NTSB National Transportation Safety Board

Office of Aviation Safety

Crash During Takeoff

Investigator-in-Charge Presentation

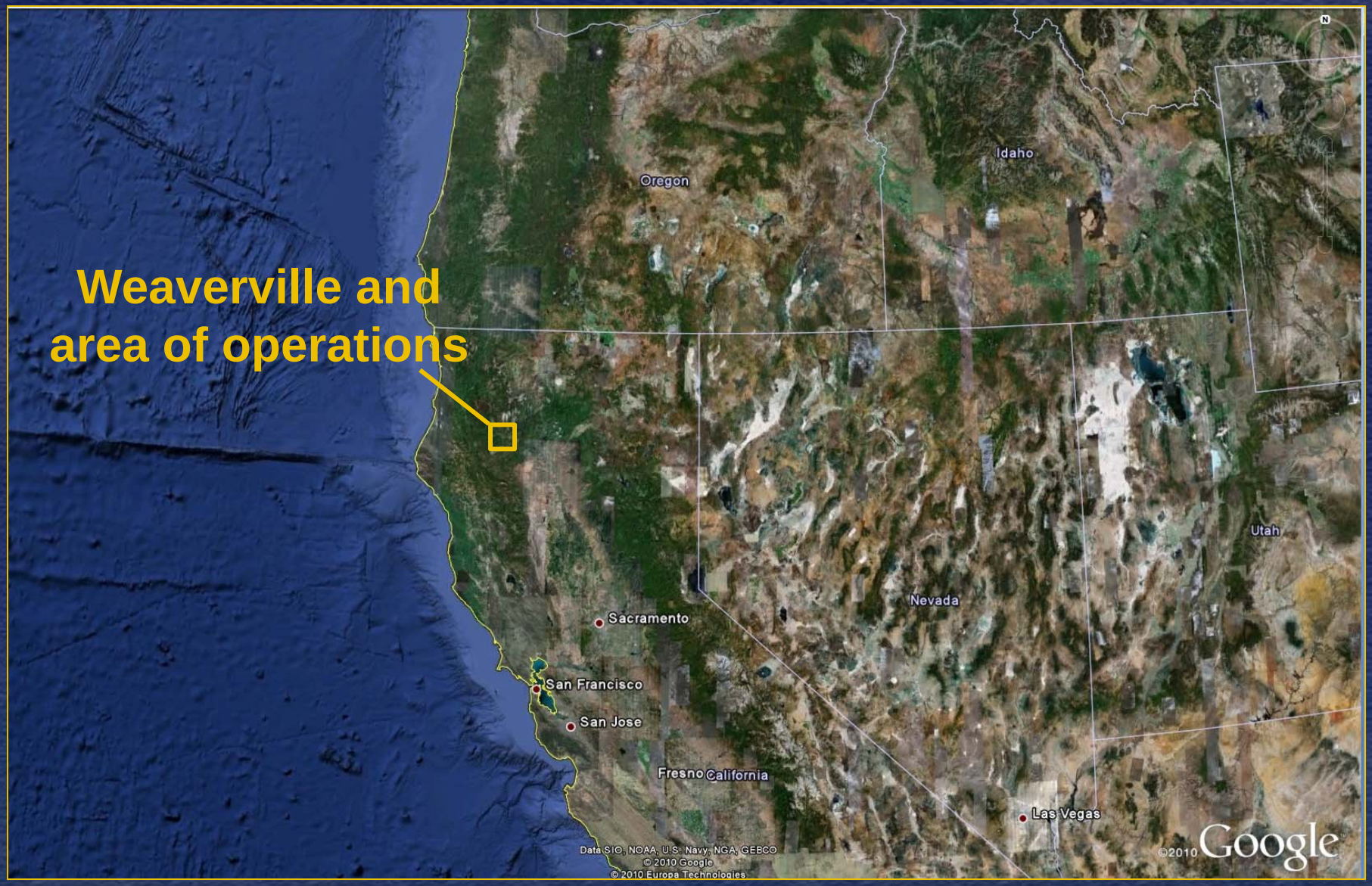
Carson Helicopters

Carson Helicopters S-61N
Operated by U.S. Forest Service
Weaverville, CA
August 5, 2008

Carson Helicopters

History of Flight

- 3 crew and 10 firefighters
- 9 fatalities, 4 serious injuries
- Visual meteorological conditions
  - temperature 23° C, wind calm
- Helicopter destroyed by impact forces and postcrash fire


Weaverville and
area of operations
Oregon
Idaho
Utah
Nevada
Sacramento
San Francisco
San Jose
Fresno
California
Las Vegas
Data SIO, NOAA, U.S. Navy, NGA, GEBCO
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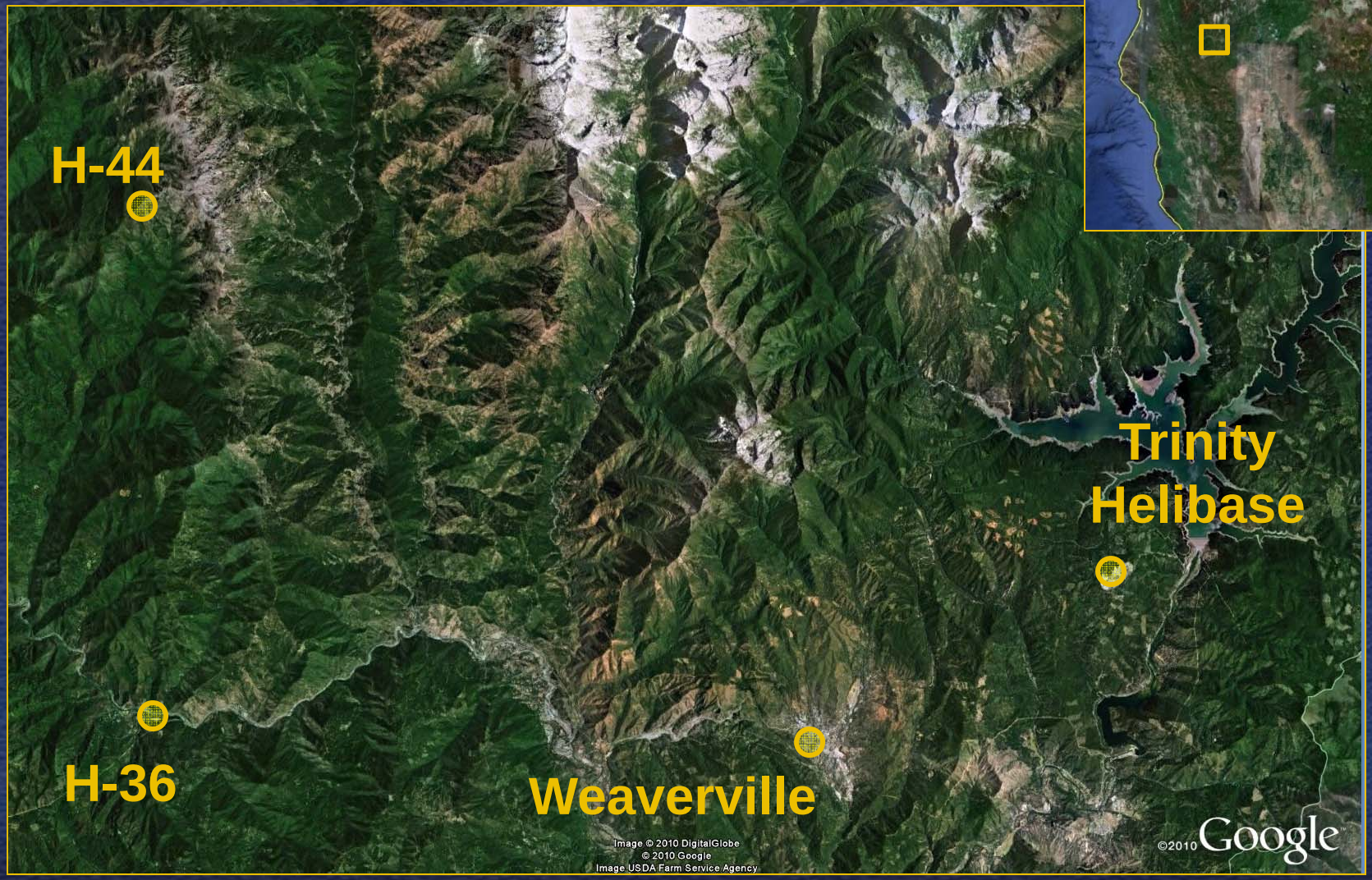
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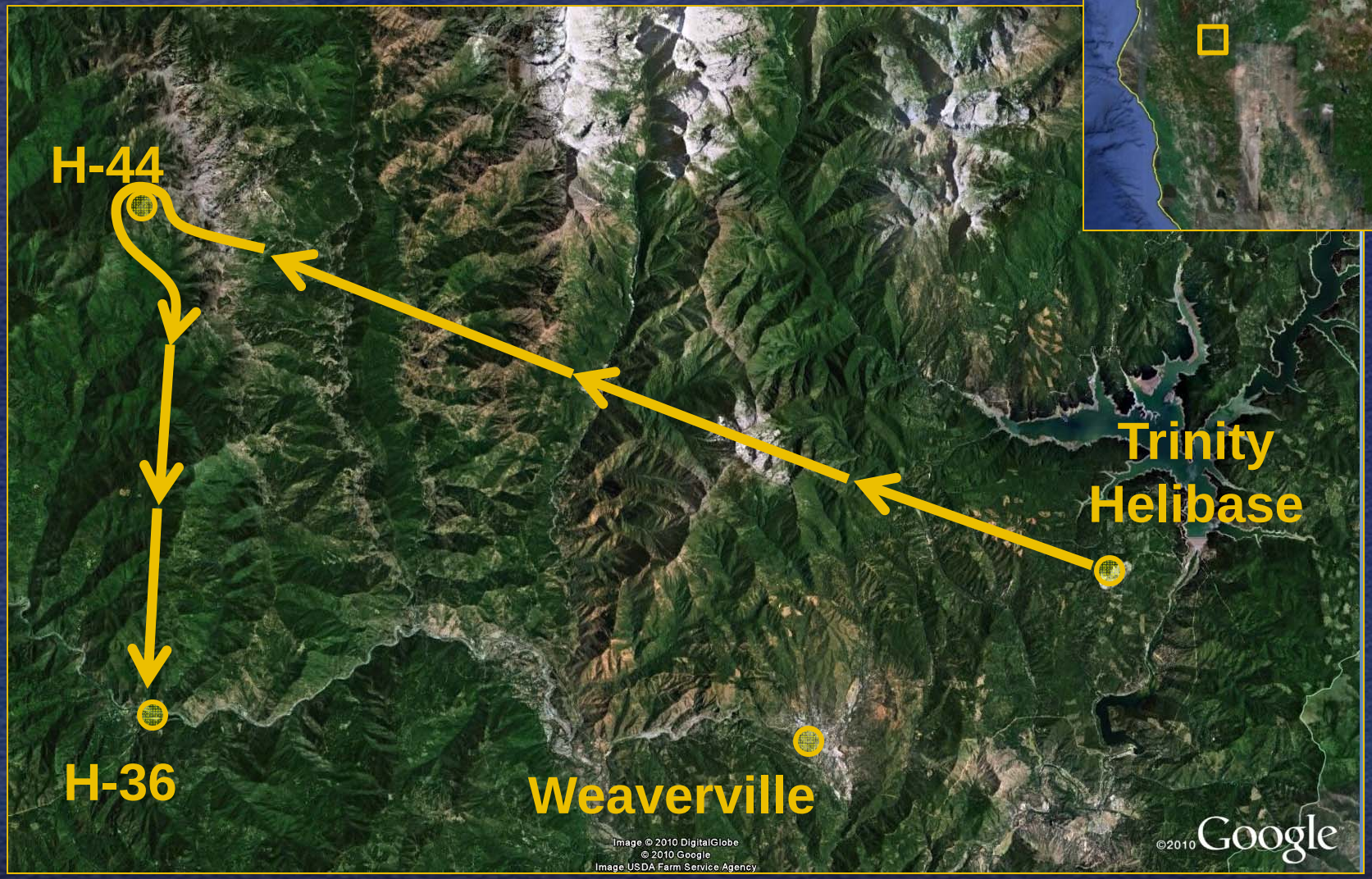
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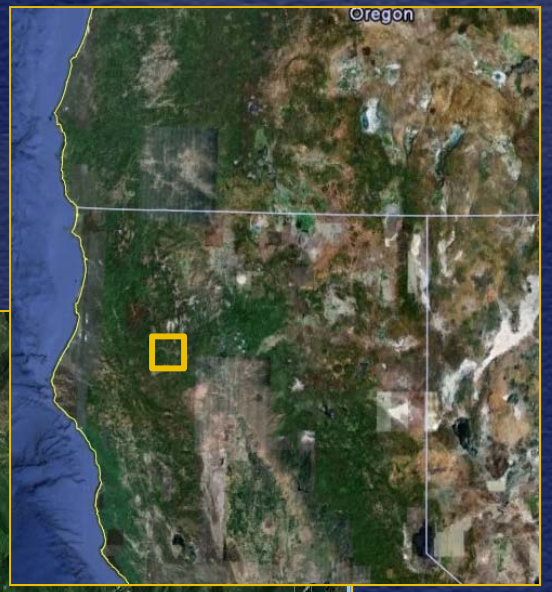
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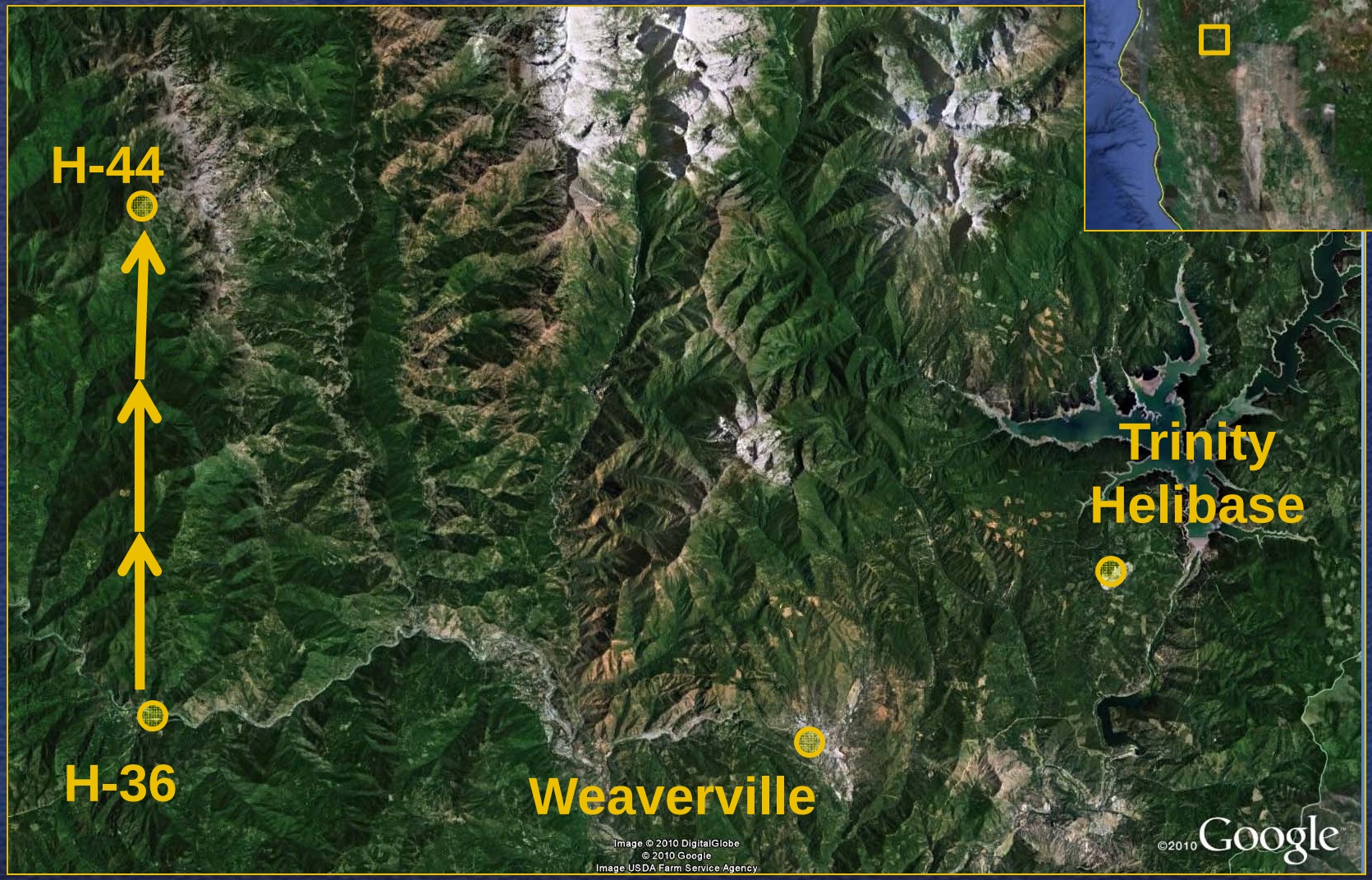
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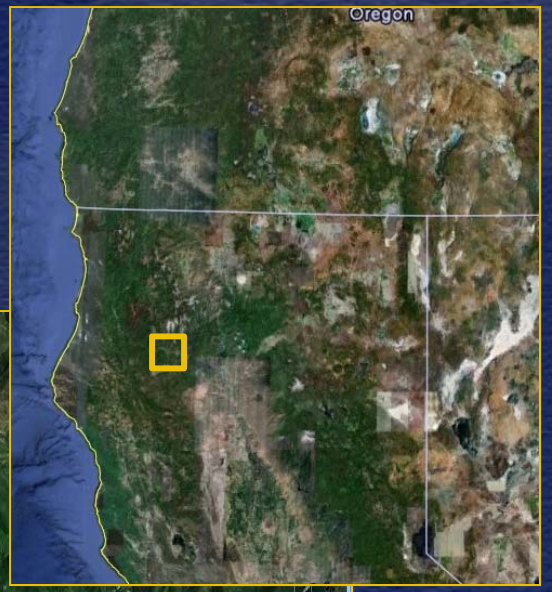
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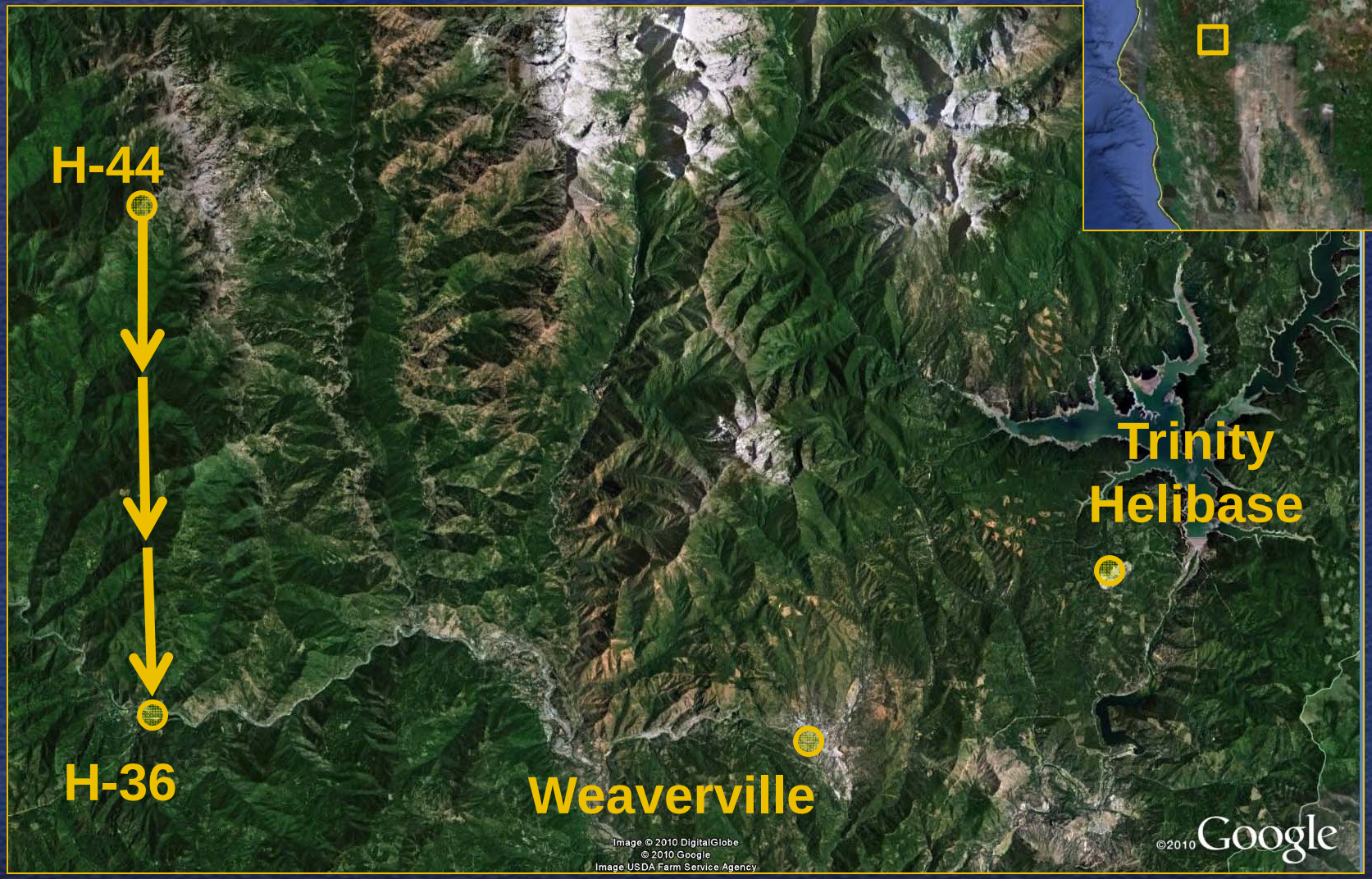
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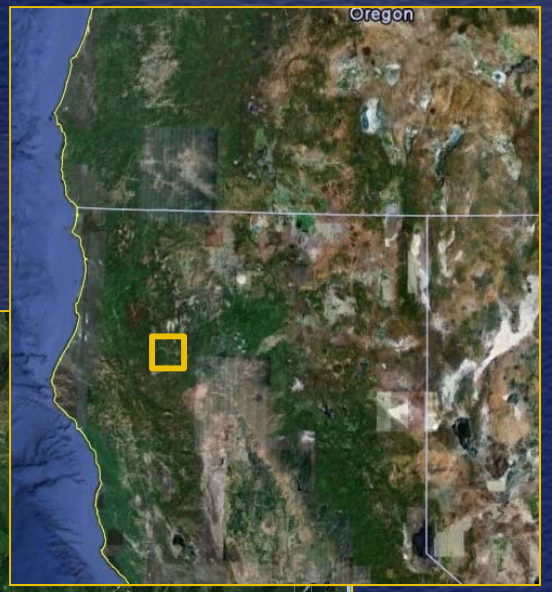
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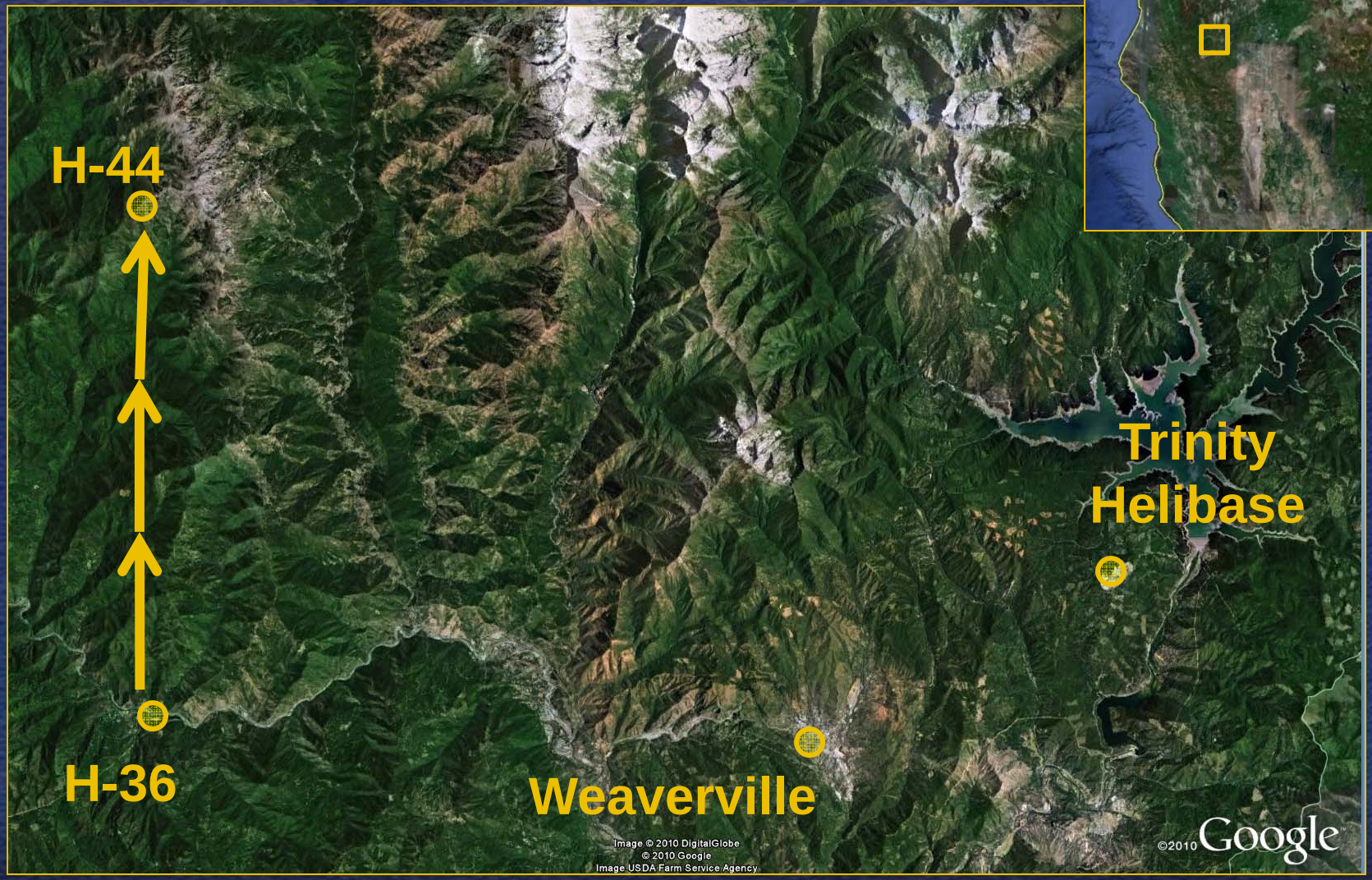
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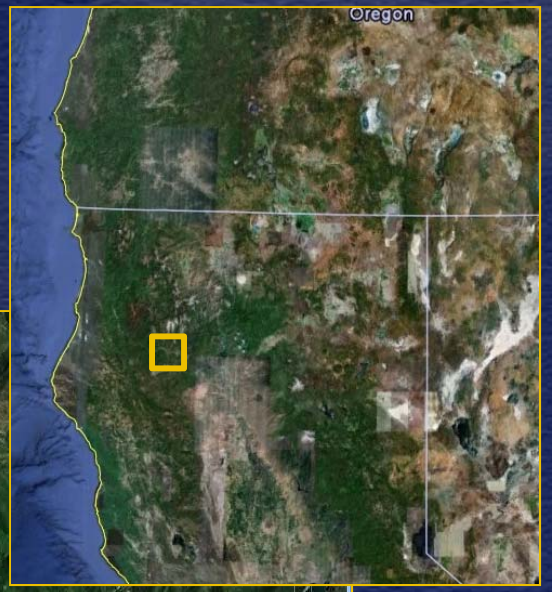
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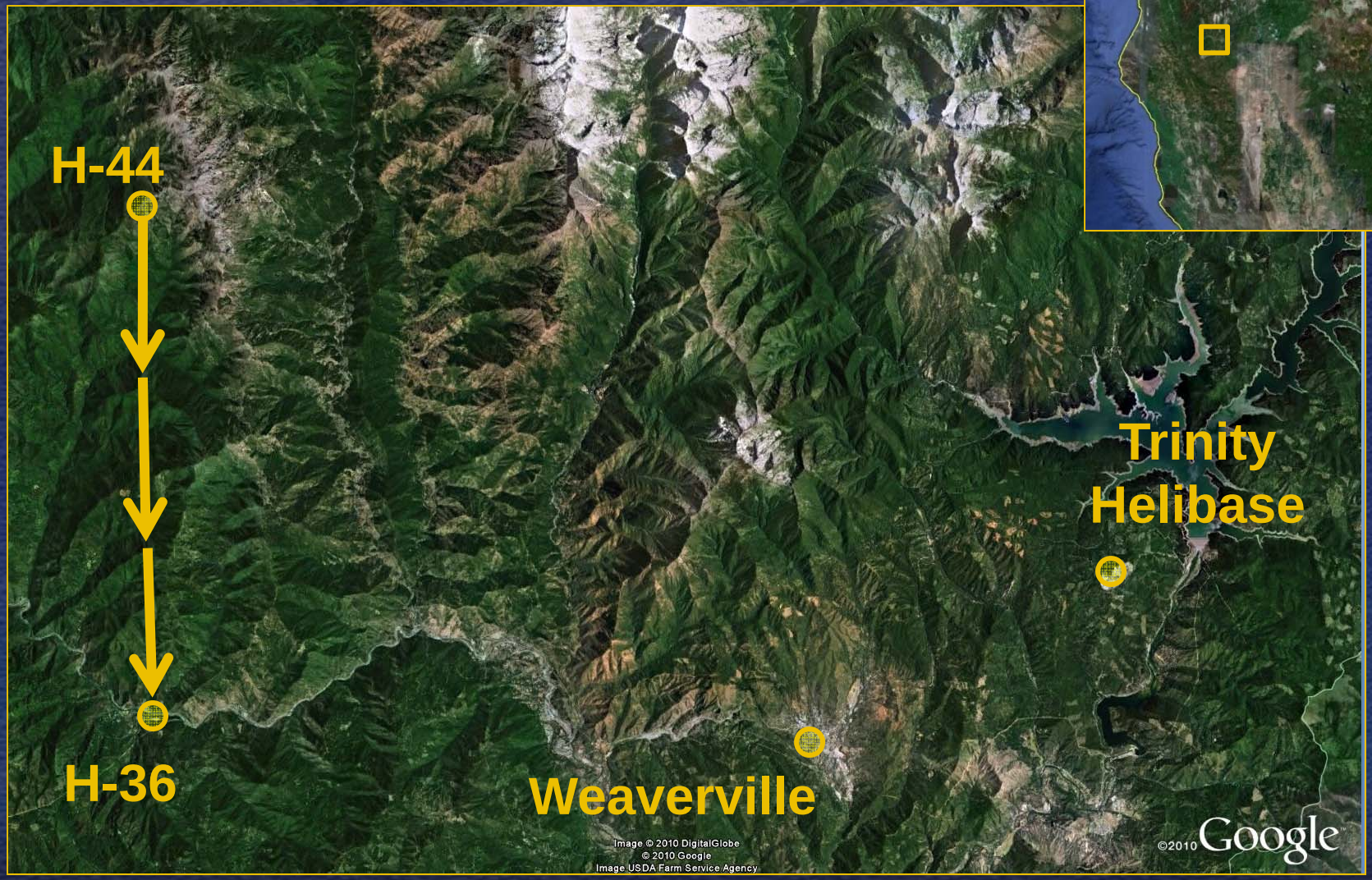
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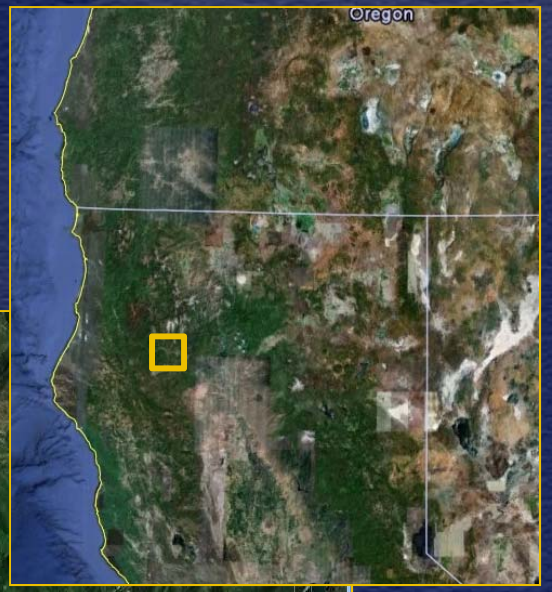
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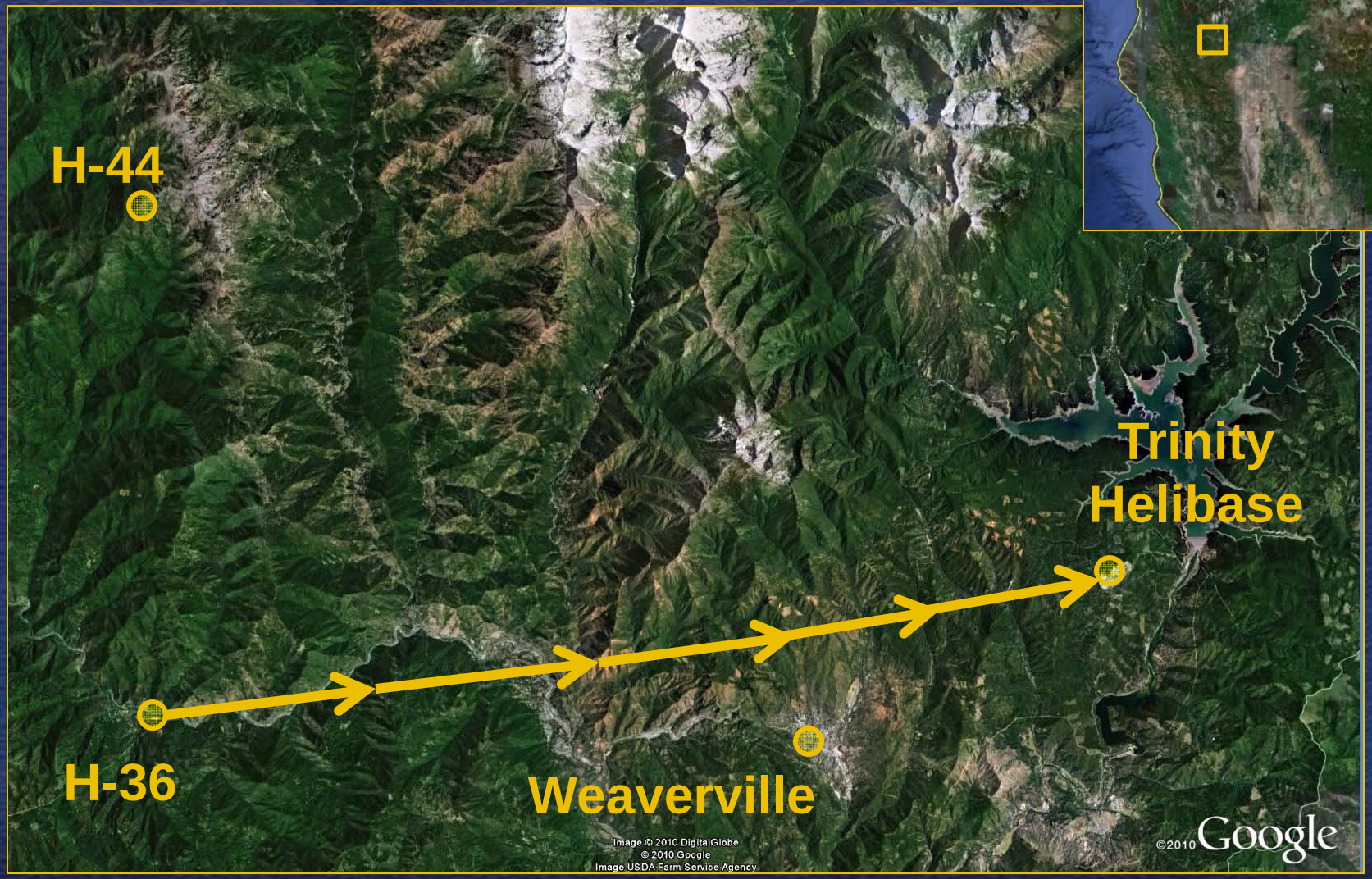
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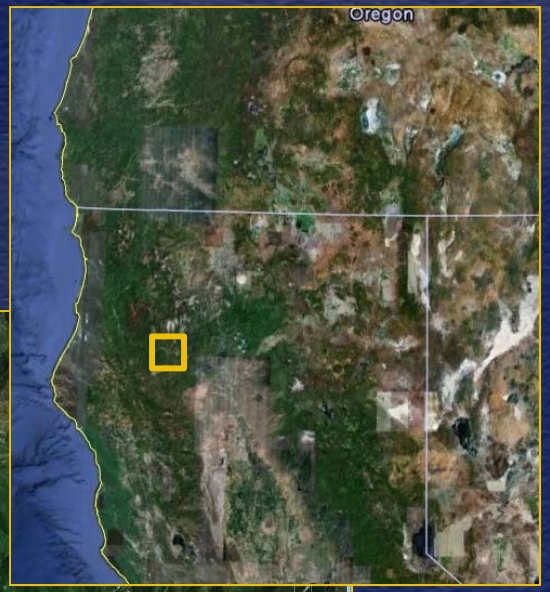
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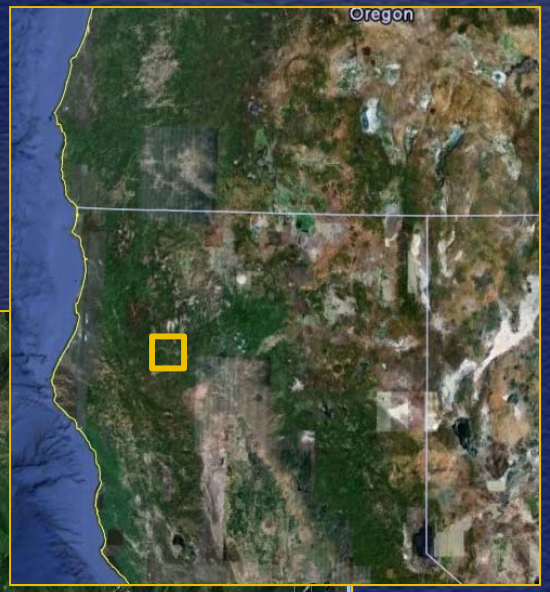
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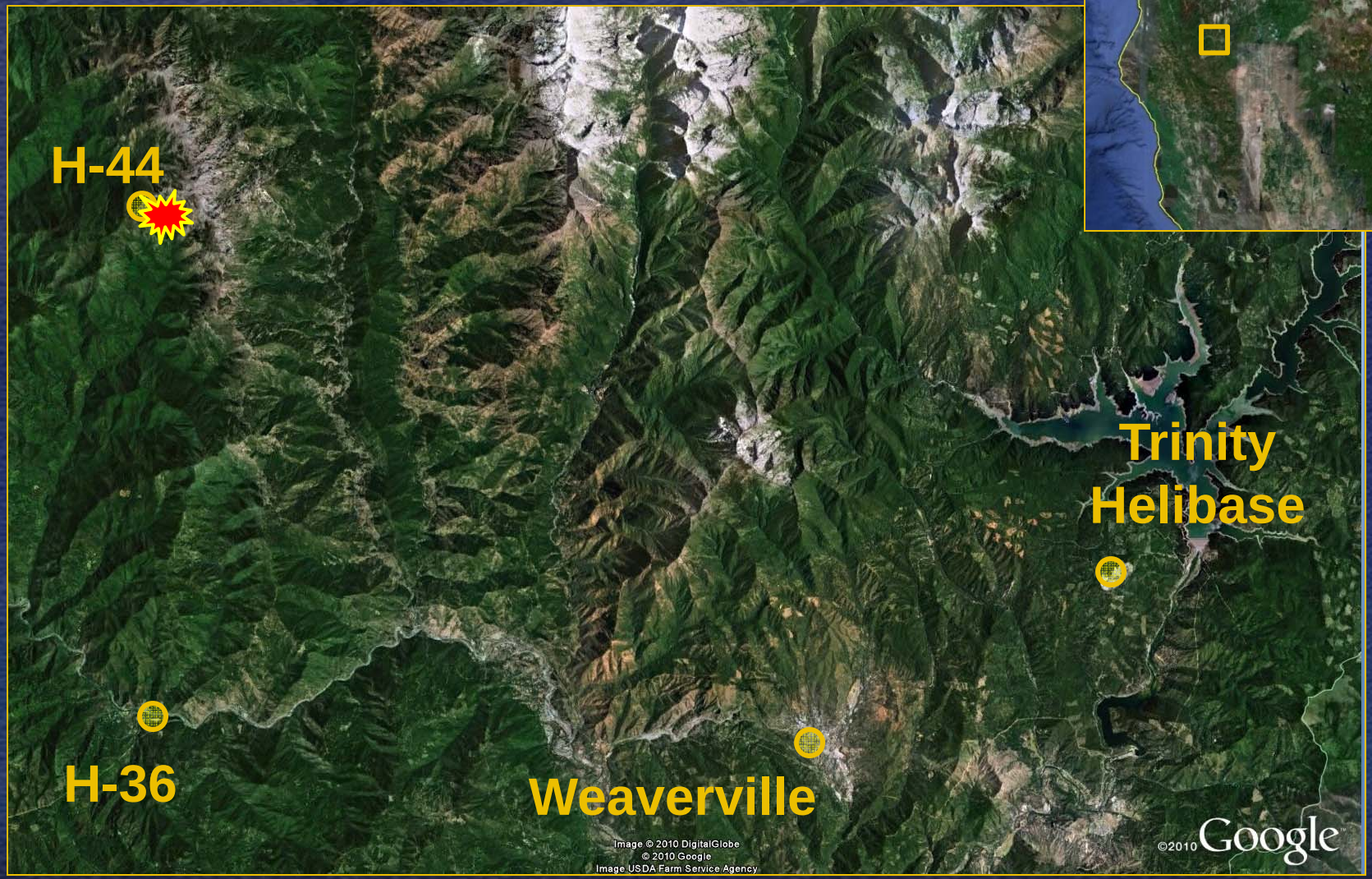
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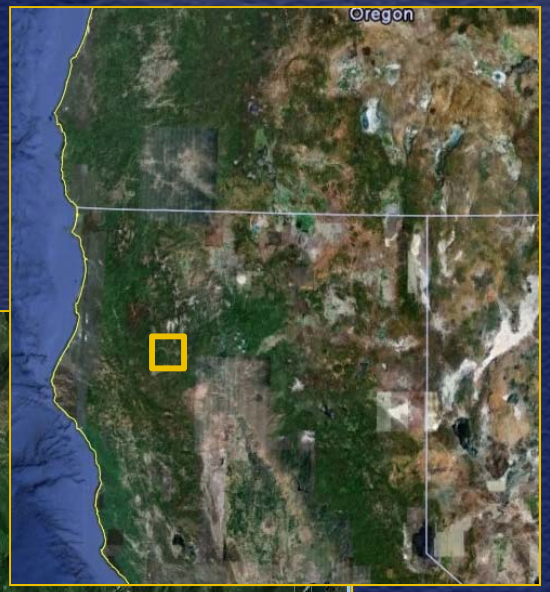
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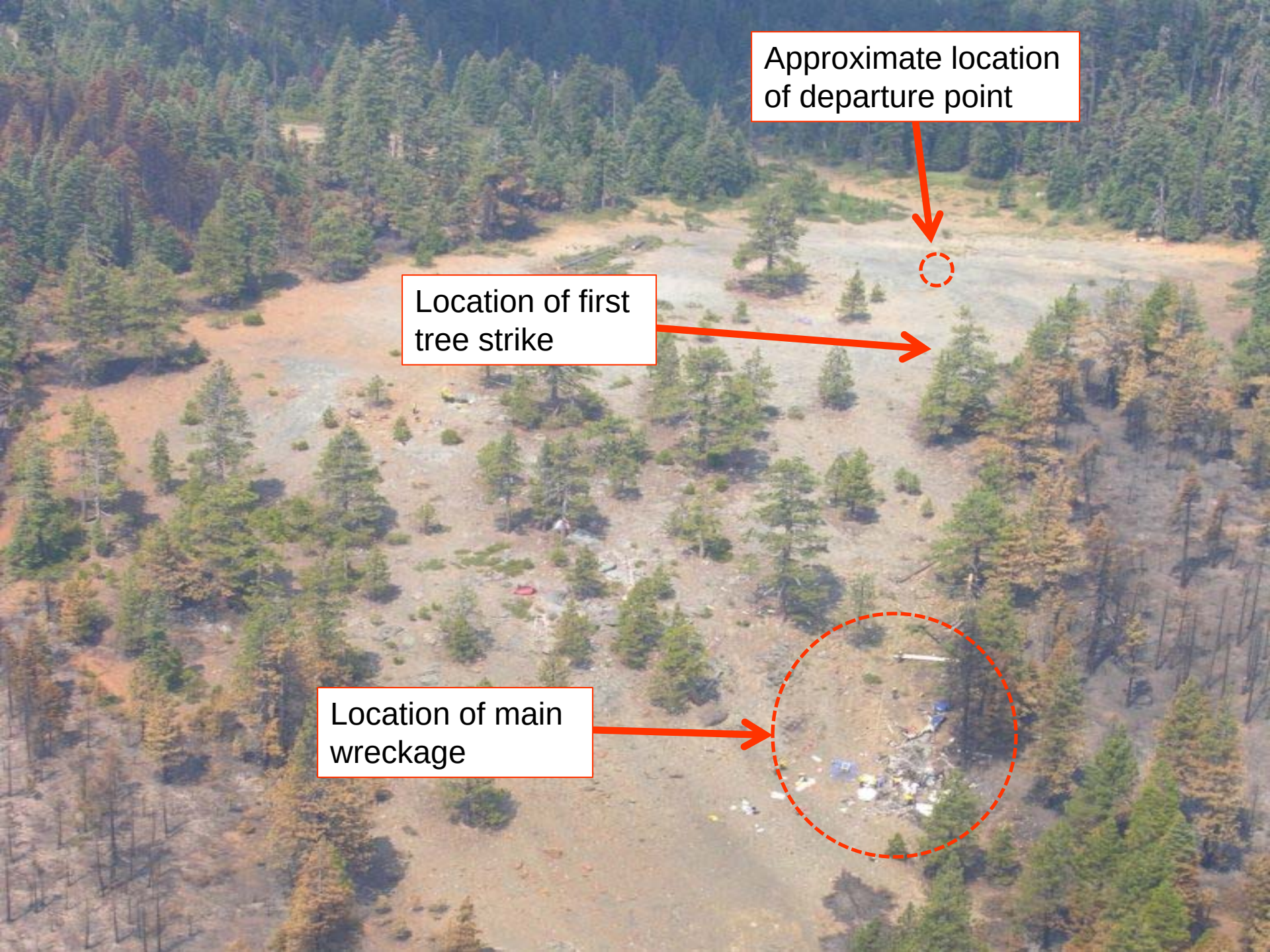
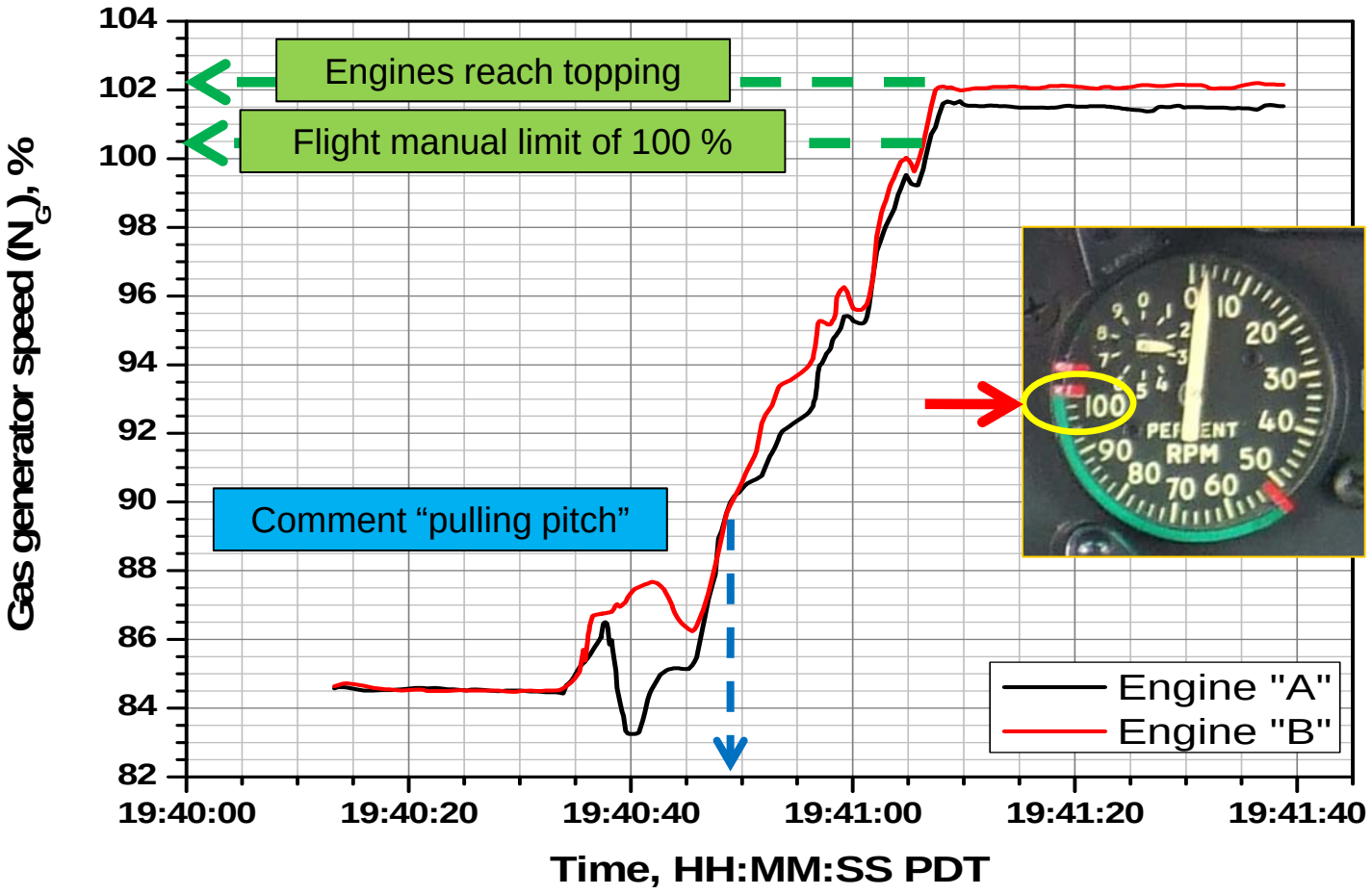
Flight Path
Wreckage
Departure Point


Approximate location of departure point
Location of first tree strike
Location of main wreckage

Tail
Nose
Slope 20°

CVR Sound Spectrum Data



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Safety Issues

- Alteration of weight and performance documents
- Flight crew's awareness of the helicopter's marginal performance
- Oversight of Carson Helicopters
  - U.S. Forest Service (USFS)
  - Federal Aviation Administration (FAA)
- Accident survivability
- Certification level for replacement seats

Additional Safety Issues

- Crash-resistant fuel tanks
- Flight recorder requirements for helicopters
- Lack of basic weather information at helispots

Parties to the Investigation

- Federal Aviation Administration
- U.S. Forest Service
- Carson Helicopters
- Sikorsky Aircraft Company
- General Electric-Aviation
- BAE Systems

Staff

- Malcolm Brenner
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- Mike Hauf
- Liz Horowitz
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- Courtney Liedler
- Jeff Marcus
- Nancy McAtee
- John O’Callaghan
- Ron Price
- Bridget Serchak
- Eliott Simpson
- Georgia Struhsaker
- Jim Struhsaker
- Frank Zakar

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