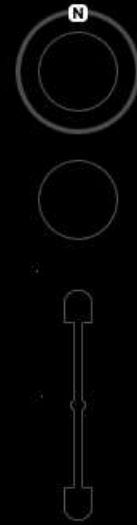




# **Műholdak az építőmérnöki gyakorlatban**

Barsi Árpád



Data SIO, NOAA, U.S. Navy, NGA, GEBCO

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US Dept of State Geographer

46°58'56.00" N 19°56'10.43" E elev 577 m

©2009 Google

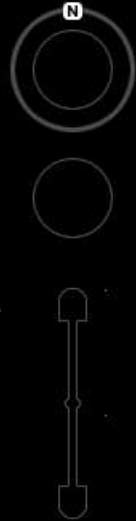
Eye alt 23319.83 km



# Galileo műholdak

- ESA+EU GNSS rendszer
- 30 műhold, 3 pálya, 23200 km
- Szolgáltatások (service):
  - Open:
    - 2 sávon  $< 4\text{m}$  (H) és  $< 8\text{m}$  (V)
    - ingyenes
  - Commercial:
    - $< 1\text{ m}$  (akár  $\sim 10\text{ cm}$ )
    - fizetős
  - Publ. regulated & safety





Data SIO, NOAA, U.S. Navy, NGA, GEBCO

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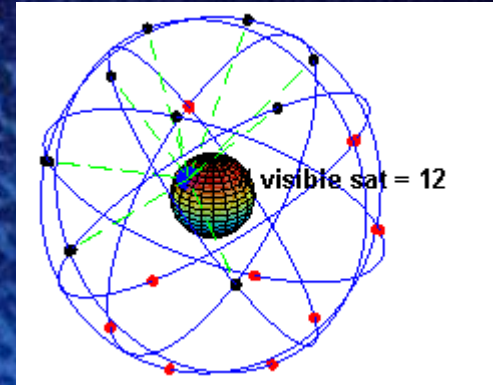
46°58'56.01" N 19°56'10.42" E elev 577 m

©2009 Google

Eye alt 20301.17 km 

# GPS műholdak

- Navstar GNSS
- 24 (32) műhold
- Rendkívüli
- Számos alkalmazás

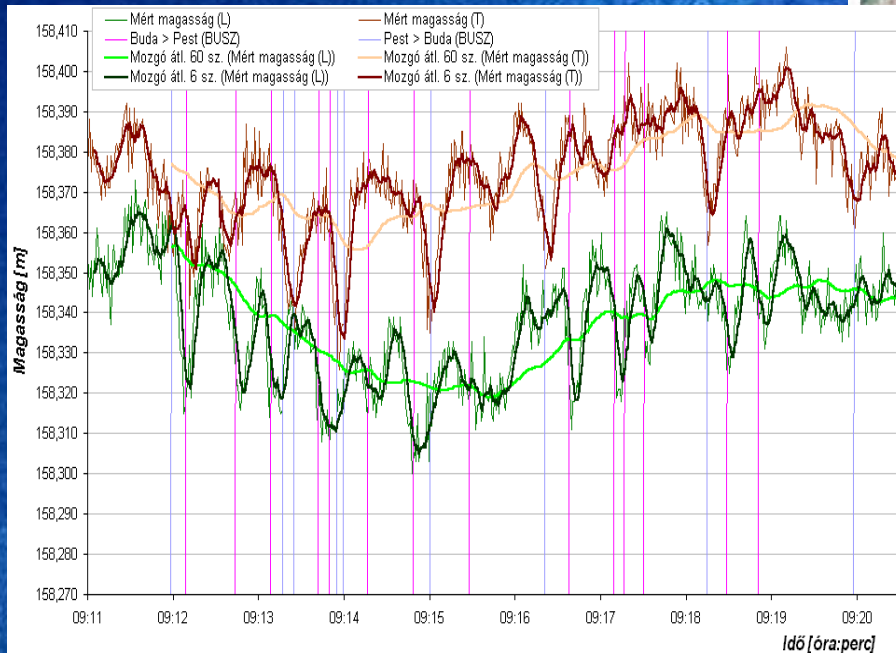


200 km

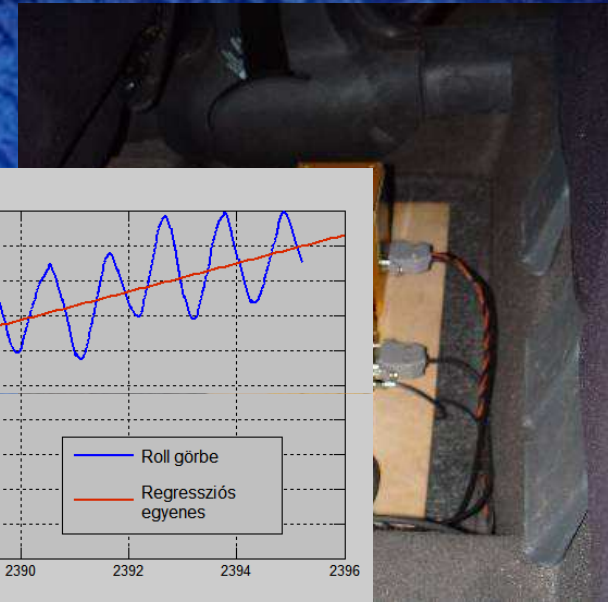
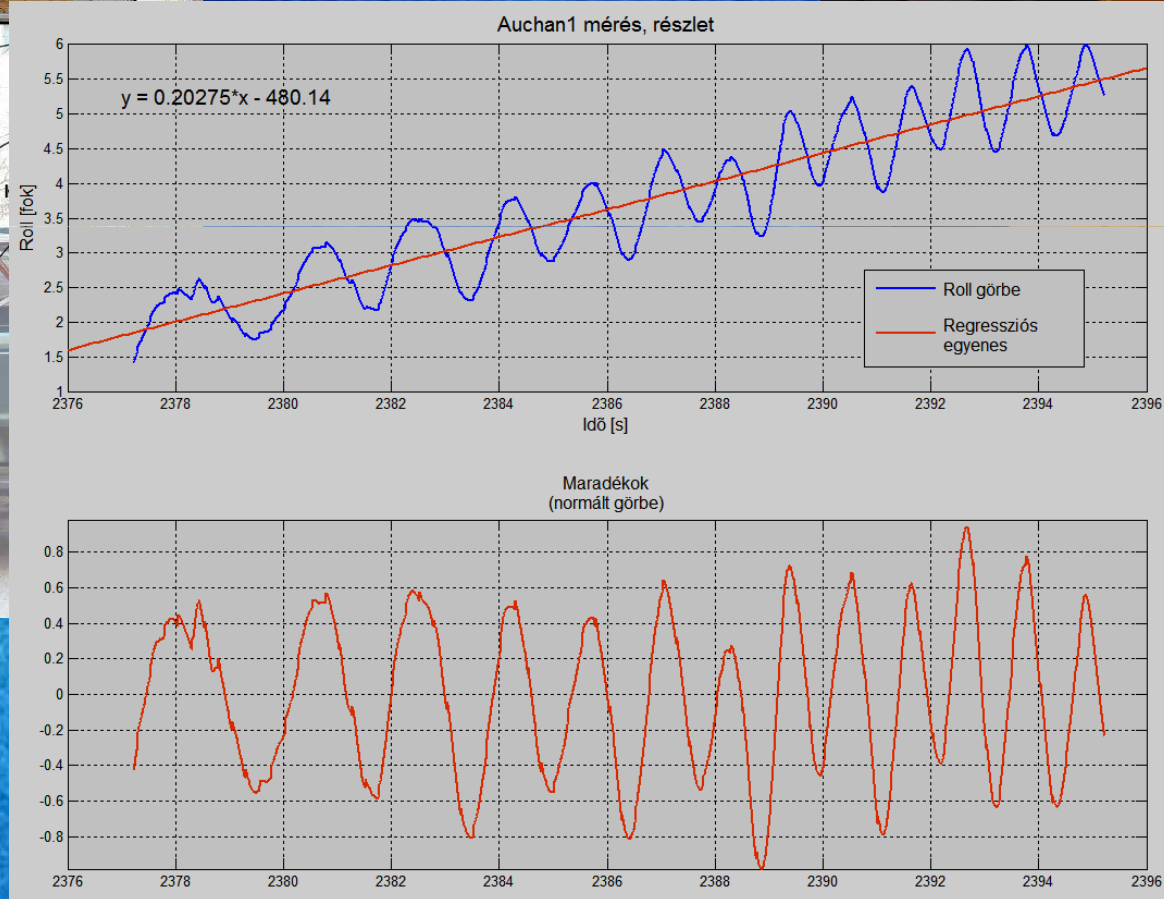
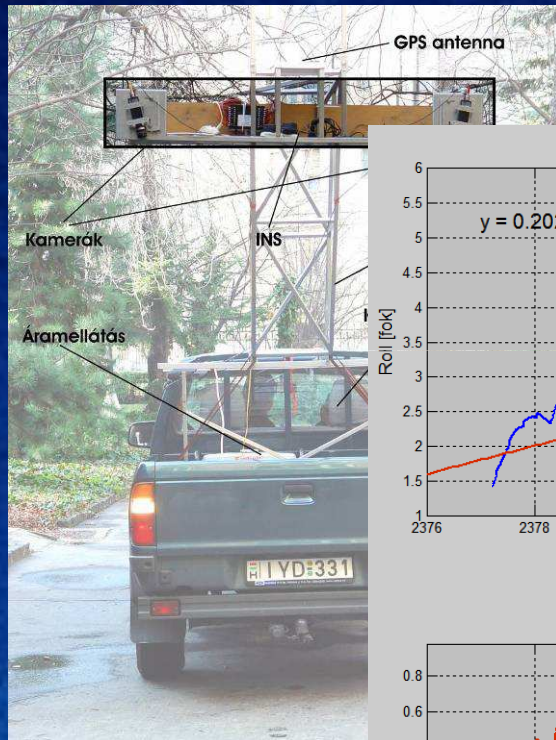


# Alkalmazások (Ízelítők)

- Helymeghatározás
- Navigáció
- Járműnyomkövetés
- Mozcásvizsgálat



# Integrált rendszerek: mobil térképezés





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US Dept of State Geographer  
© 2009 Cnes/Spot Image

© 2009 Google

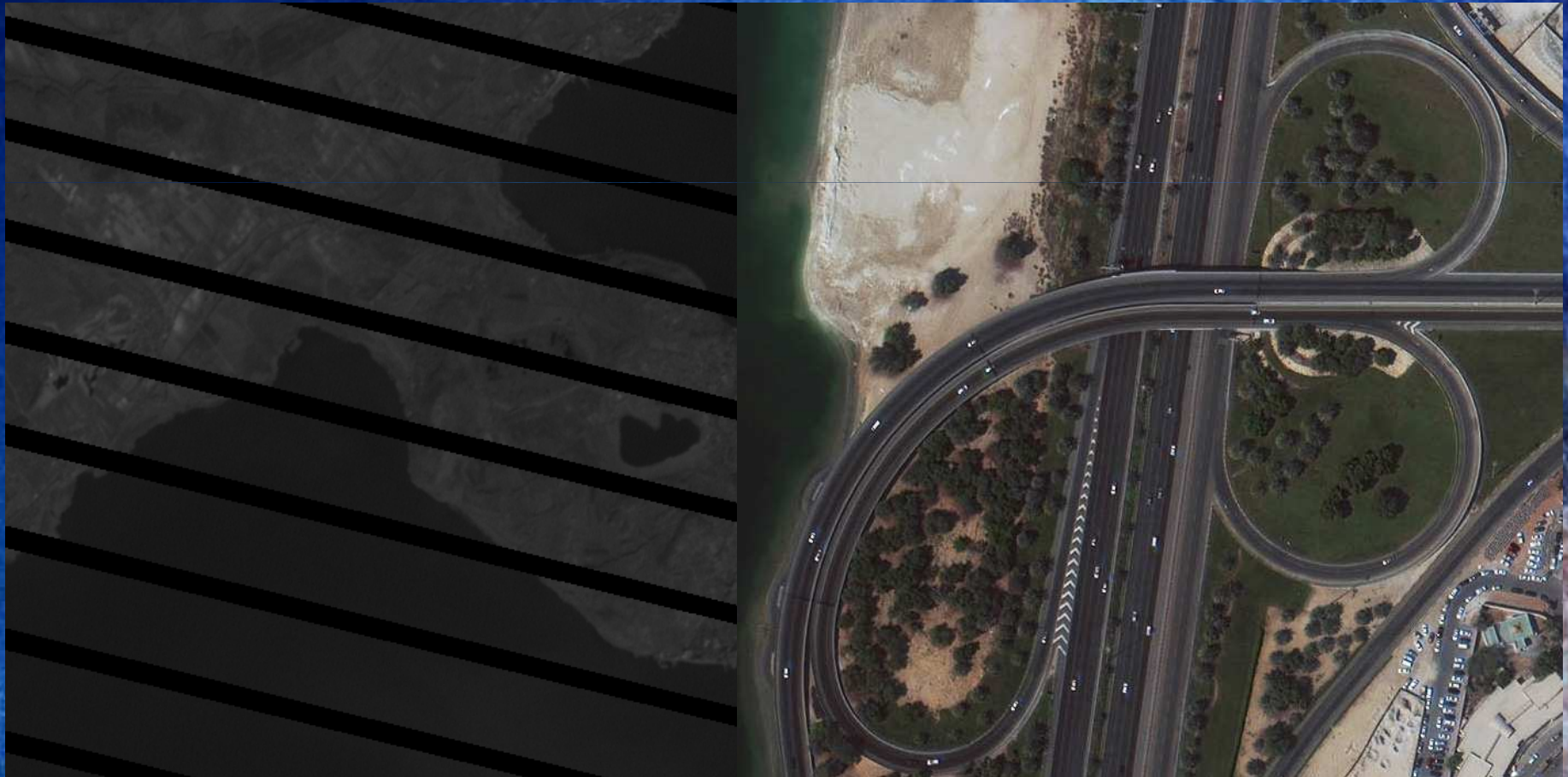
Eye alt 714.39 km

47°13'16.28" N 19°17'29.92" E elev 111 m

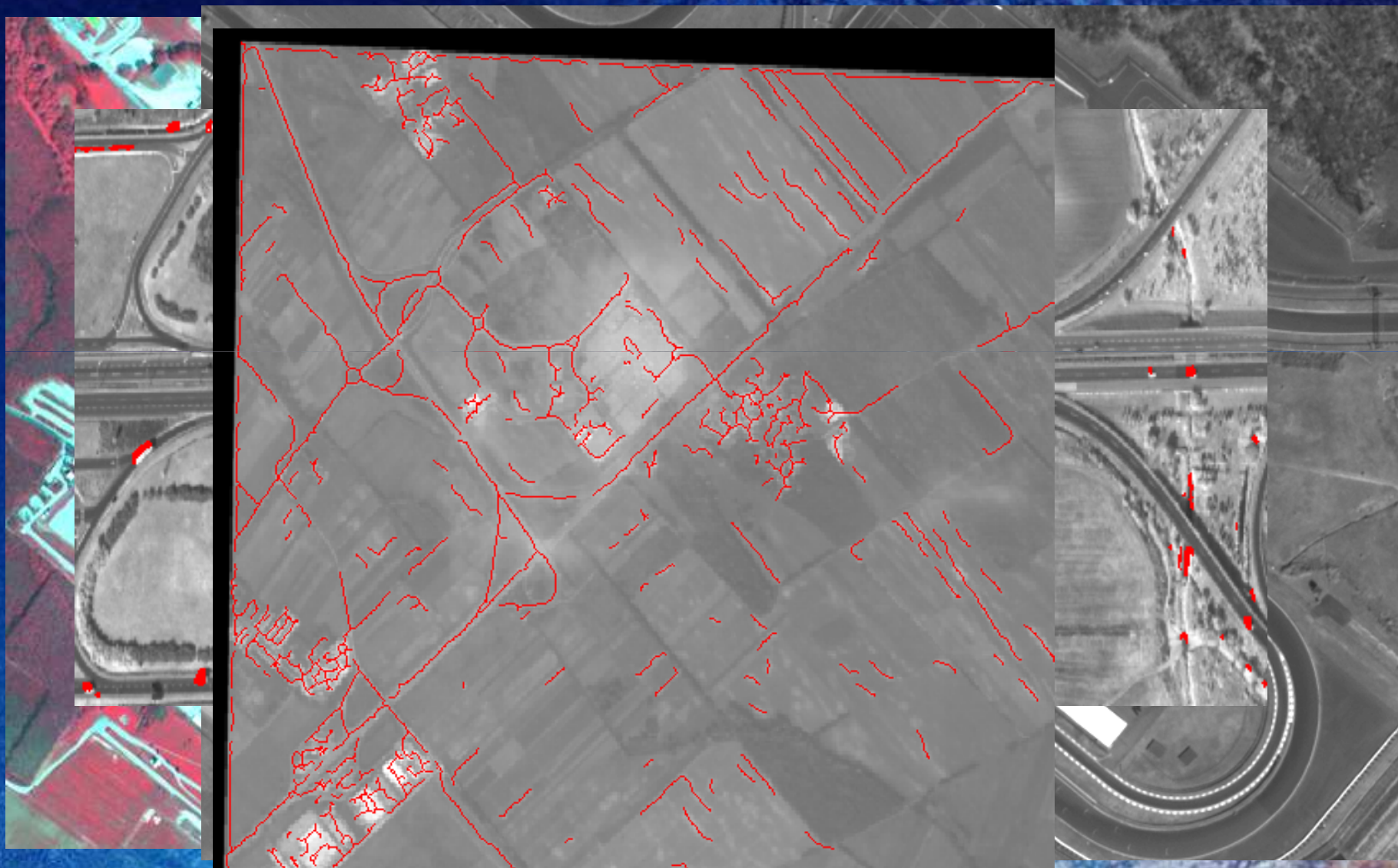


# Landsat 7 és WorldView2

- 770 km ill. 705 km magasság
- Felbontás: 10 m ill. 0.46 m



# QuickBird



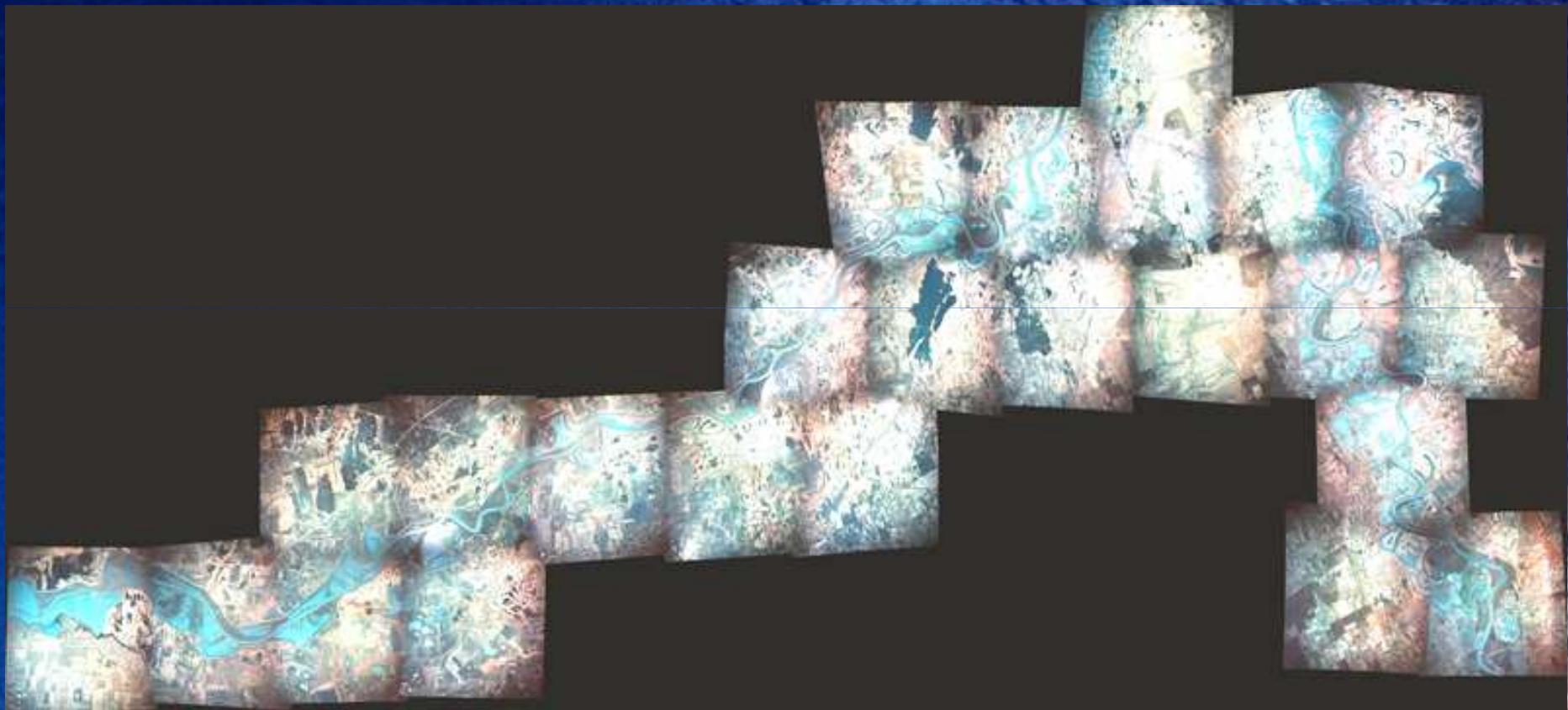
# Légifényképek



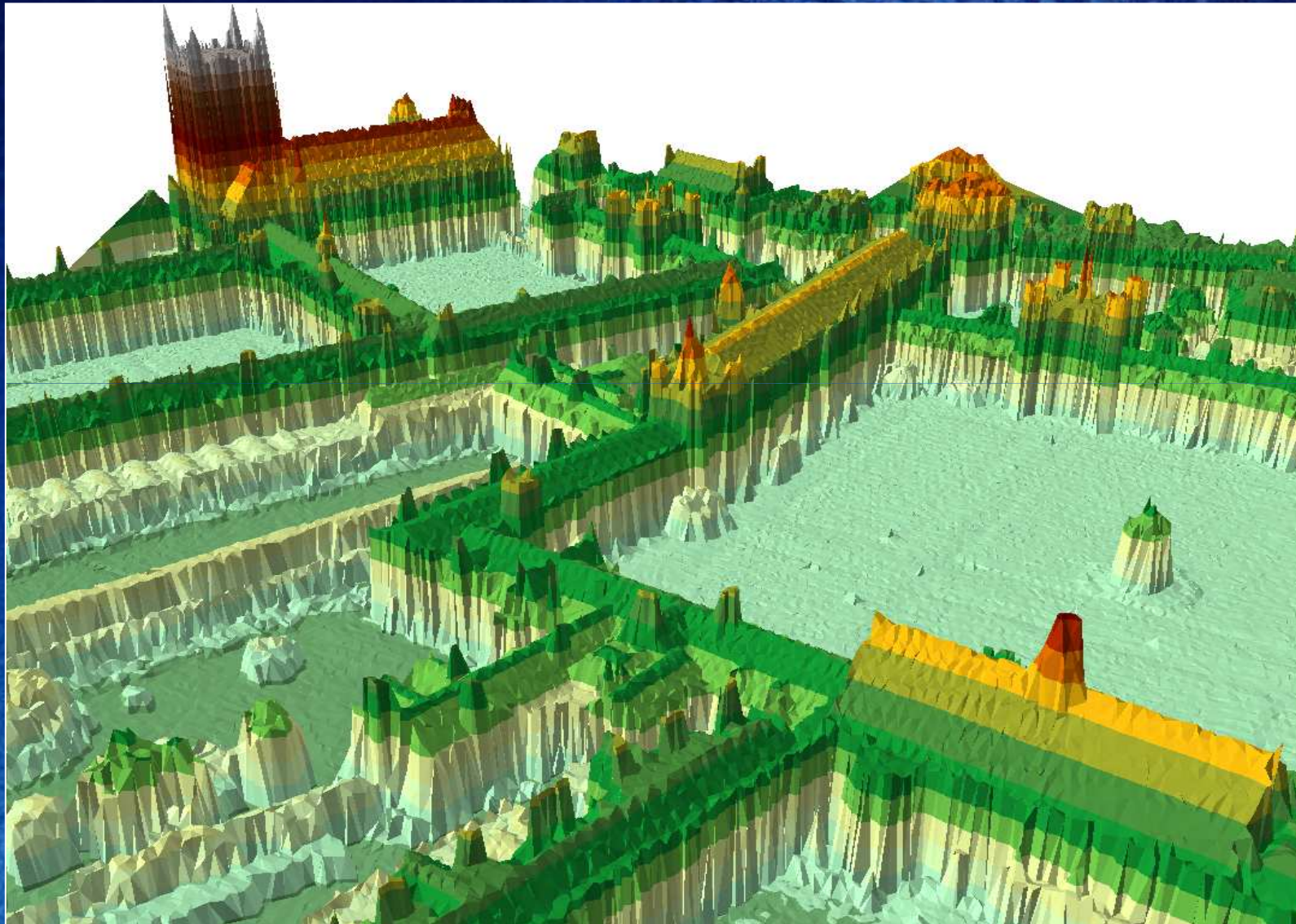
# Leskelődünk...



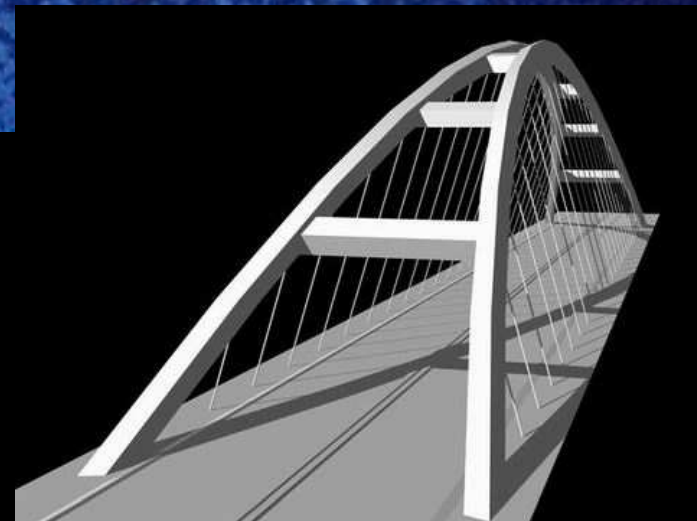
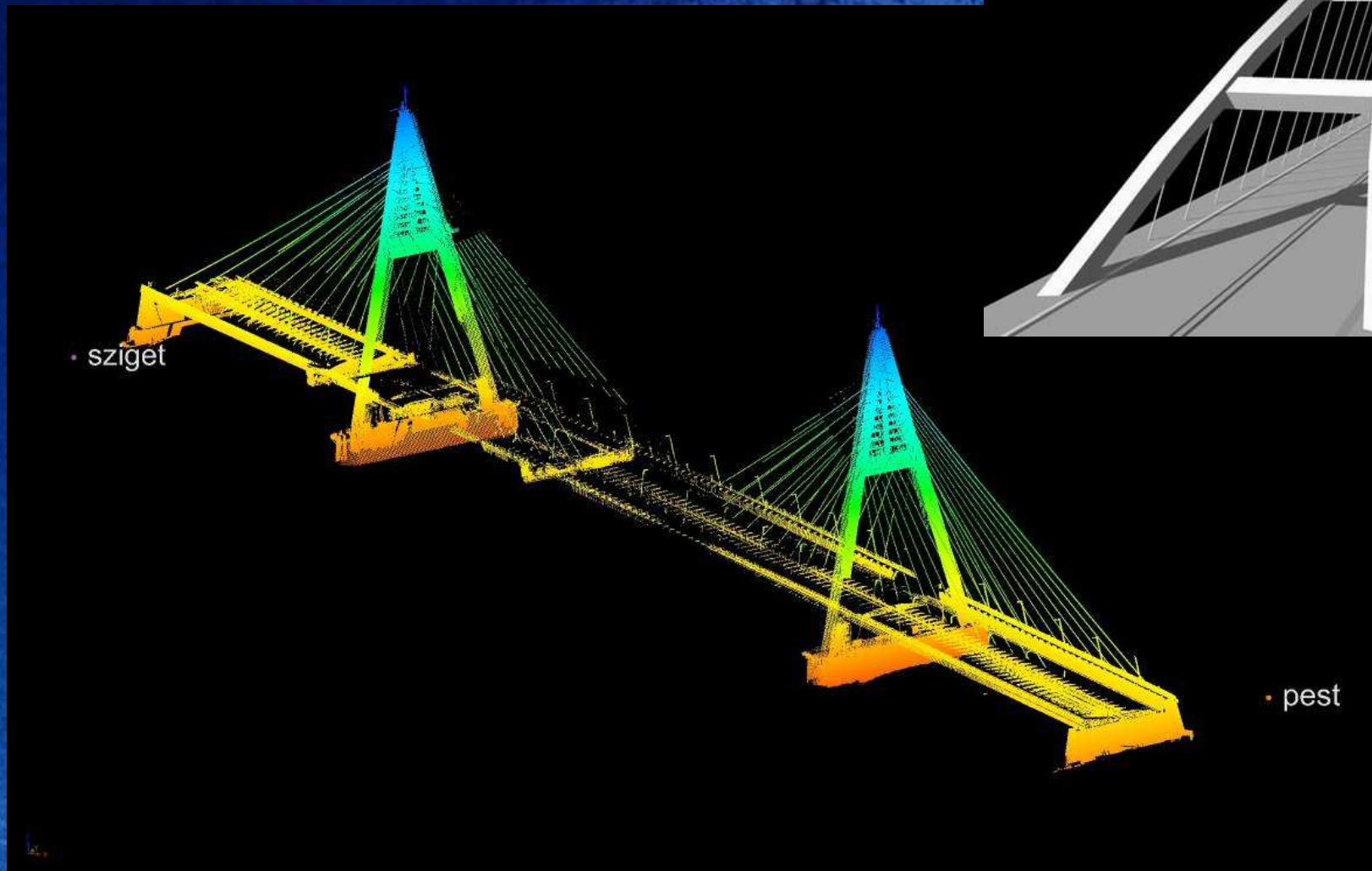
# Ha a víz az úr...



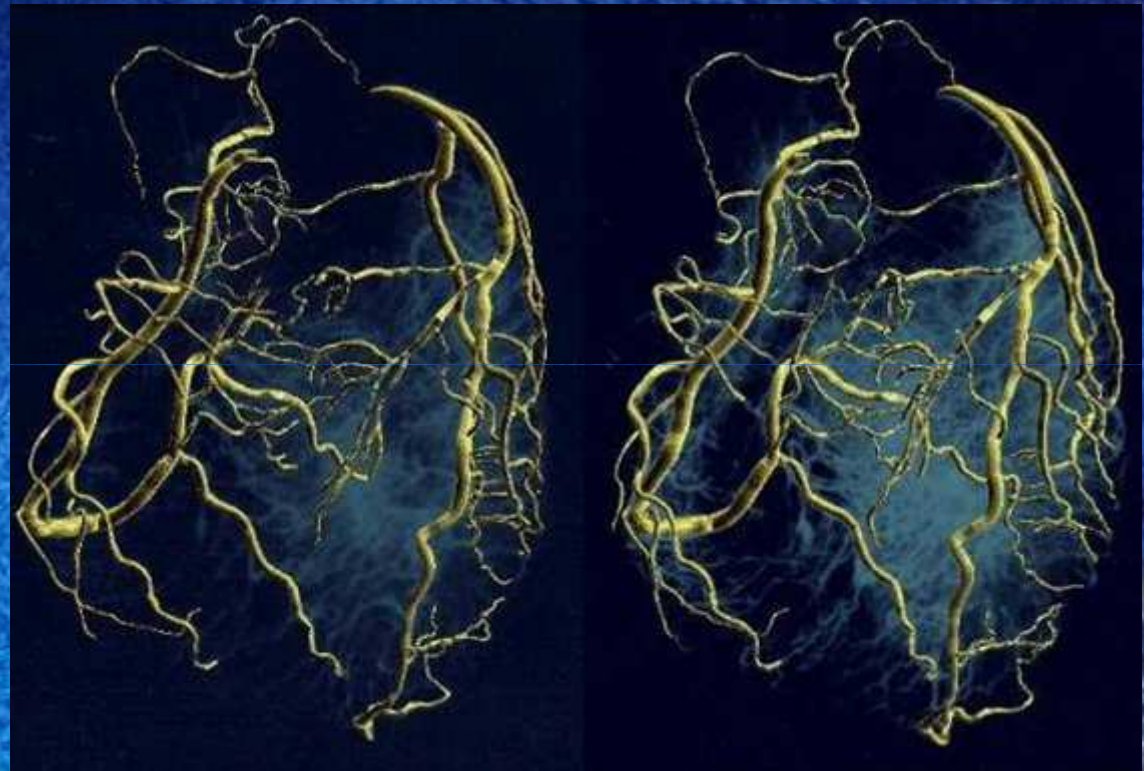
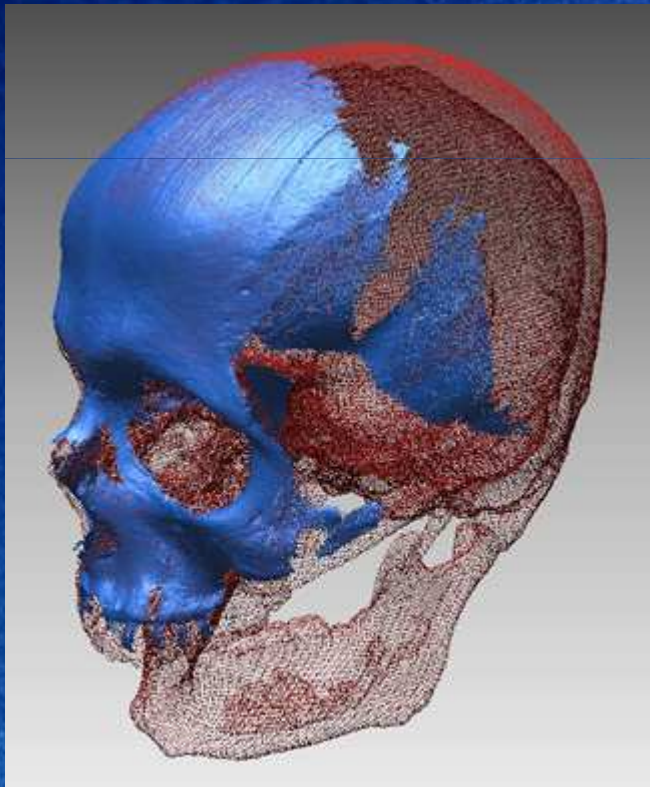
# Légi lézerszkennelés



# Földi lézerszkennelés



# Emberek





A globe of Earth is shown on a blue, textured surface. The globe is positioned on the left side of the frame, and a shadow is cast to its right. The globe shows continents in brown and green, and oceans in blue. The background is a gradient of blue, with a darker blue on the left and a lighter blue on the right.

**Köszönöm a figyelmet!**