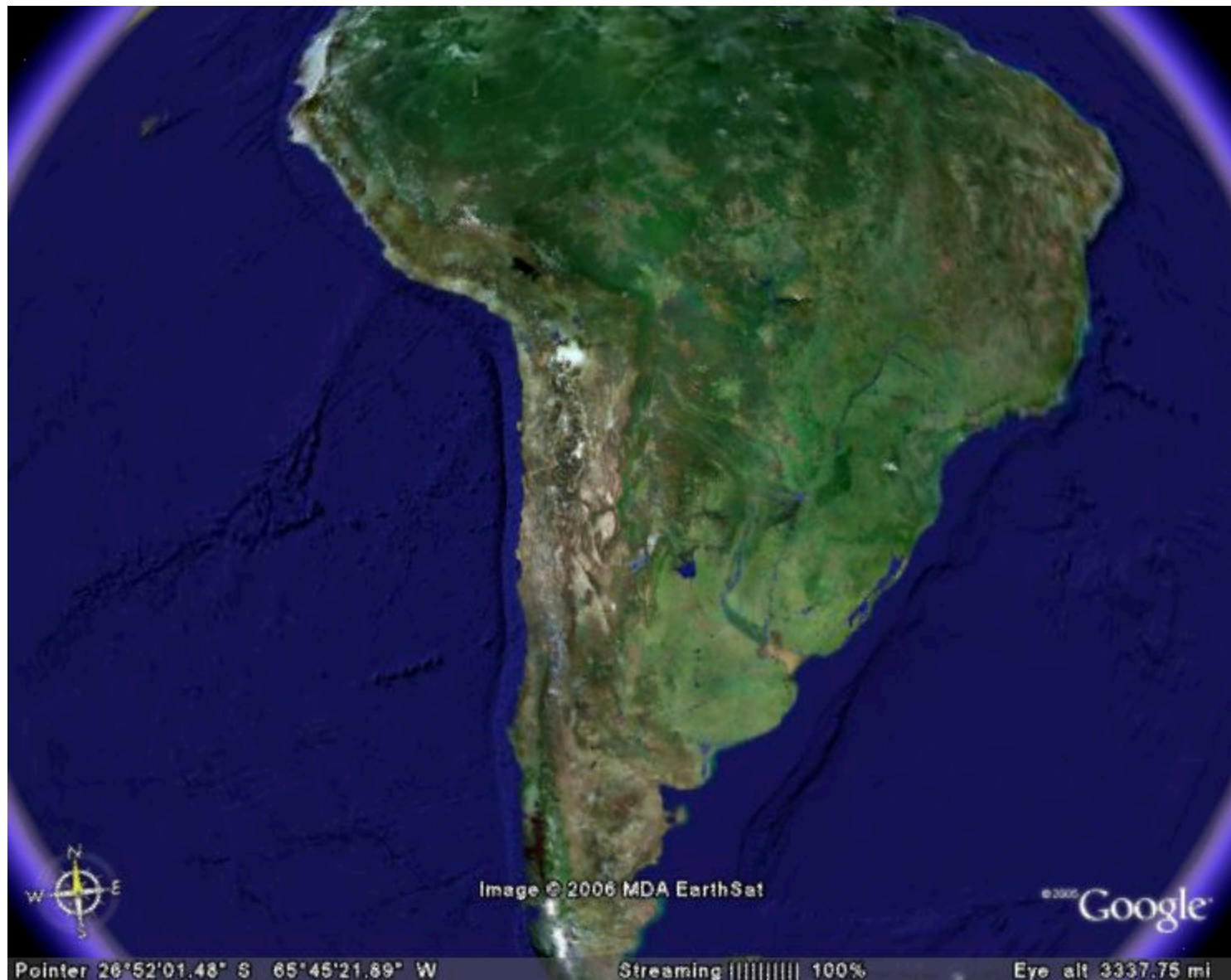


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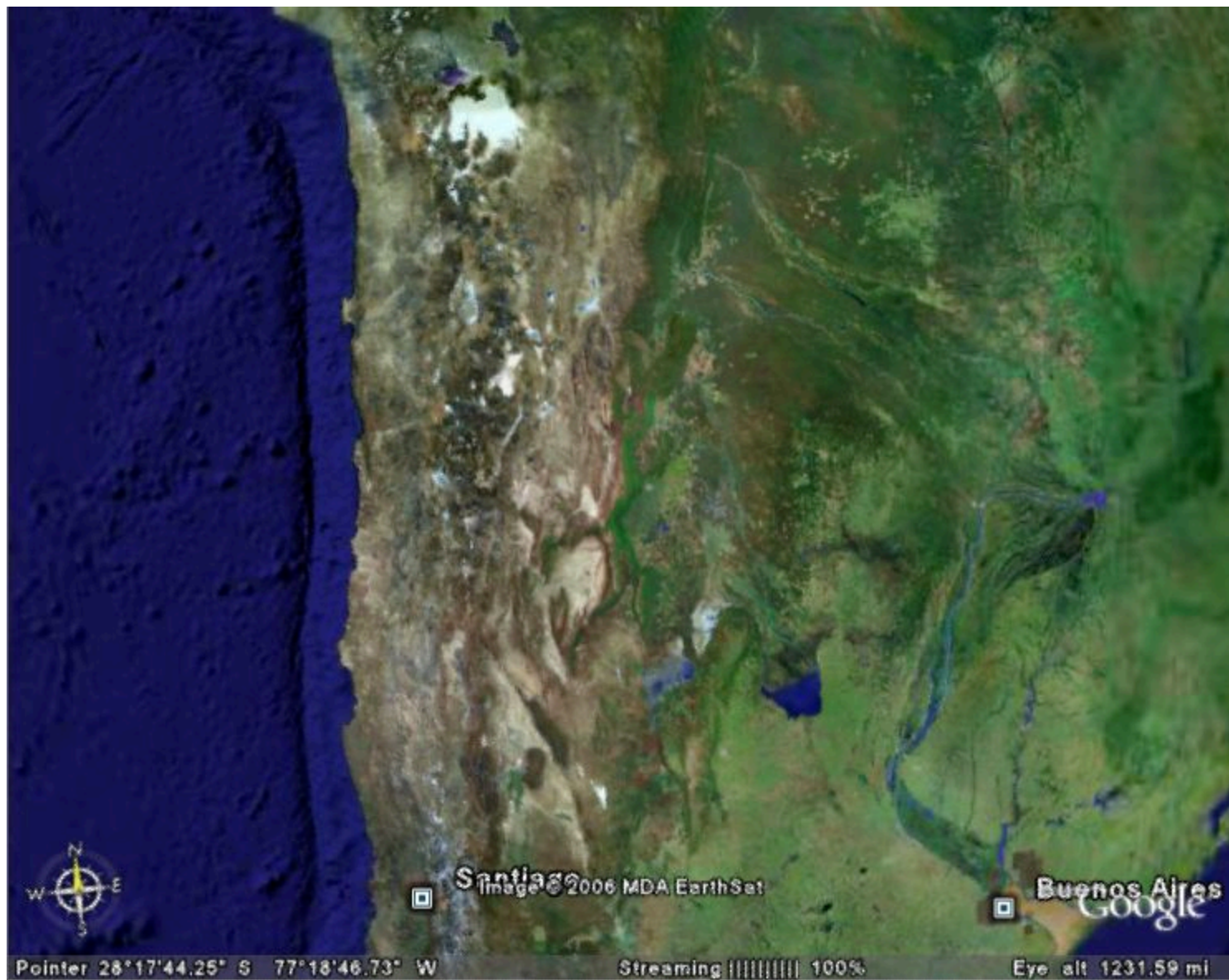
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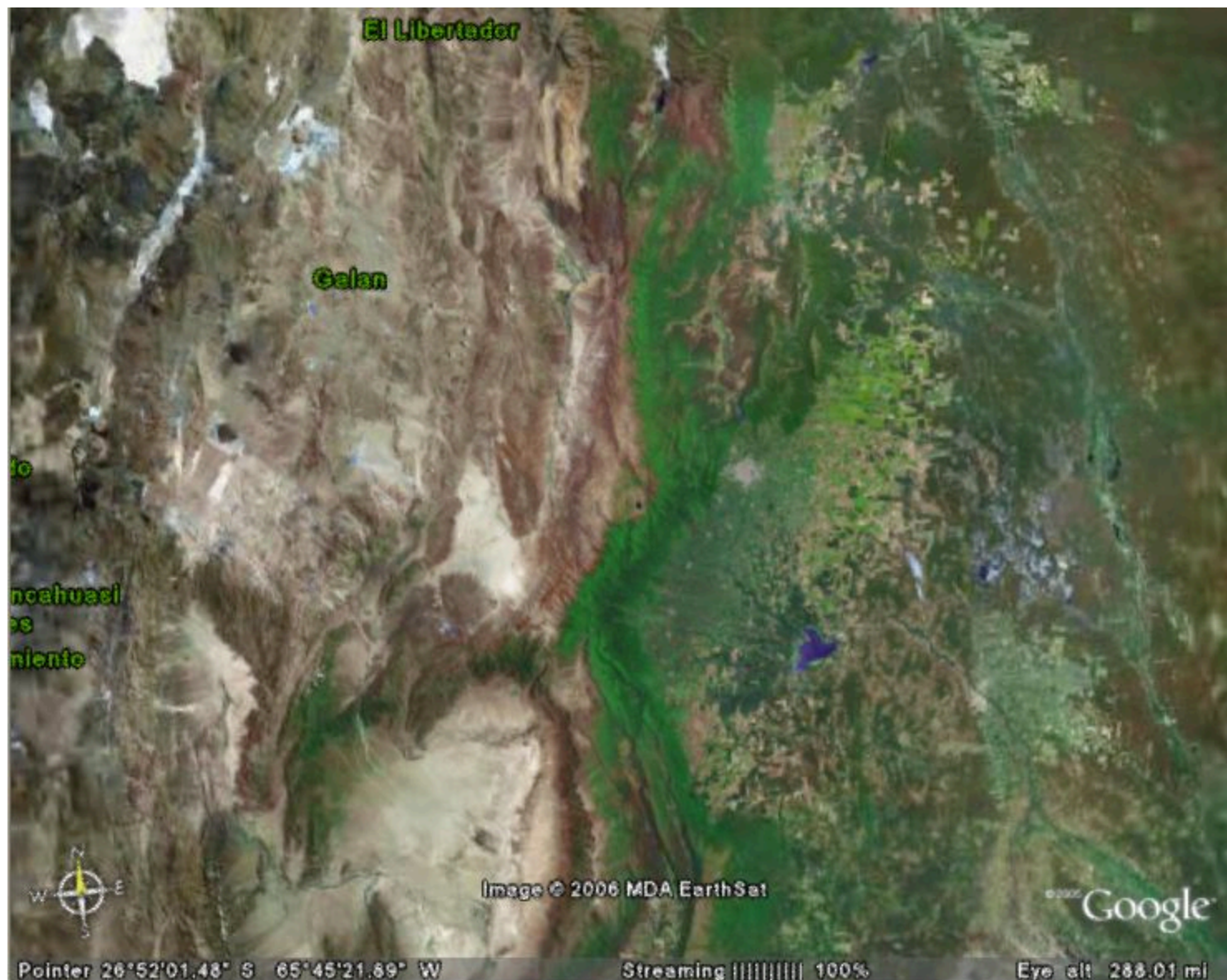
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Eye alt 3337.75 mi











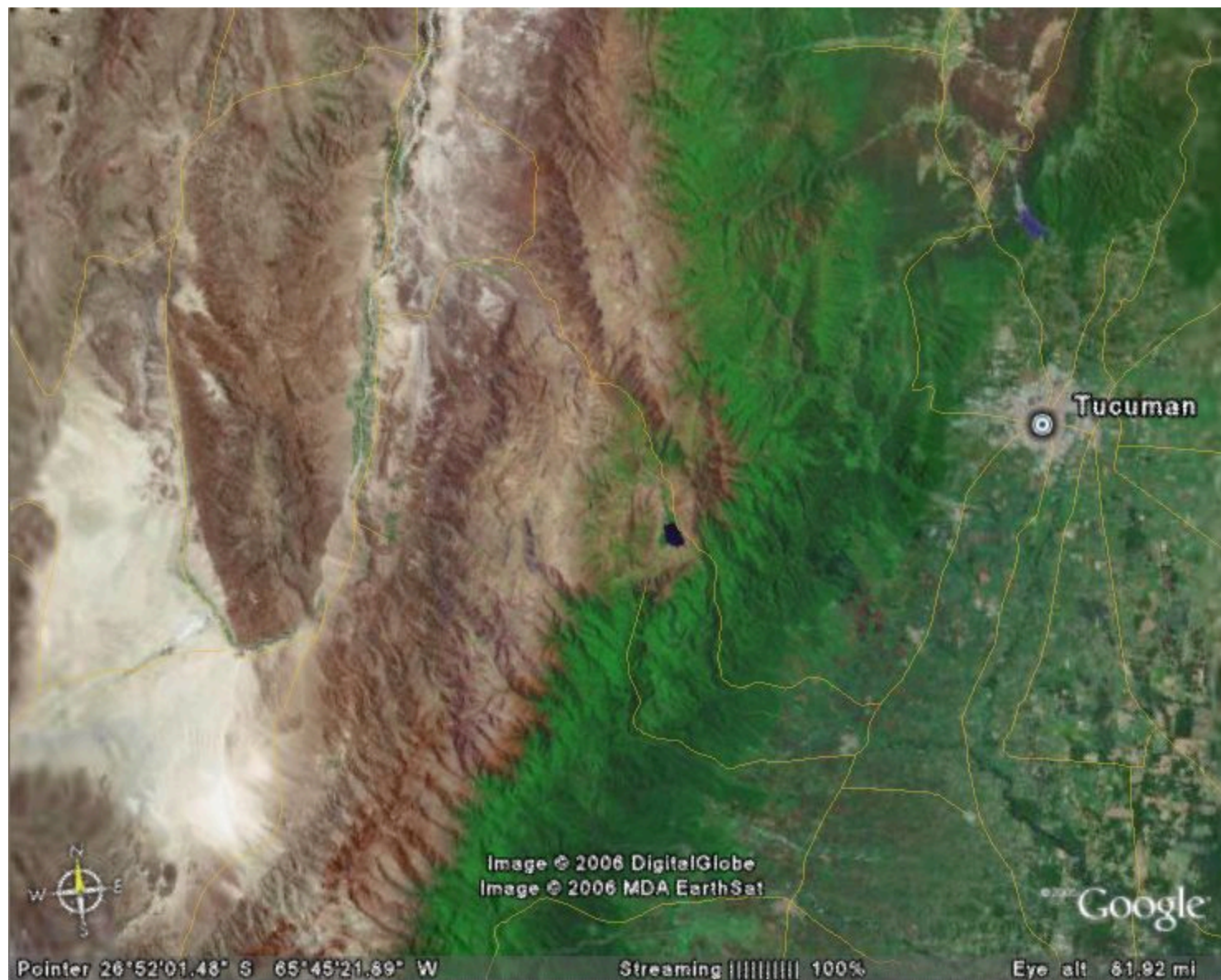


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Pointer 26°52'01.48" S 65°45'21.89" W

Streaming ||||| 100%

Eye alt 81.92 mi

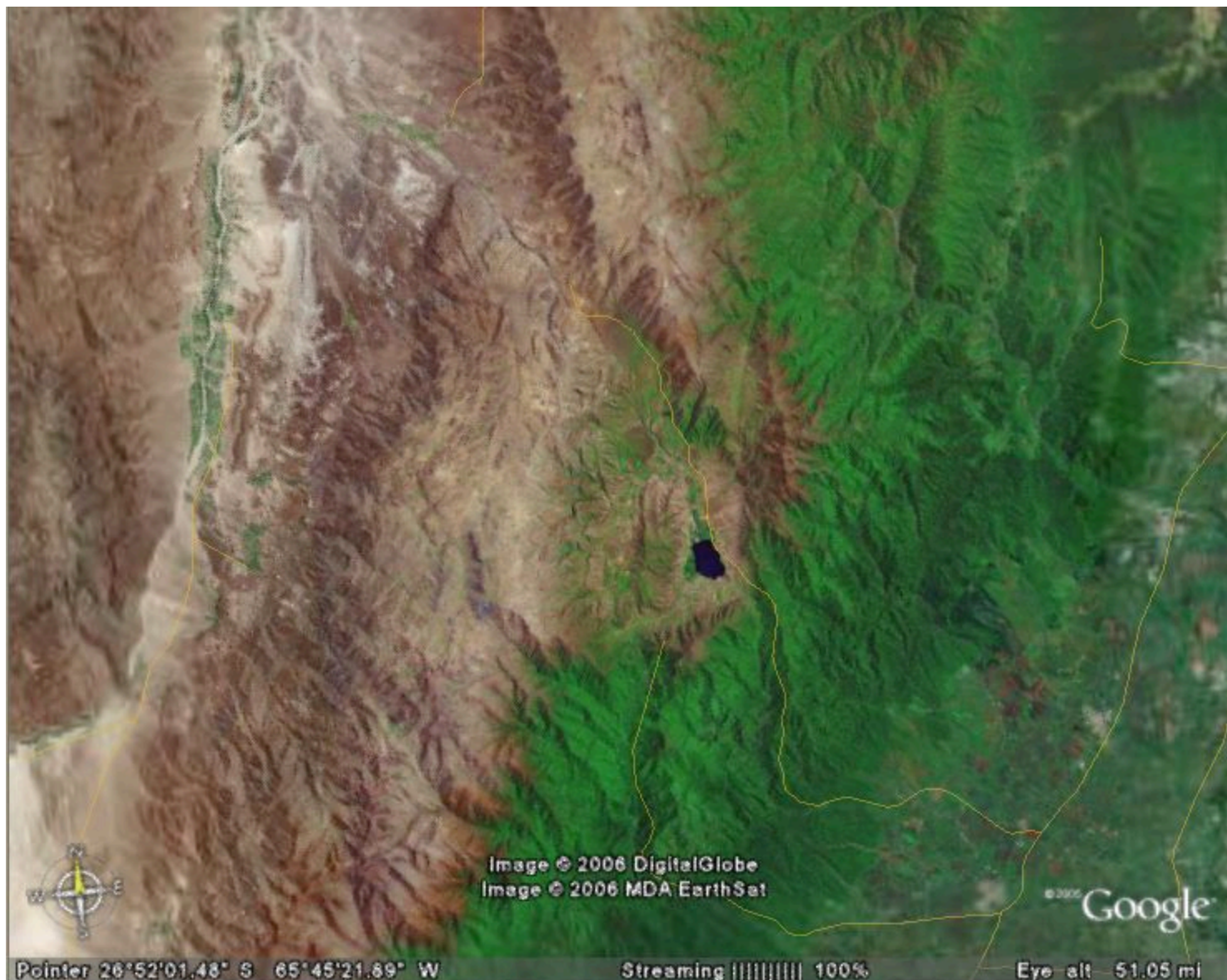


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Pointer 26°52'01.48" S 65°45'21.89" W

Streaming ||||| 100%

Eye alt 51.05 mi



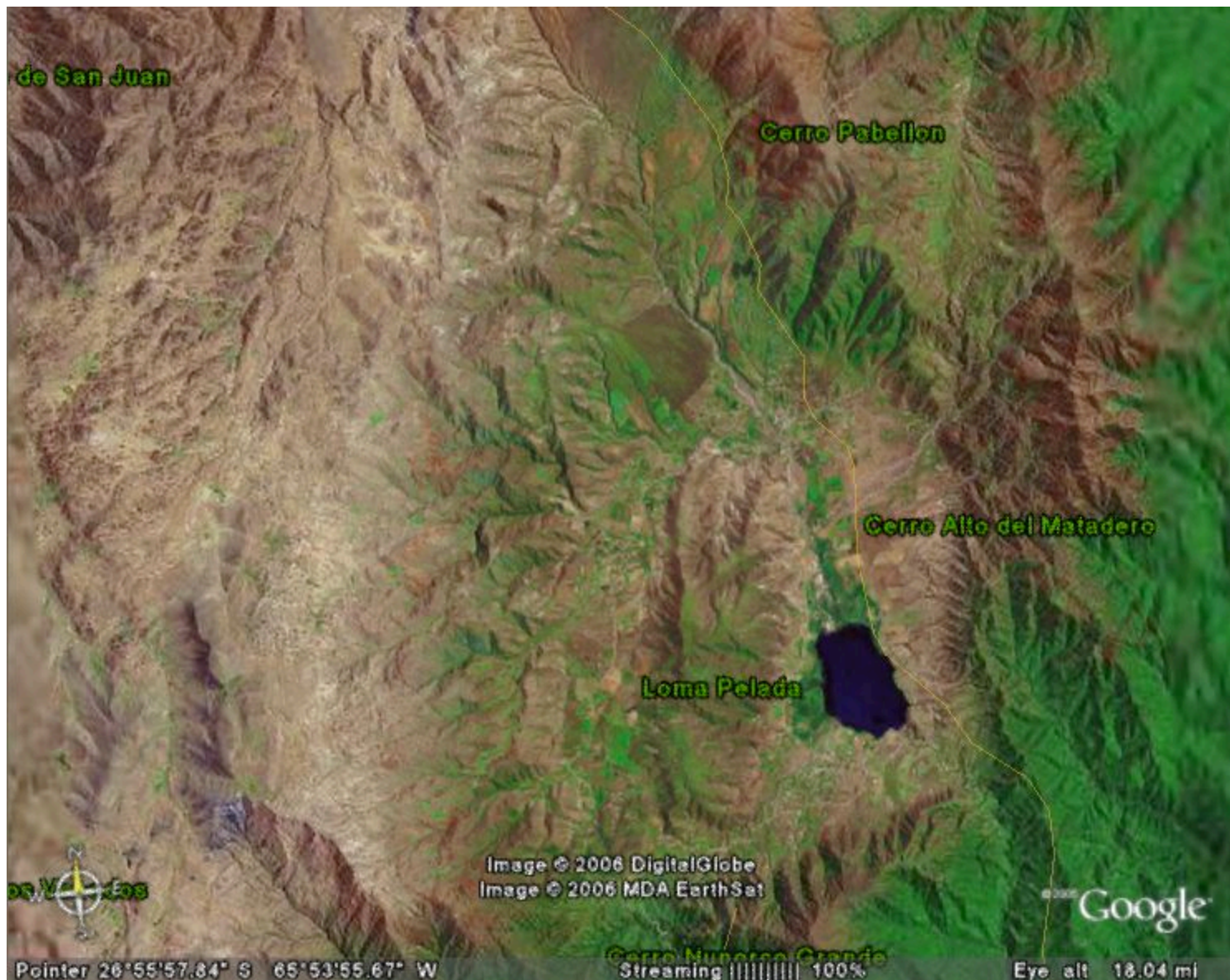
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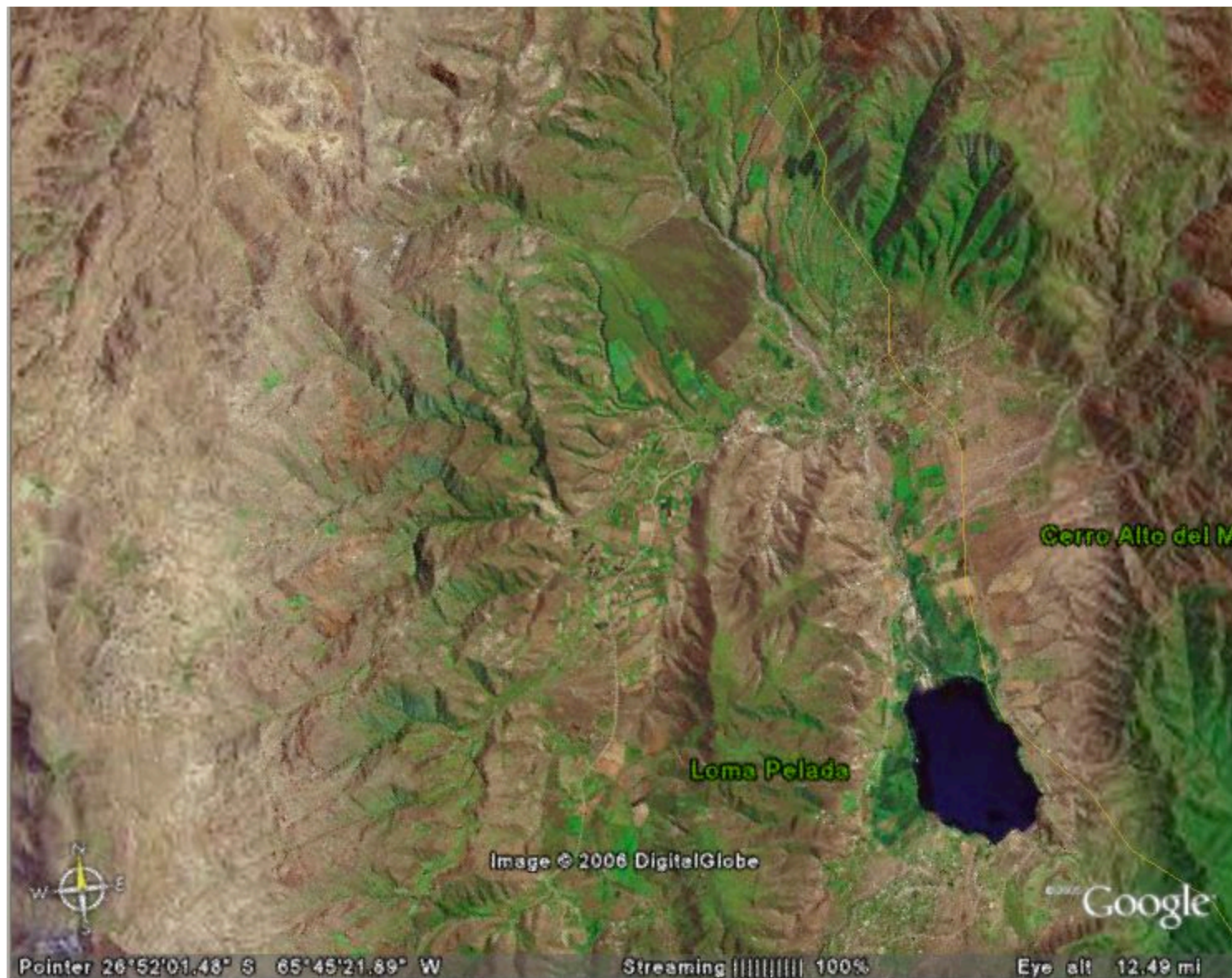
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Pointer 26°52'01.48" S 65°45'21.89" W

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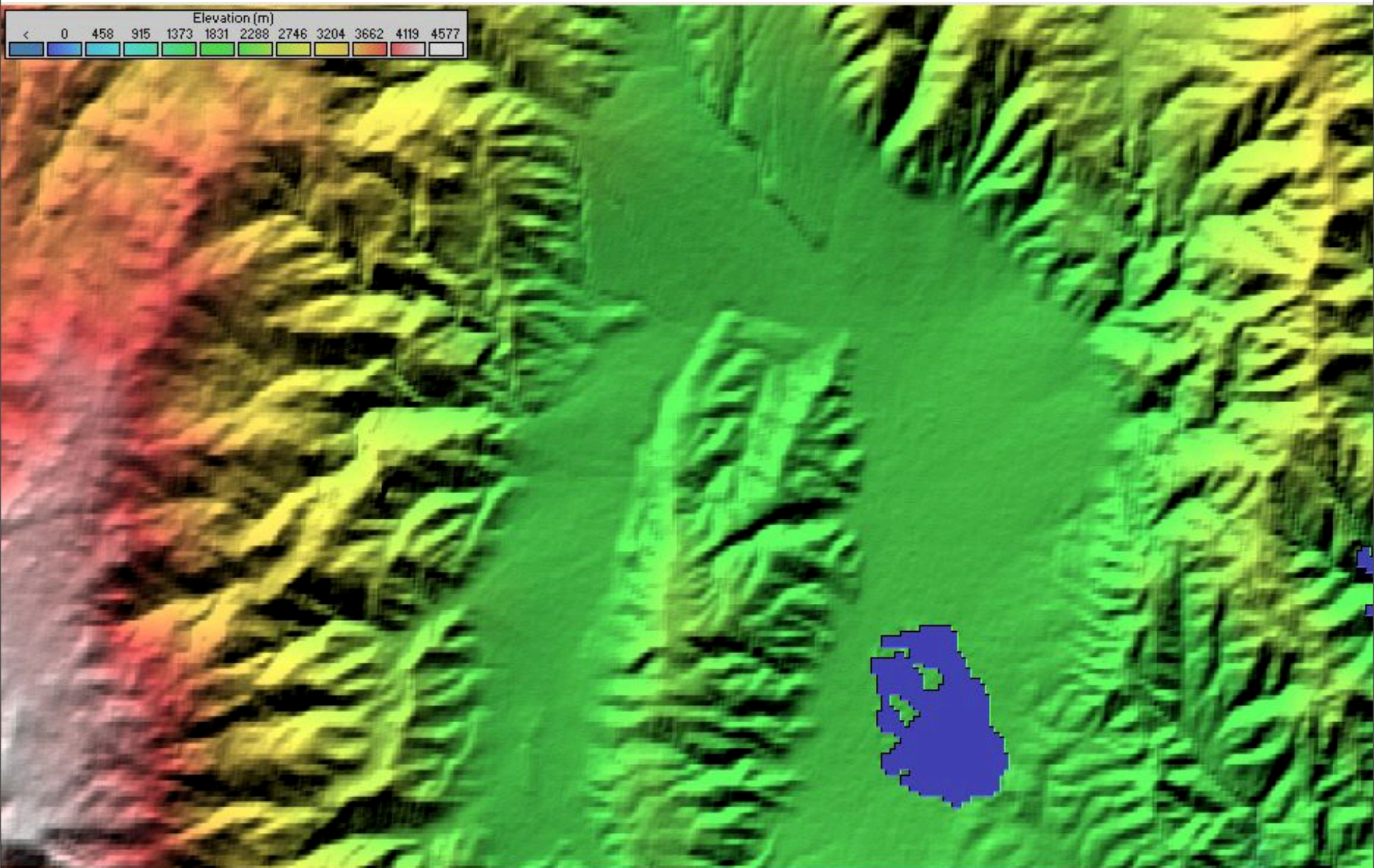




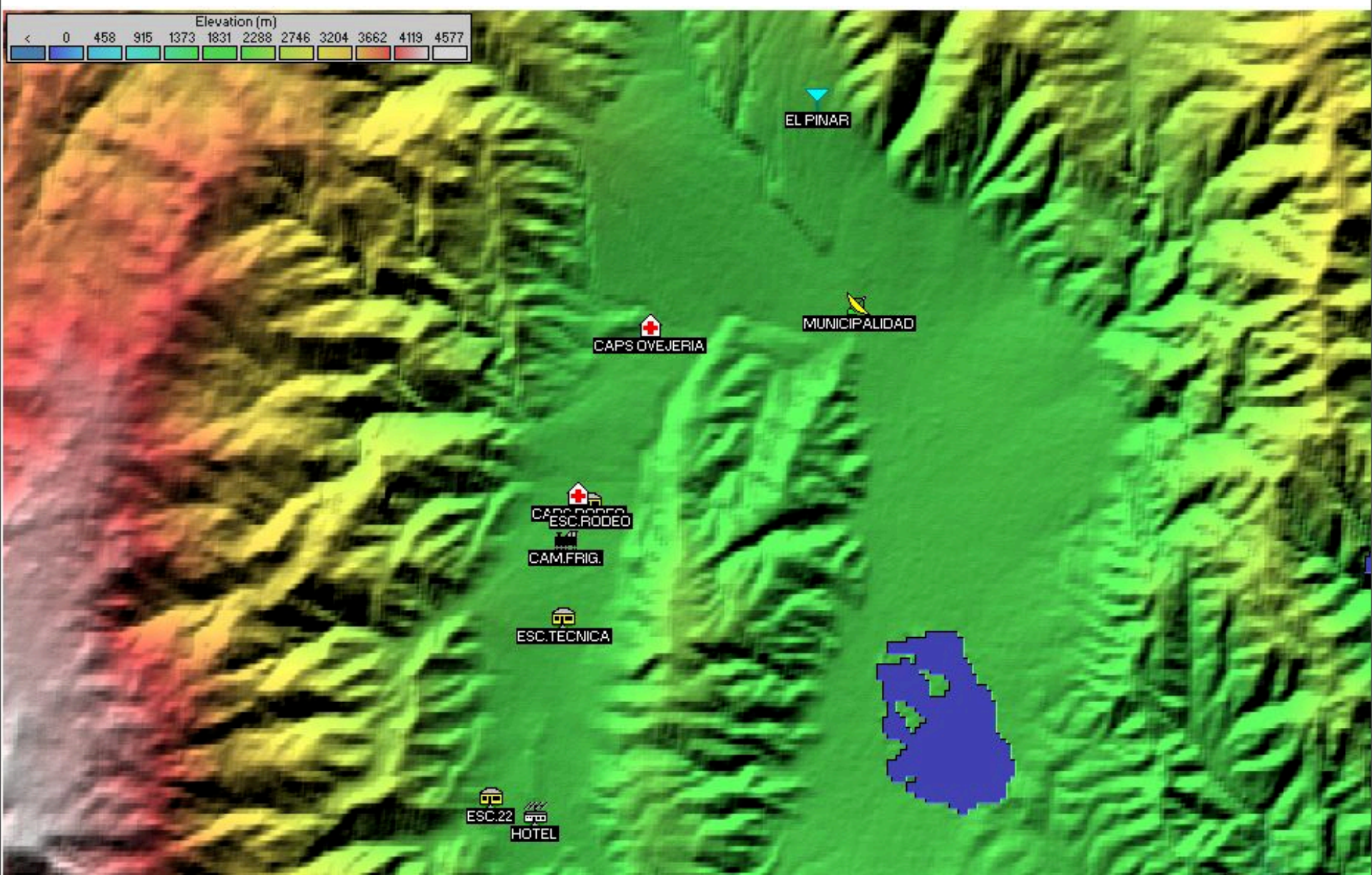
TAFI DEL VALLE



TOPOGRAPHIC MAP OF TAFI DEL VALLE OBTAINED BY RADIO MOBILE



POINTS TO BE CONNECTED



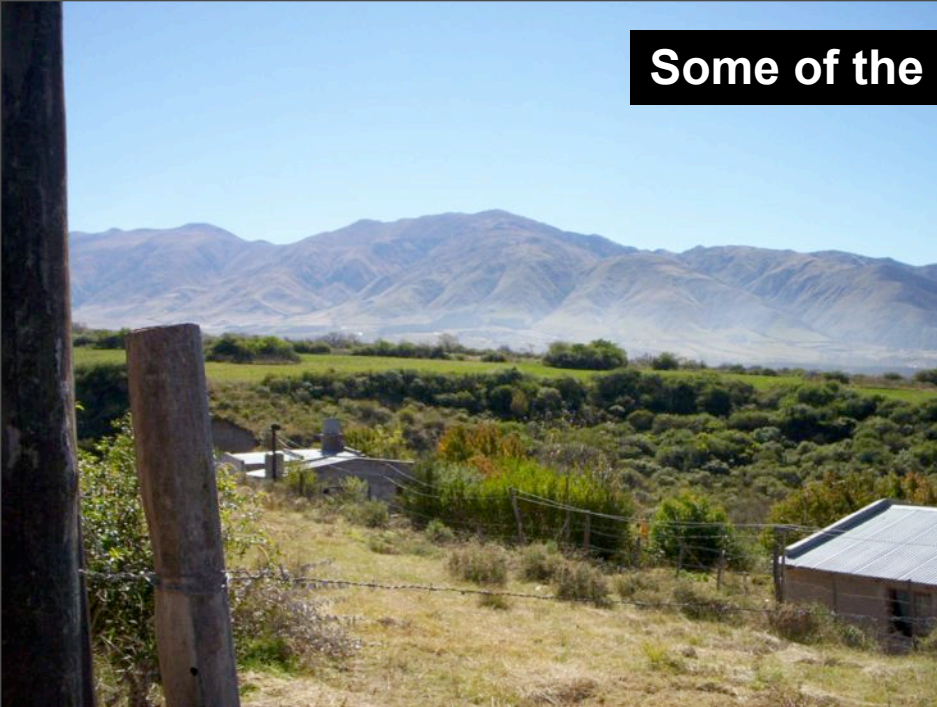
Points to be connected:

- **Tafi del Valle Municipality (Base Node)**
- **“El Pinar de los Ciervos” (Repeater)**
- **CAPS “La Ovejeria” (Clients)**
- **CAPS “El Rodeo”**
- **“El Rodeo” Rural School**
- **Cold-Storage Chamber**
- **Technical School**
- **“Las Carreras” School N° 22**
- **“Estancia Las Carreras” Hotel**

View from the place where the Repeater will be installed



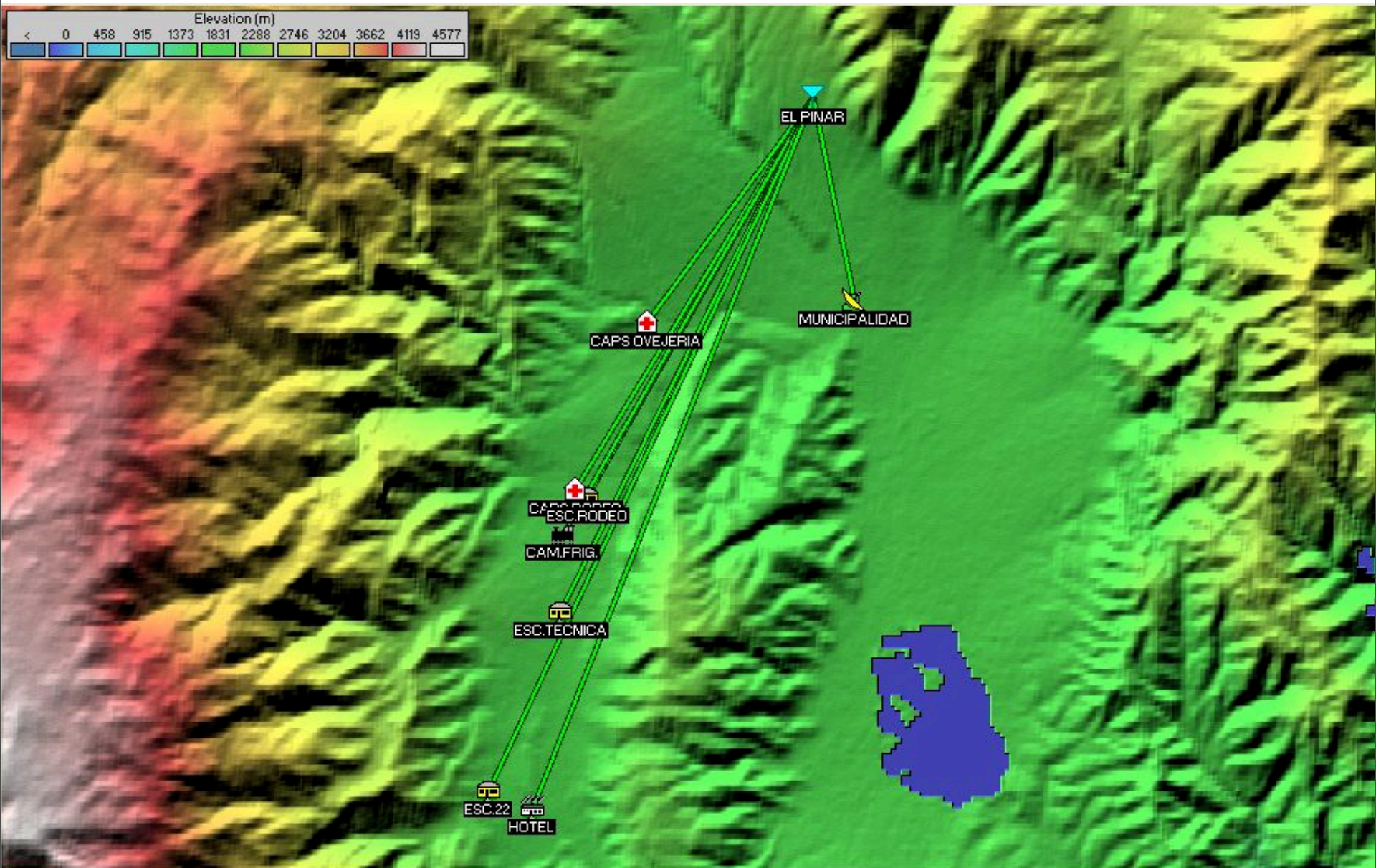
Some of the Client Points



Current Situation in Future Client Points

- **High Cost in Communications (only mobile phone)**
- **Difficulties on sending information because of long distances to the post office**
- **Difficulties on interchange information between first aids health centers and provincial system of health**
- **No internet access**
- **No PSTN access**

Proposal of Network



Technical Features:

- **802.11b or g technology**
- **Base Node:**
 - **Wireless AP –**
 - **1 Directional Antenna link P2P Repeater**
 - **Internet Access VSAT**
 - **PSTN Access**
 - **Gateway FXO + FXS**
- **Repeater Node:**
 - **Wireless Bridge**
 - **2 Directional Antennas – link P2P Base Node and link PMP Clients**
- **Clients Nodes:**
 - **Directional Antenna to Repeater**
 - **Wireless Client**
 - **PC**
 - **Gateway FXS**
 - **Telephone**

Services to be provided:

- **VoIP Communication**
- **Internet Access**
- **E mail Access**
- **Distance training and e-learning (Schools)**
- **Remote health assistance (CAPS - first aids centers)**
- **E commerce**

Situation

- This project was presented to the government of the province of Tucuman and at the moment is expected to be approved.
- Due to the flexible technology to be applied to the project and the “geographic facilities” of the zone, the network would offer great possibilities to scalability to near towns and to a bigger provincial network (now in construction)



Thanks for your kind attention!!!