MEXICO CITY RESHAPES ITS FUTURE

A HISTORIC VIEW WITH A FOCUS ON WATER MANAGEMENT

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BASIN OF MEXICO

- Total area: 9,600 km^2
- Five lakes, 1,100 km^2 total surface
- 53% a flat area with less than 15° slope

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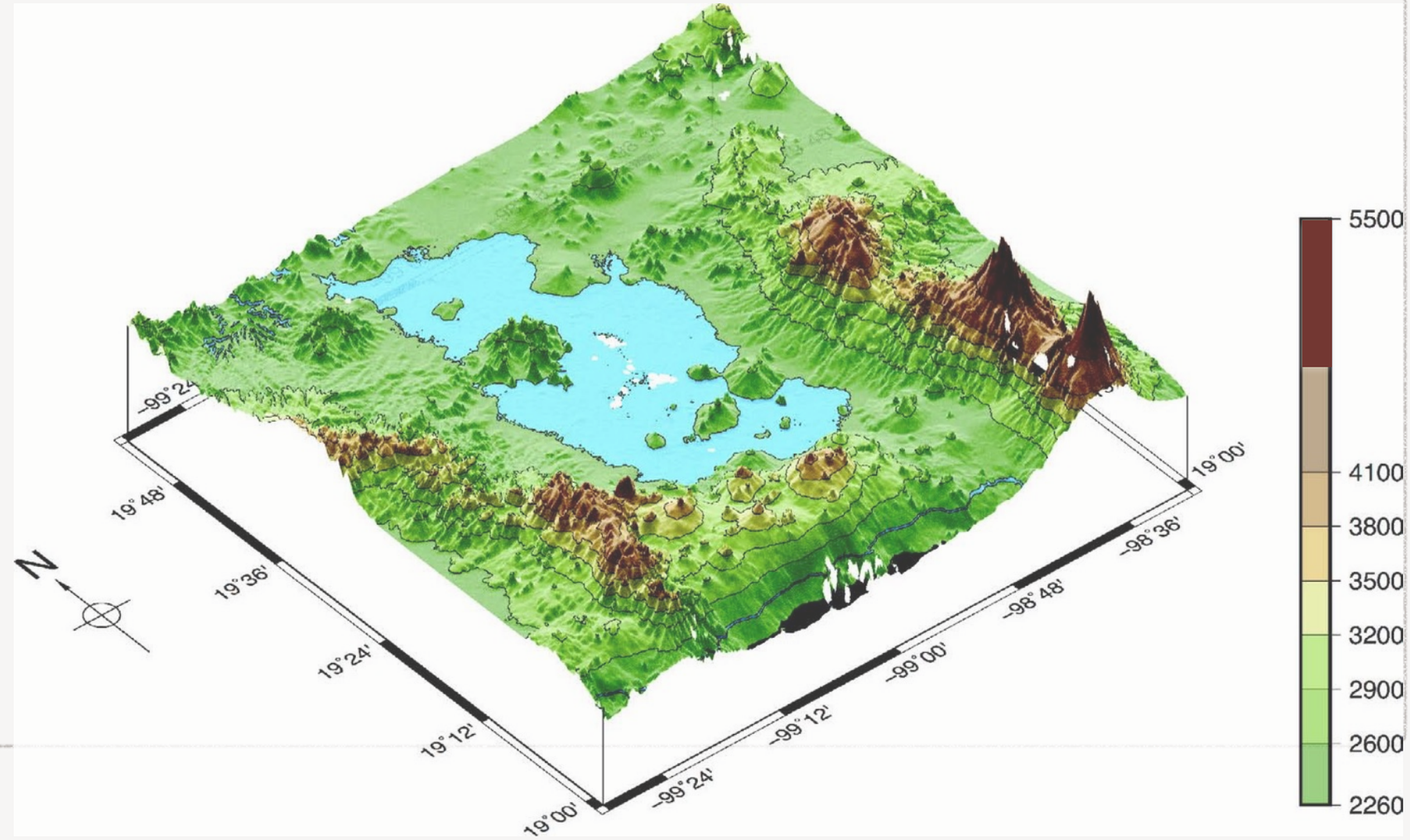
- 760 to 1,200 mm of rain per year
- 48 rivers
- Volcanoes



AZTEC CITY: 1325-1521

- Elevated land fill called “Chinampas”
- Canal system, dams & aqueducts
- Intensive acquacolture

AZTEC CITY: 1325-1521

- 1449 First dam by Texcoco king
- 1466 Chapultepec Aqueduct
- 1499 Disastrous flood

SPANISH CONQUEST 1521

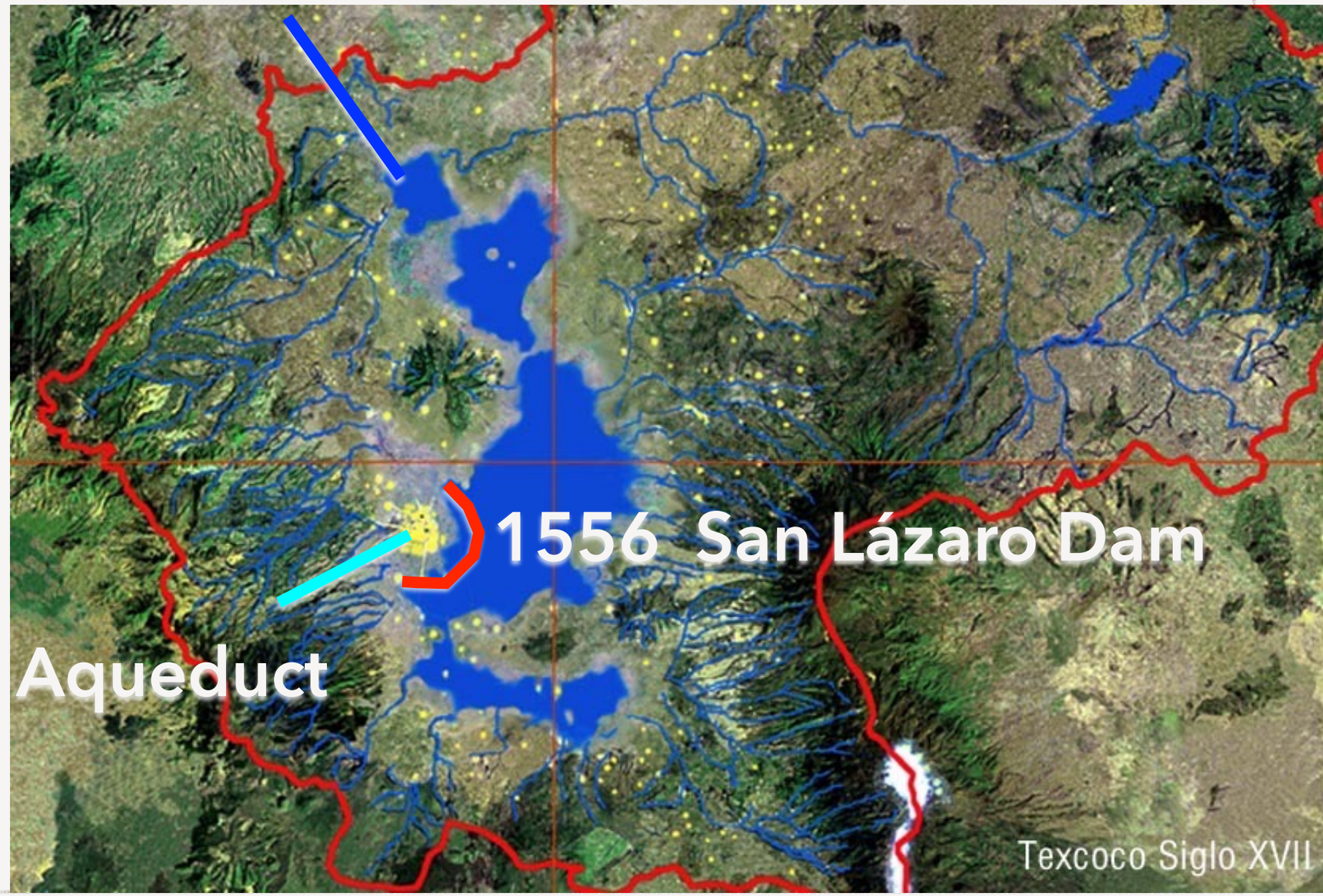
- The capital city remained in the island
- Use of roads instead of canals
- Introduced sheep and cattle

CAPITAL OF NEW SPAIN: 1523-1821

- Full drainage (Martens) vs Water regulation (Boot)

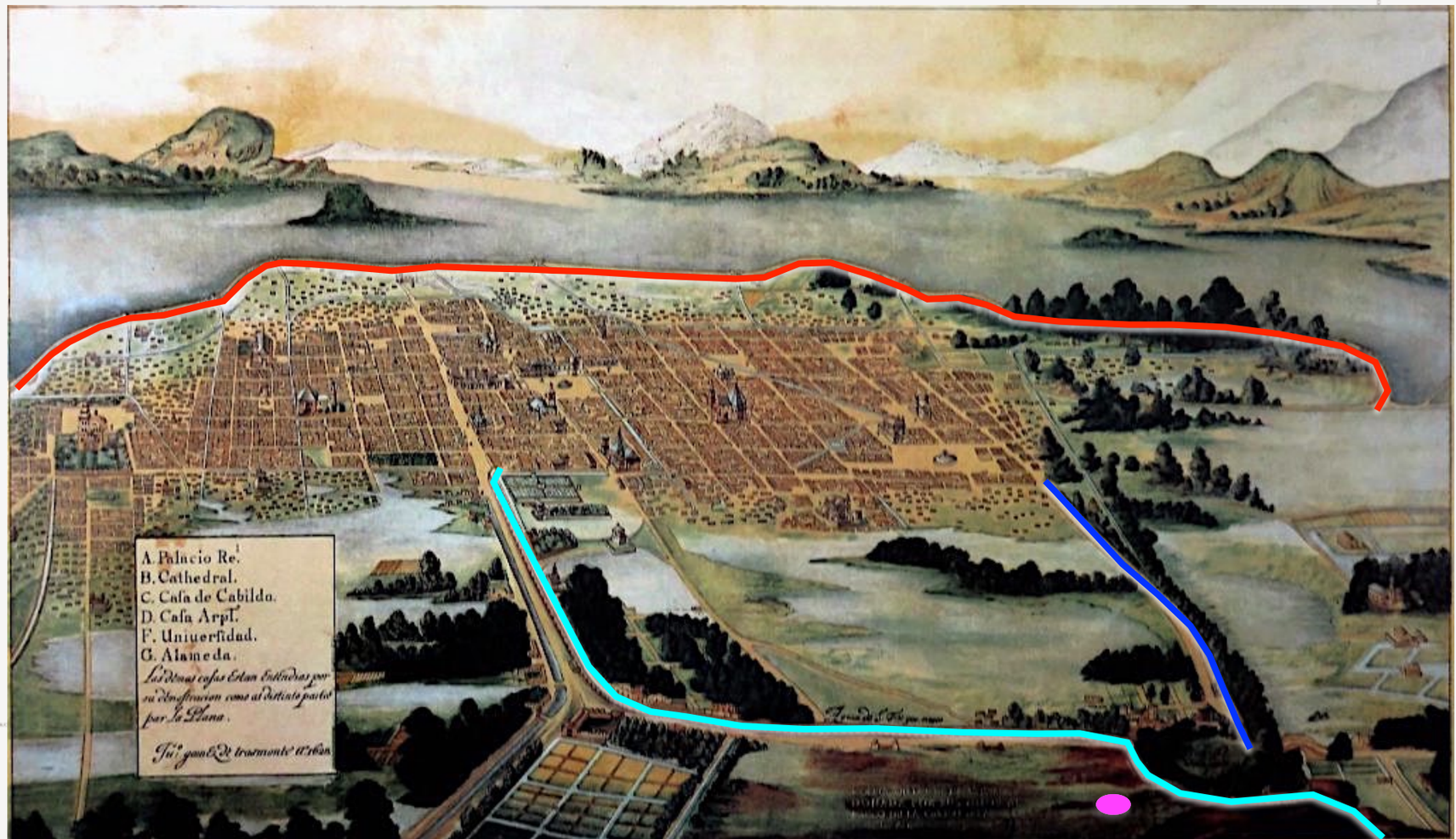
1577 Santa Fe Aqueduct

1608 Huehuetoca Canal



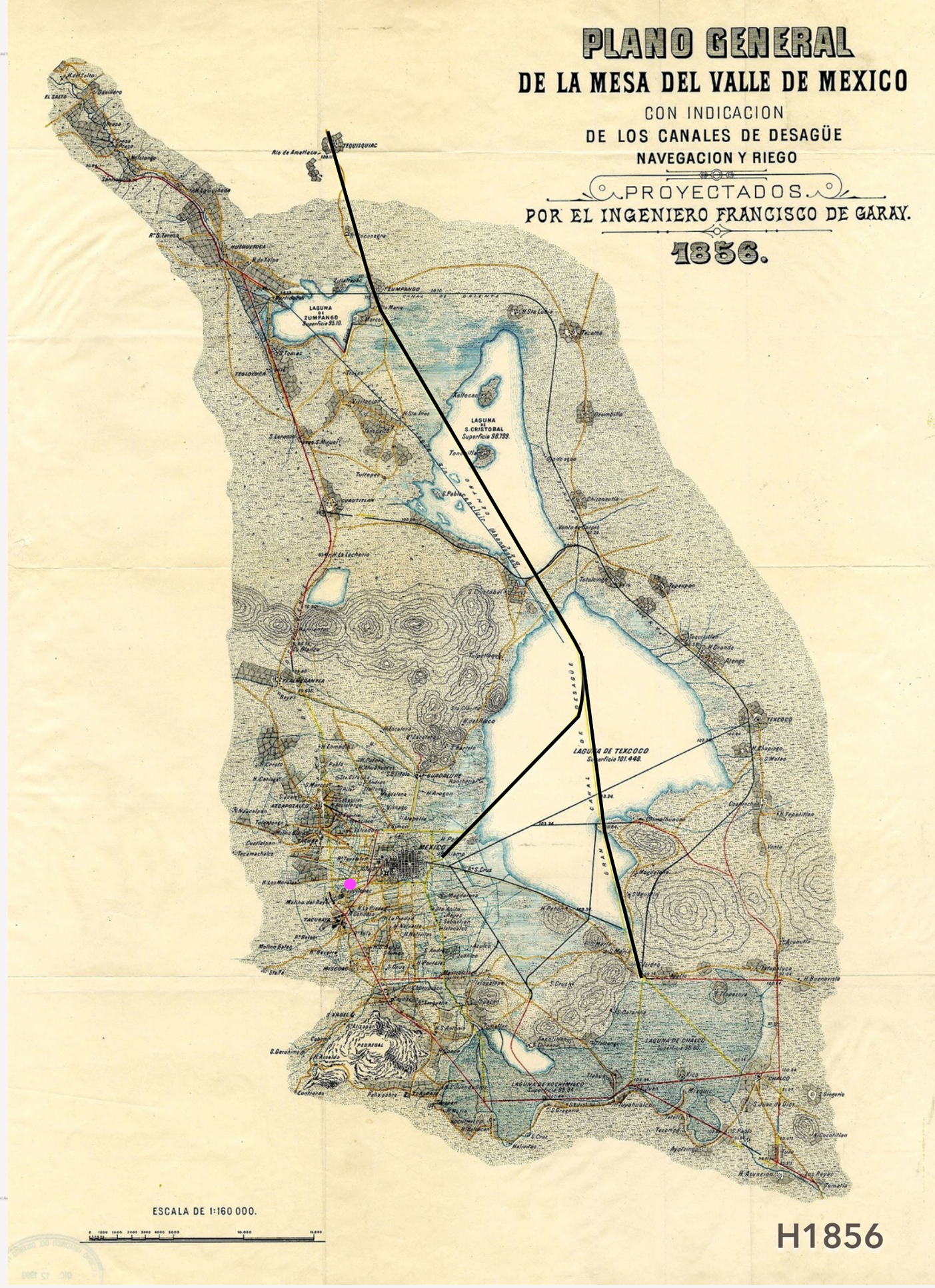
CAPITAL OF NEW SPAIN: 1523-1821

- 1629-1634 Great flood (30,000 deaths)
- 1767 Antonio Alzate proposal
- 1794
  San Cristóbal
  Canal



XIX CENTURY

- 1862 Francisco Díaz's Hydrographic Chart
- 1865 Tequixquiac Canal (Francisco de Garay)
- 1900 Great Canal (Enrique Espinosa)



MODERN CAPITAL CITY: 1900

- Chalco lake drainage
- 1905 Xochimilco aqueduct (Marroquín)

MODERN CAPITAL CITY: 1930-1950

- 1937-1946 Second Tequixquiac Canal
- 1942 Lerma aqueduct (Eduardo Molina)
- Using rivers as sewage

MODERN CAPITAL CITY: 1930-1950

- 1951 Severe floods
- Canals were sealed with concrete to create viaducts

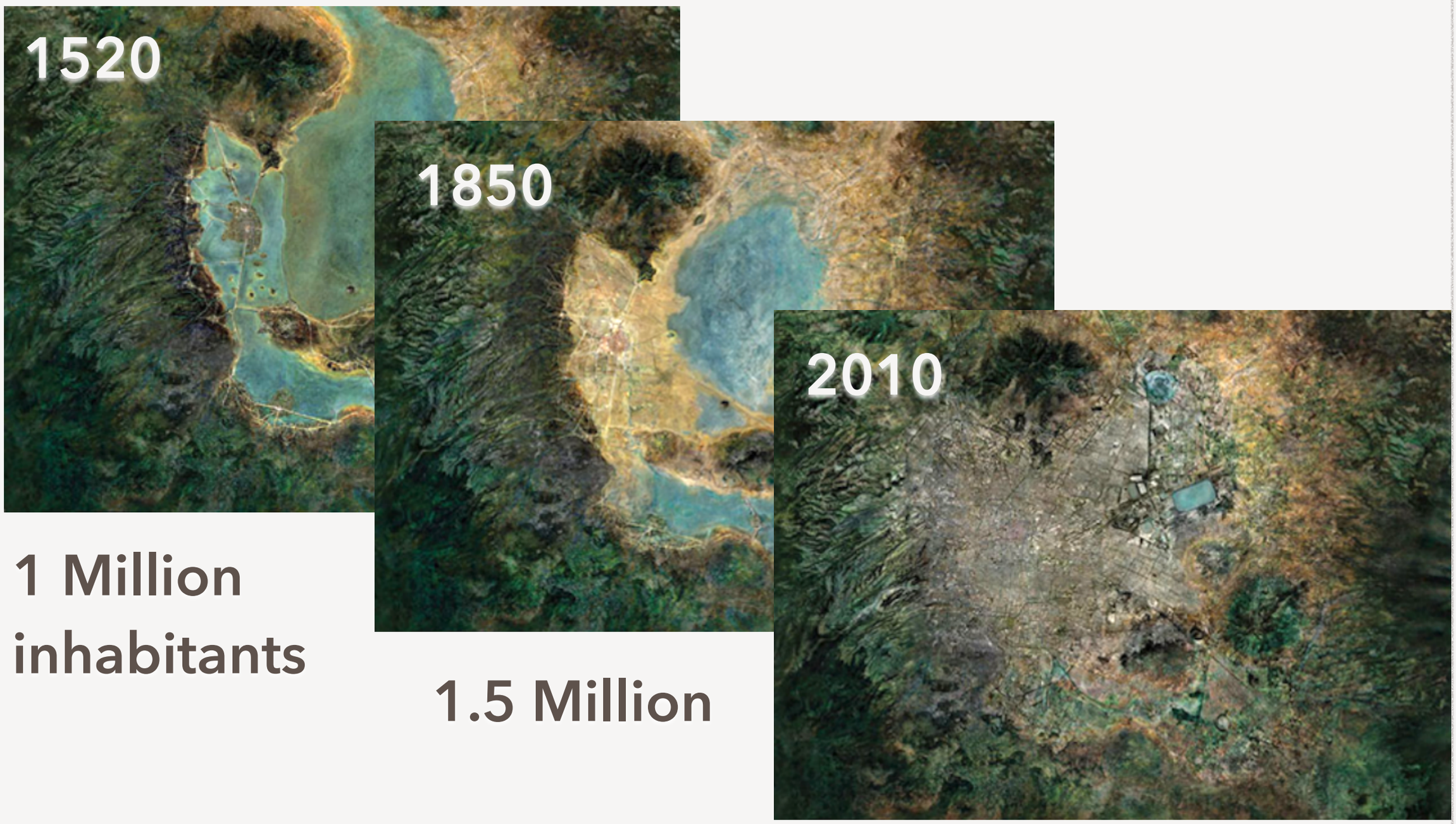
GREAT TRANSFORMATION

- 1966-1975 Deep Sewage System
- 1966 Texcoco Lake Project (Nabor Carrillo)

GREAT TRANSFORMATION

- 1978-1982 Cutzamala River Water System II
- 1990’s Sinking process reversed the angle of tunnels

GREAT TRANSFORMATION



1 Million
inhabitants

1.5 Million

23 Million

GREAT PROBLEMS

- 2008-2016 TEO Project: second largest sewage
- Lost of aquifers
- 40% of water supply leaks

GREAT PROBLEMS: SUBSIDENCE

- Marsal & Mazari, 1959
- Auvinet, 2010

RESHAPING THE FUTURE

- Water resources management (Ezcurra, 1992; DuMars & Herrera-Revilla, 1995)
- Aquifer conservation (Kalach & González, 2006)
- River rescue (Perló, 2010; Cattan, 2013)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