





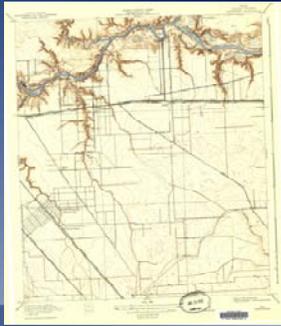




Slide 13

Historical 1915–17 Topographic Maps

- 38 topographic maps
- Spirit leveling surveys
- 1-ft contours interpolated using plane table alidade techniques
- TPWD – converted to contours
- Vertical datum predates NGVD of 1929
  - Fourth General Adjustment of 1912



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Slide 14

QA/QC of contours

- Representative estimate
  - 30 random 1-mile<sup>2</sup> areas for Harris County
  - Weighted average of absolute value of error – 0.01 ft
    - Contours vs original topographic values
- Type of issues found
  - Contour attribute errors
  - Edge-matching between adjacent map sheets
  - Contours joining lines from map boundary or other linear features, ex. streams, roads

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Slide 15

Vertical Datum Adjustment for 1915–17 elevations

- Compared surveyed elevations at surveyed benchmarks
  - Marshall, R.B., 1916a, Spirit leveling in Texas 1896 to 1915, inclusive: U.S. Geological Survey Bulletin 637, 254 p.
  - NGS datasheets for recovery information – adjusted elevation
- National Geodetic Survey benchmarks
  - Dave Doyle and Cliff Middleton (Texas state representative) NGS
- Total of 62 benchmarks 20-mile buffer surrounding Harris County
  - Almost all within historical subsidence bowl in Harris County
  - Only 7 were used
    - Fourth General Adjustment of 1912⇒NGVD29

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Questions?



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<http://tx.usgs.gov>

USGS Publication available online - <http://pubs.usgs.gov/sim/3037/>

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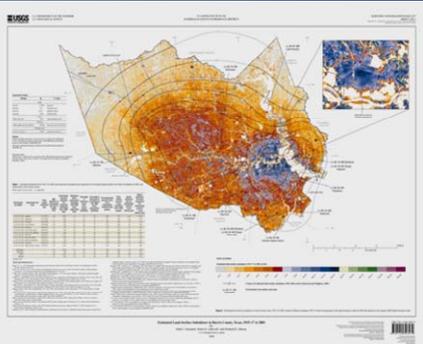
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USGS Publication available online - <http://pubs.usgs.gov/sim/3037/>

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