

Lichau Creek Flood Mitigation Modeling and Feasibility Study

Progress Report to Zone 2A Board

Presented by:

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PRUNUSKE CHATHAM, INC.



Project Objective:

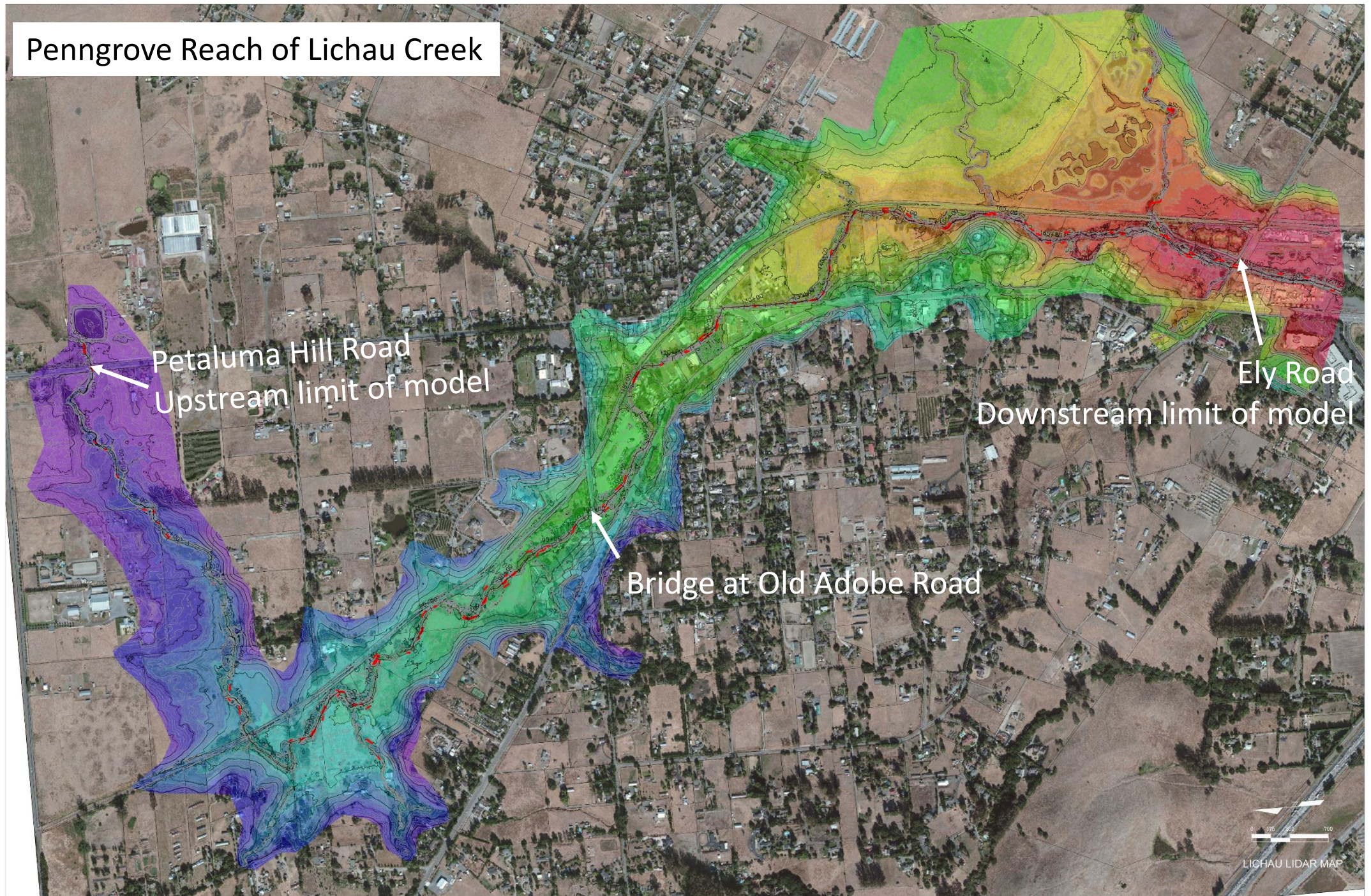
Evaluate the feasibility and effectiveness of in-channel or floodplain modifications to reduce flood elevations and impacts within the town of Penngrove.



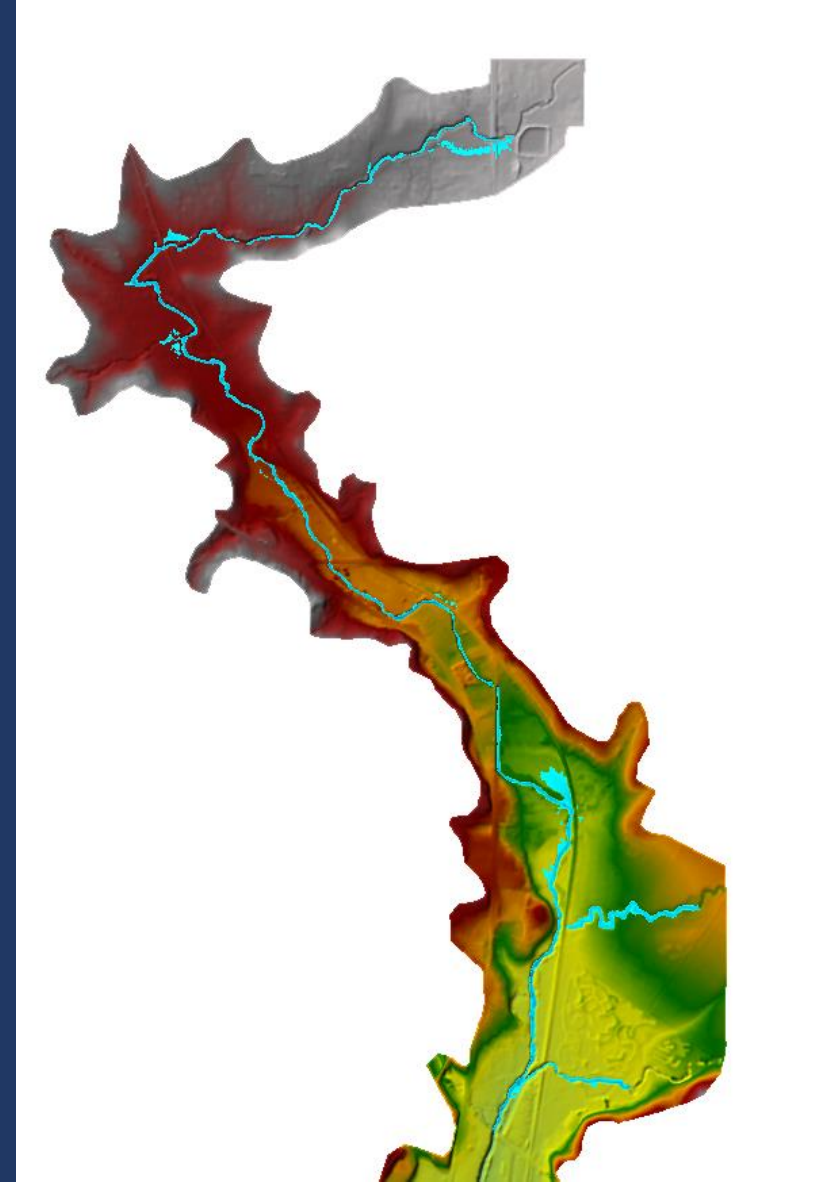
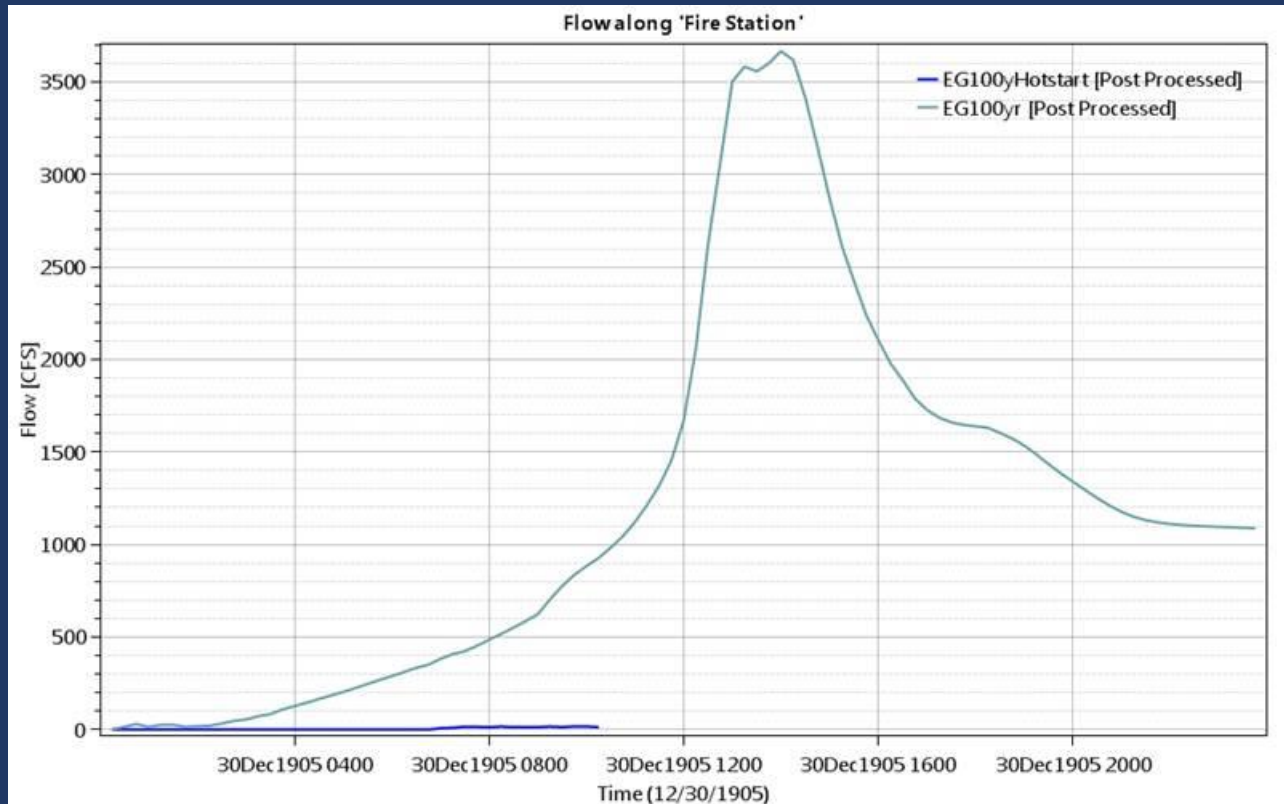
Project Components:

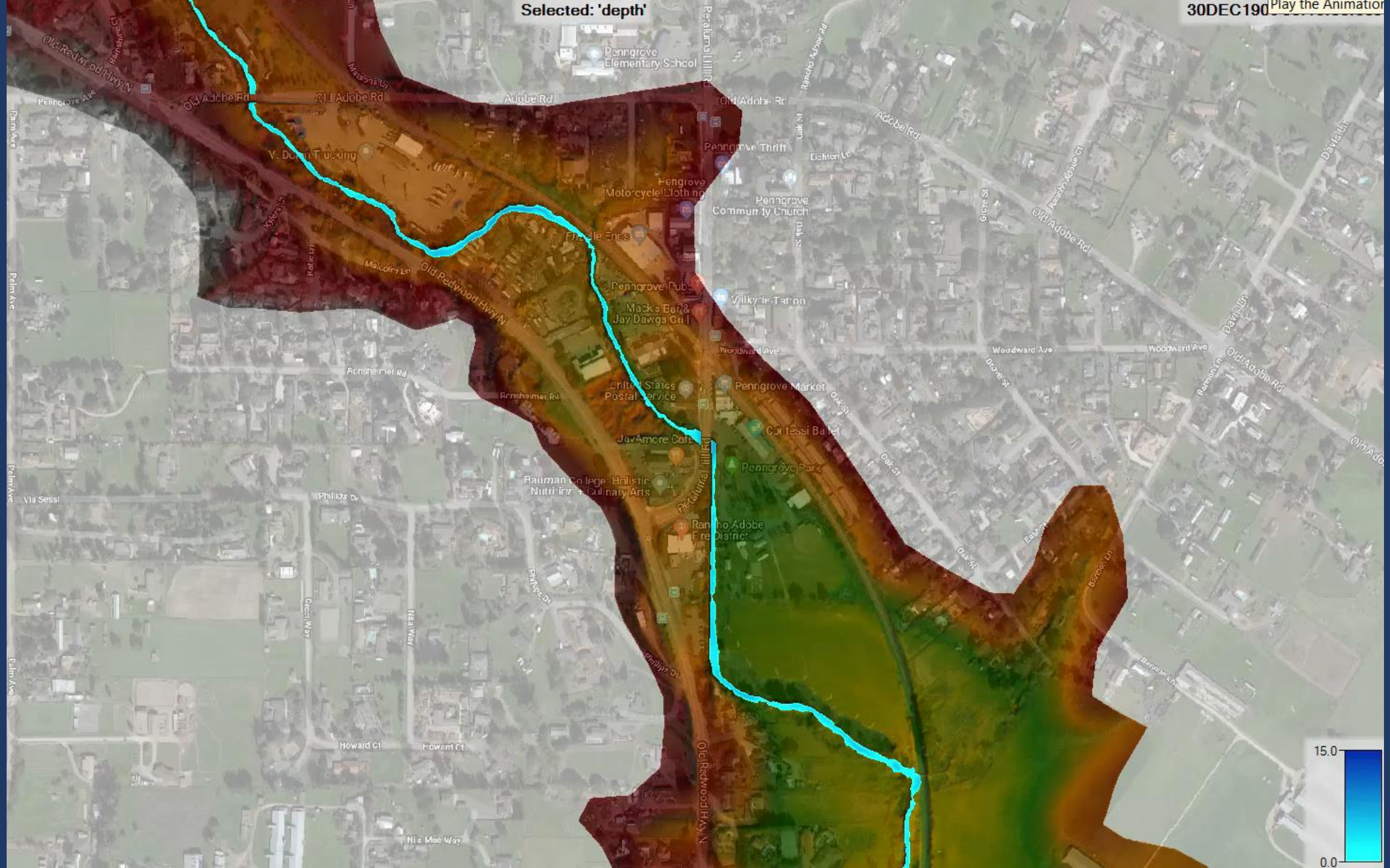
1. Conduct reach reconnaissance and survey.
2. Develop terrain and acquire hydrographs for hydraulic model.
3. **Build existing conditions hydraulic model and run design floods.**
4. Develop 3 flood reduction alternatives to evaluate.
5. Build and run alternatives models and evaluate flood reduction benefits.
6. Calculate upper watershed detention volume needed to provide comparative flood reduction benefits.
7. Conduct design feasibility study on one upper watershed detention basin.
8. Assess the instream habitat and ecosystem functionality of the project reach and flood reduction alternatives.
9. Prepare planning-phase cost estimates for flood reduction and detention alternatives.

Penngrove Reach of Lichau Creek



Existing Conditions Model: Preliminary Results





Preliminary Validation

December 15, 2016 ~800cfs

Old Adobe Crossing @ V. Dolan Yard



Penngrove Post Office

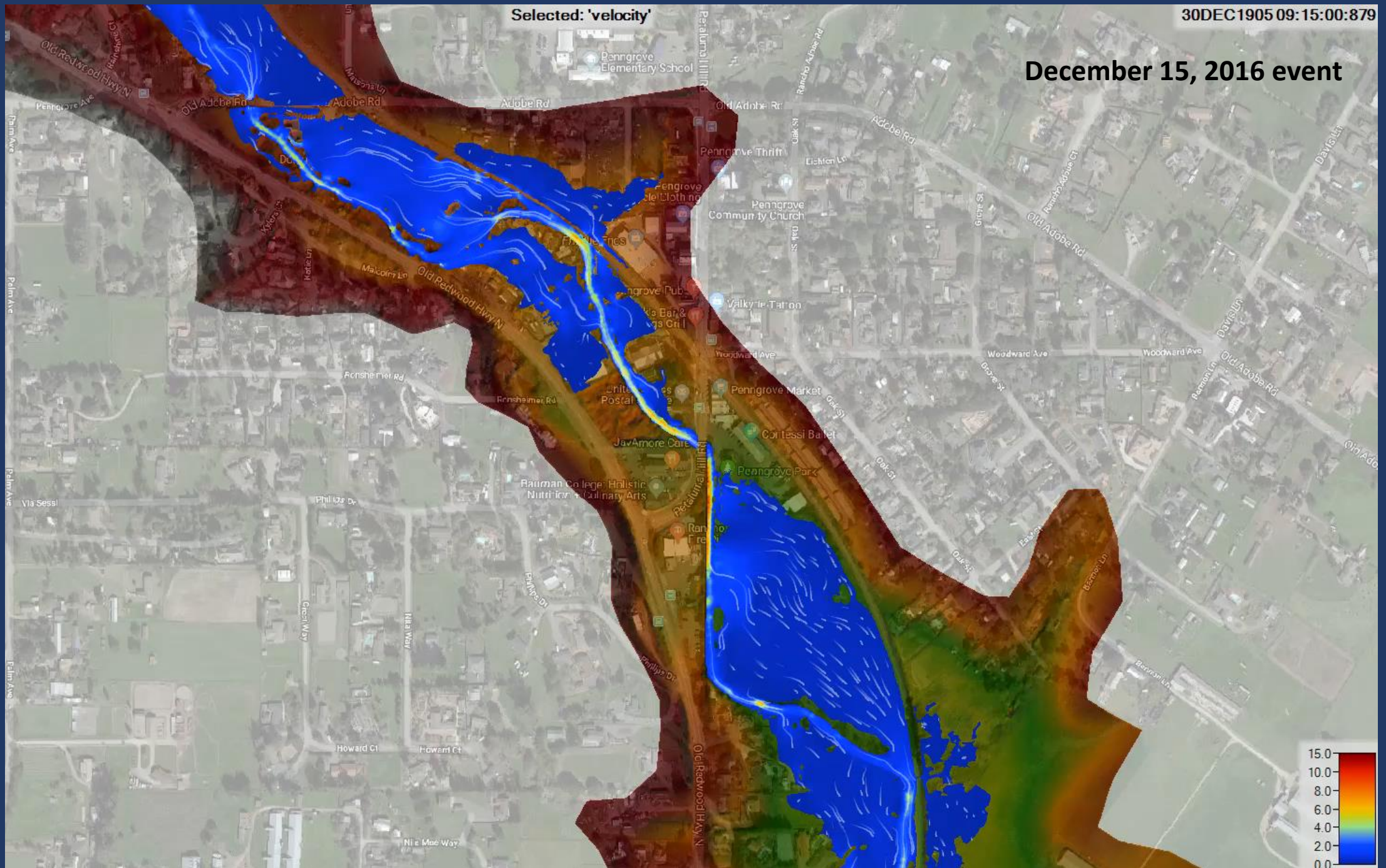




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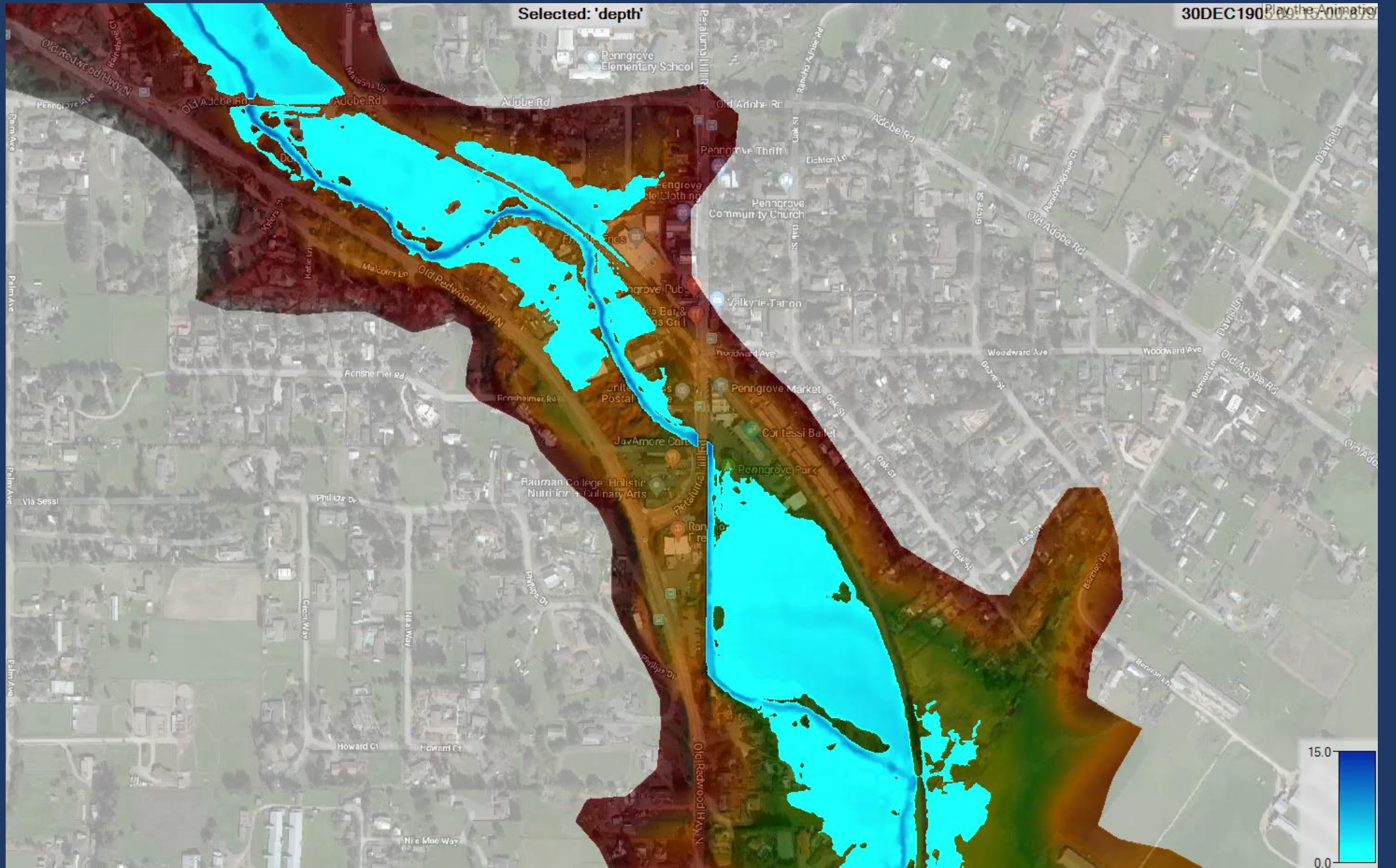
30DEC1905 09:15:00:879

December 15, 2016 event



Selected: 'depth'

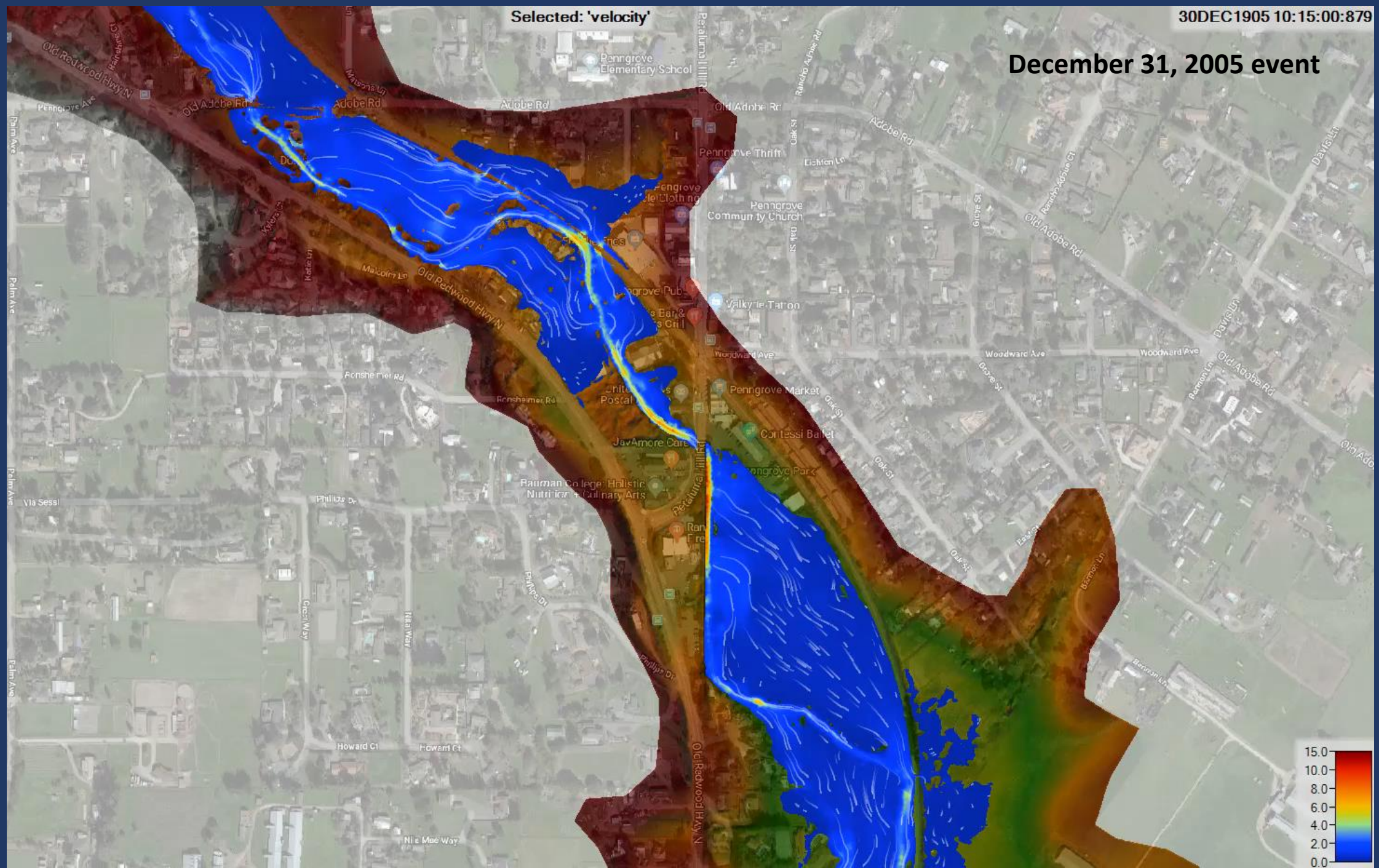
30DEC1908 Play the Animation



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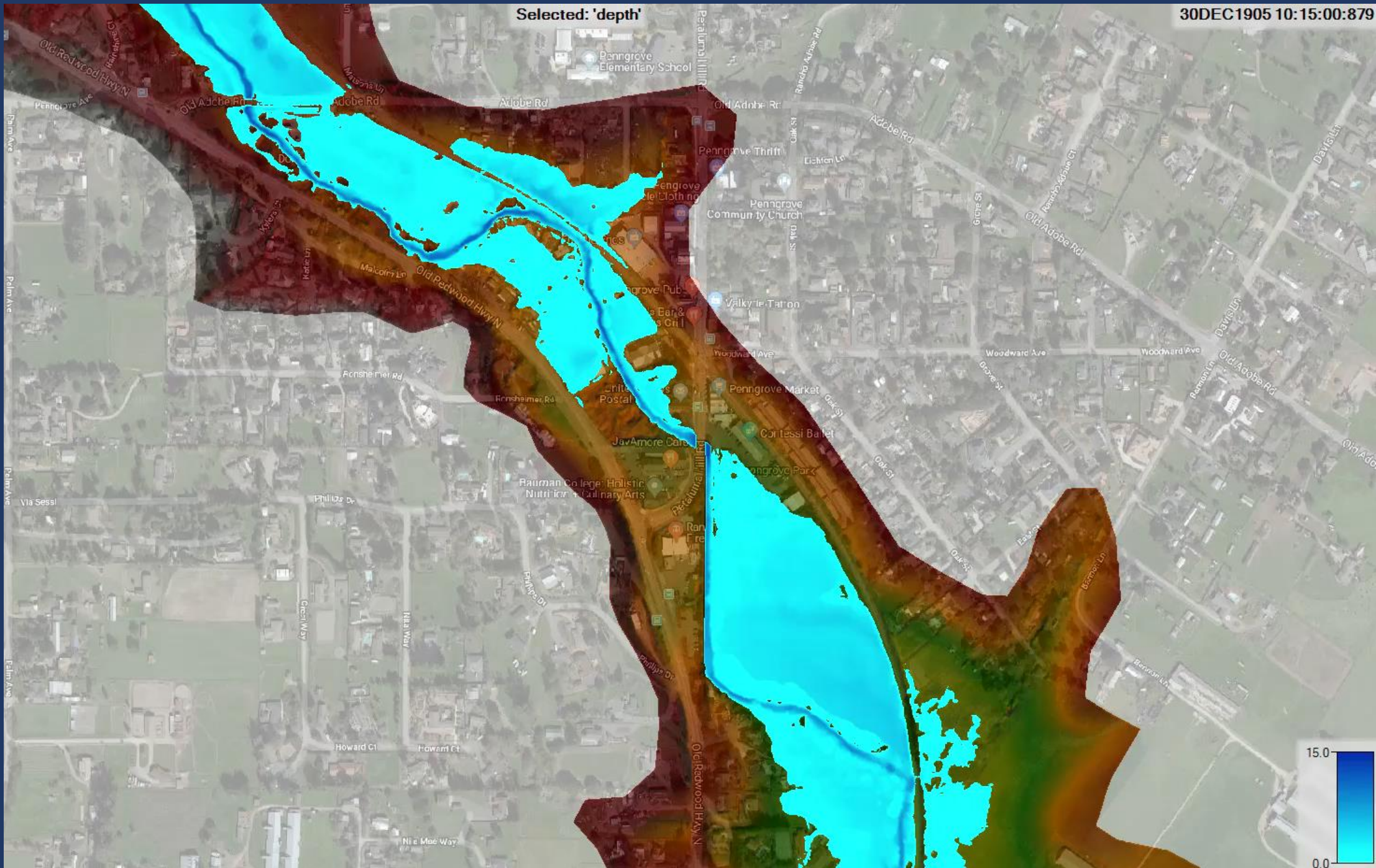
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December 31, 2005 event



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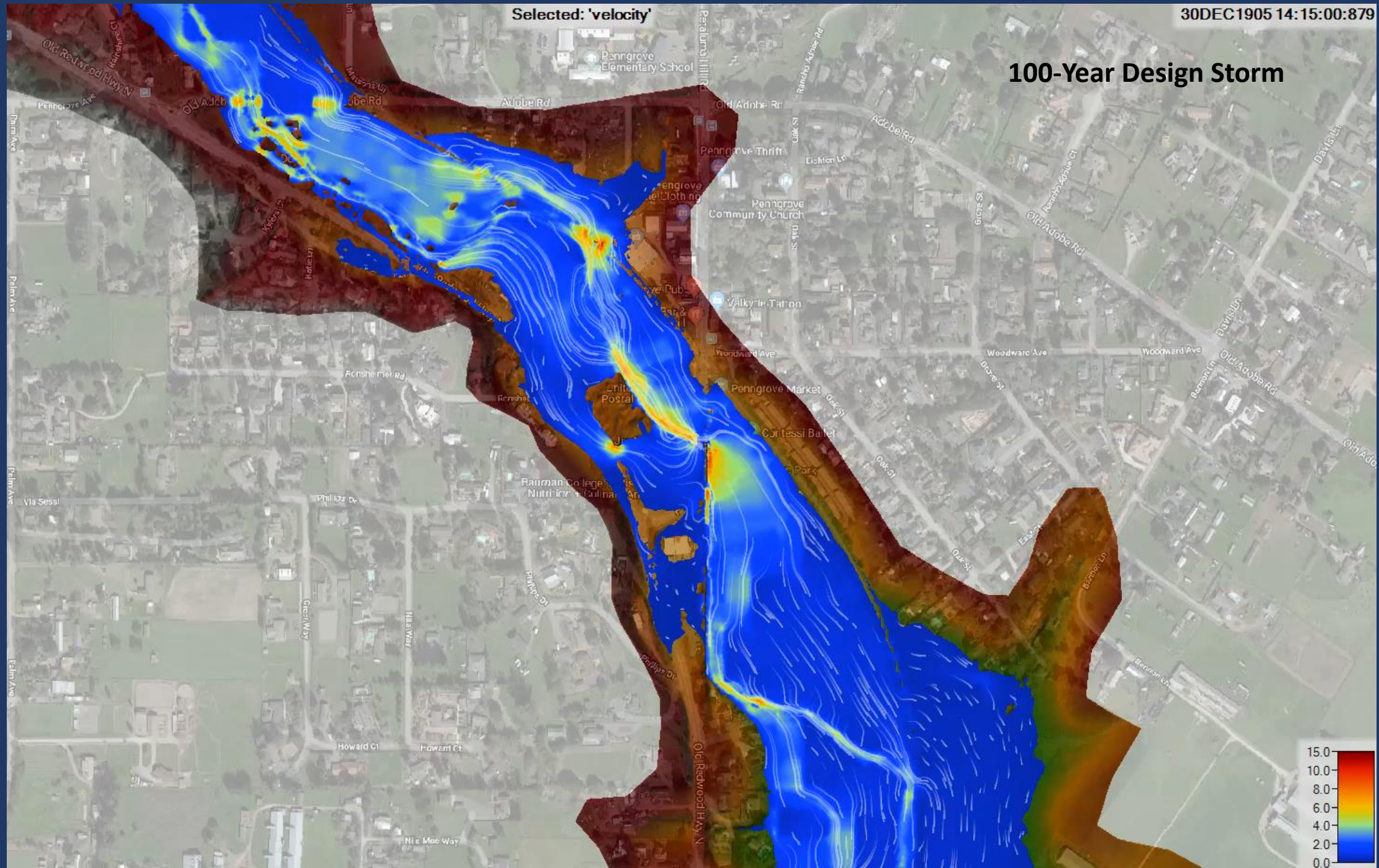
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100-Year Design Storm



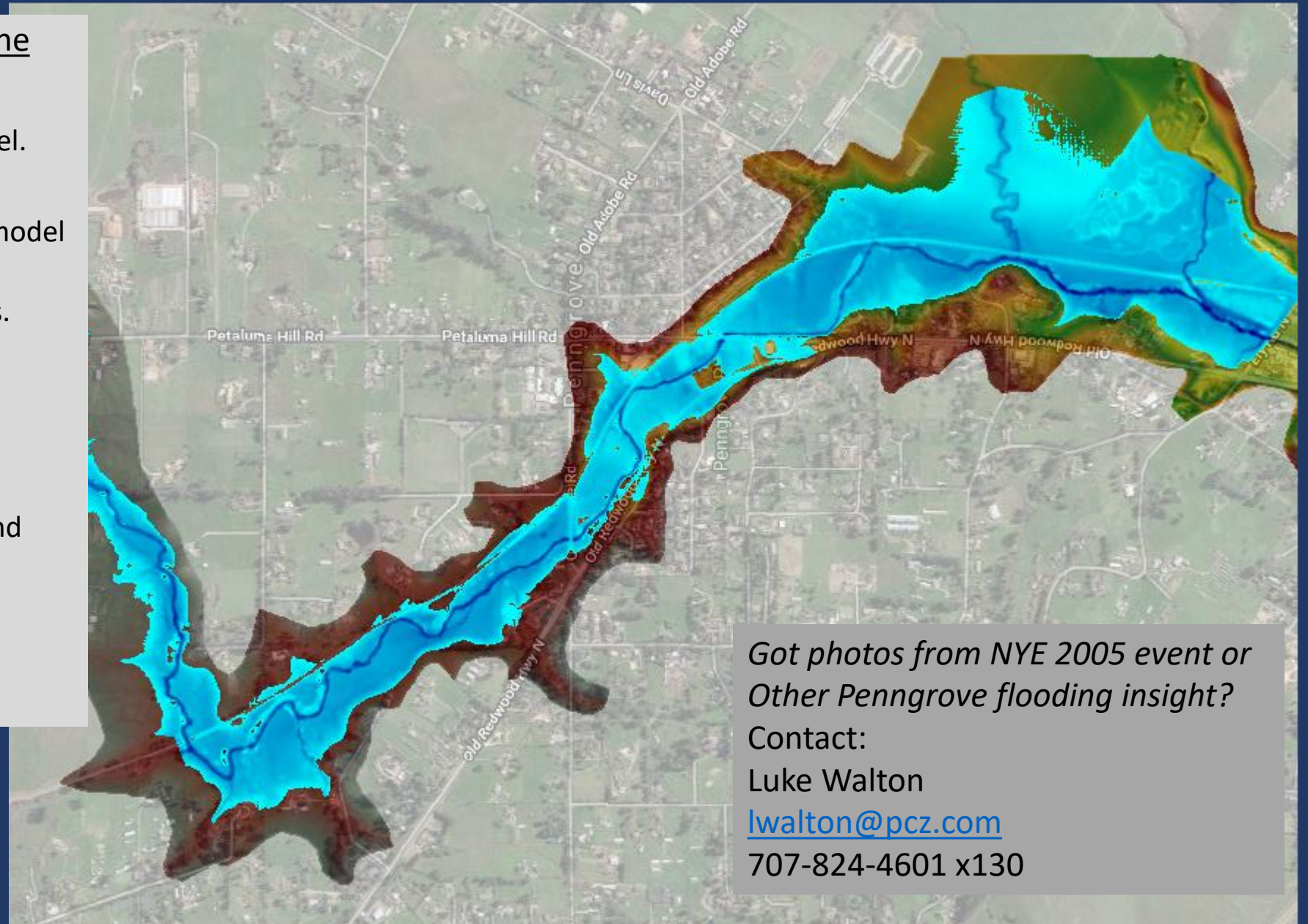
Next Steps and General Timeline

Through summer/fall 2019:

- Refine existing conditions model.
- Select alternatives to evaluate.
- Develop design concepts and model alternatives.
- Conduct multi-benefit analyses.
- Complete feasibility study of Roberts Creek detention basin.

Winter/spring 2020:

- Finalize concept alternatives and models after review
- Prepare draft and final Flood Mitigation Feasibility and Recommendations Report.



*Got photos from NYE 2005 event or
Other Pennngrove flooding insight?*

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