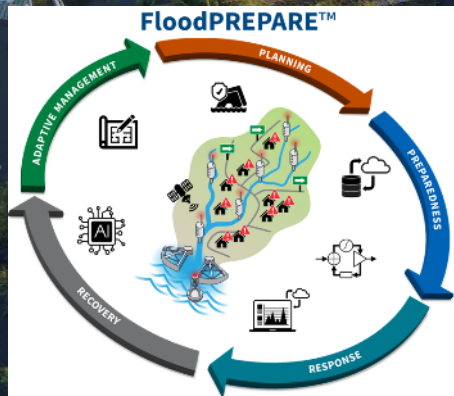




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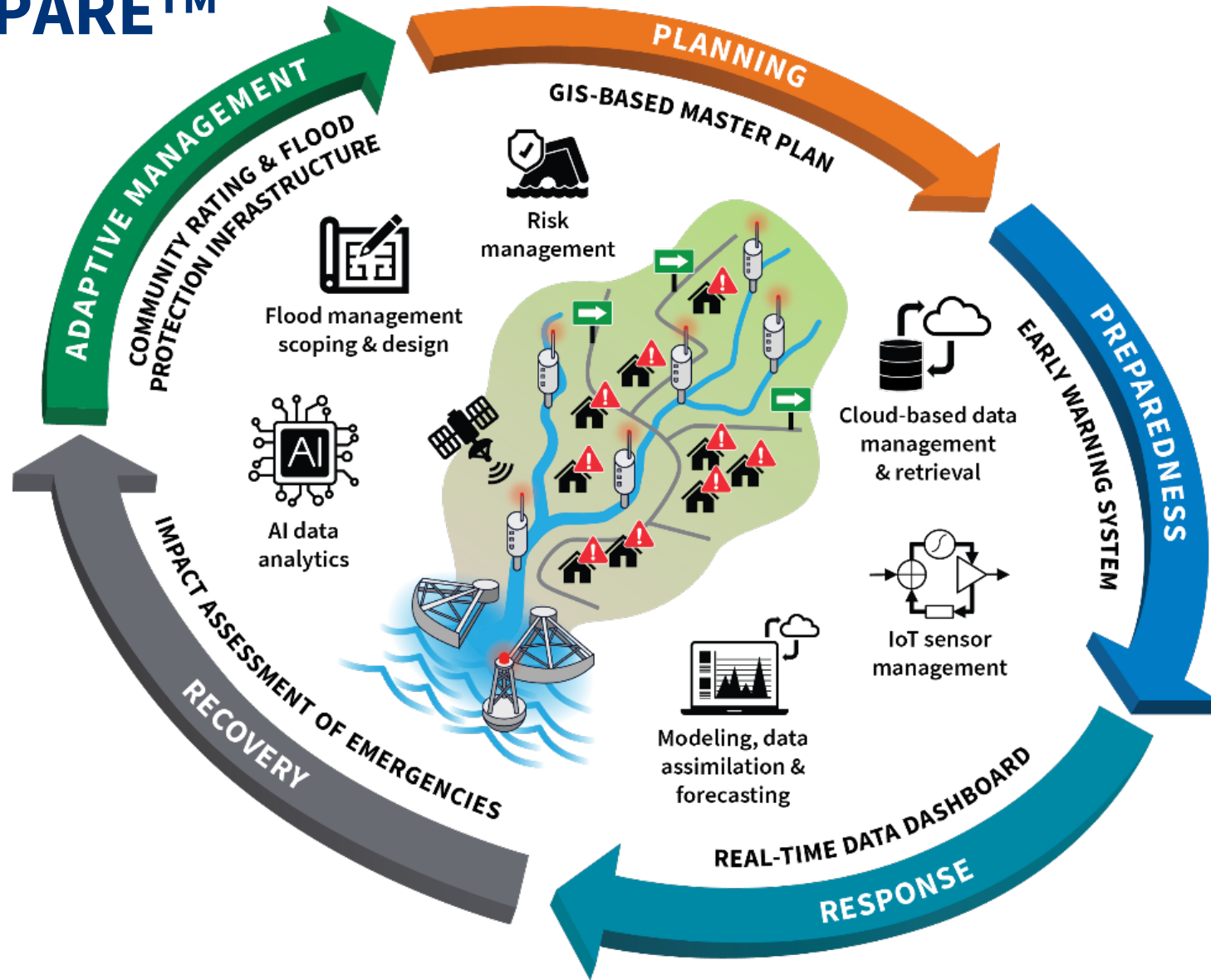
Comprehensive Flood Risk Management Services

Vamsi Krishna Sridharan (Ph.D., M.ASCE)
Innovative Solutions Lead, Tetra Tech



Galloway, NJ
March 9, 2026

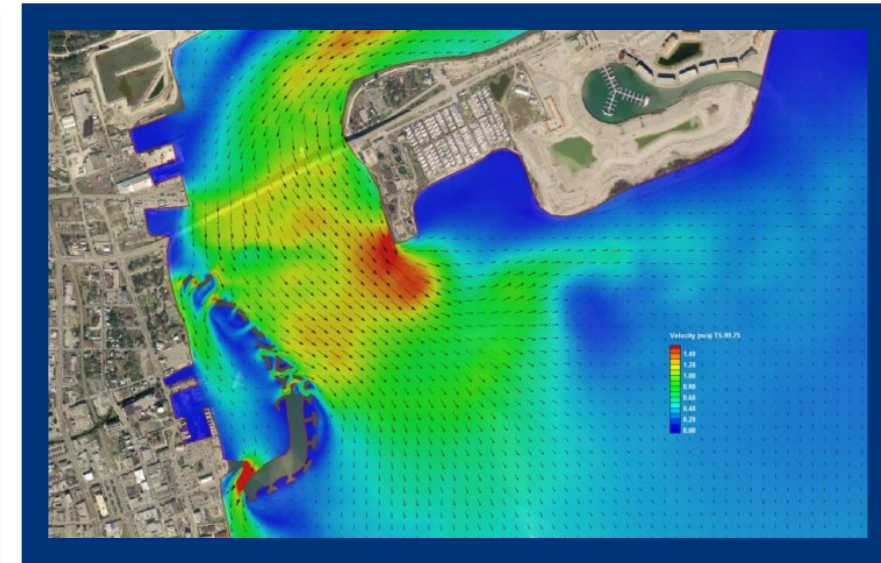
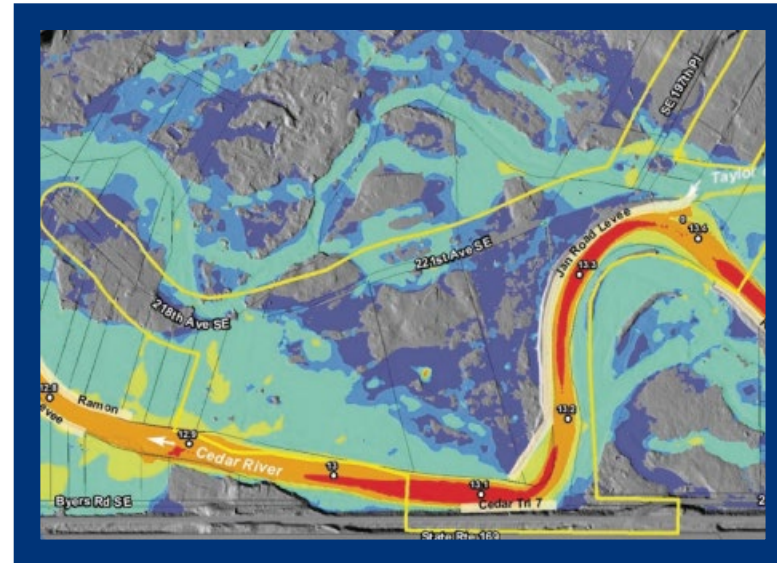
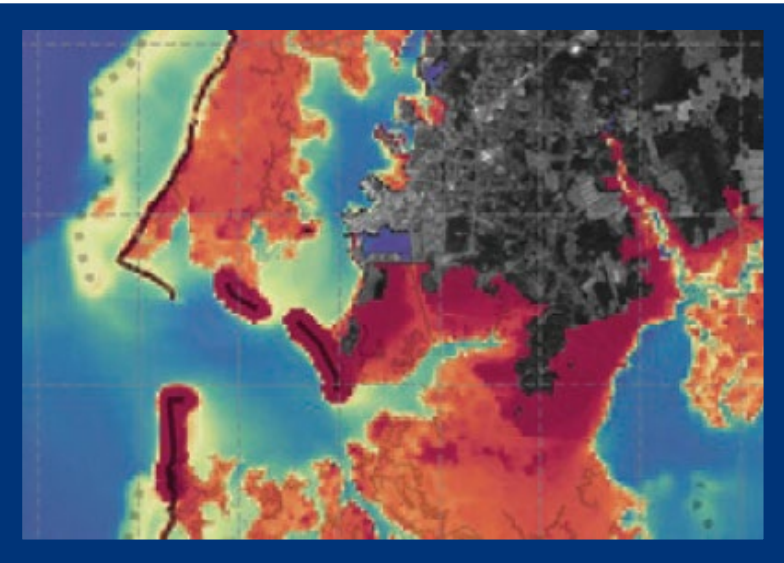
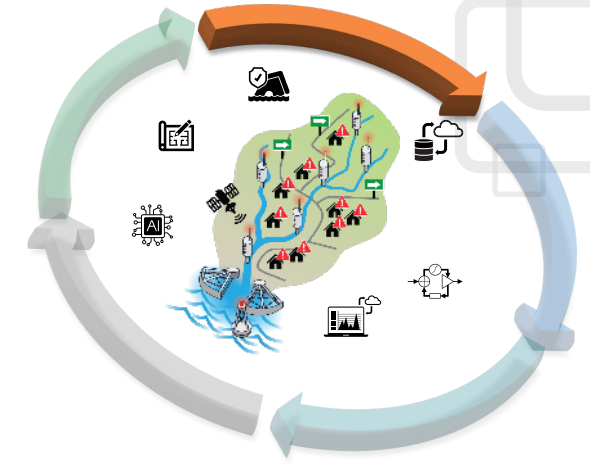
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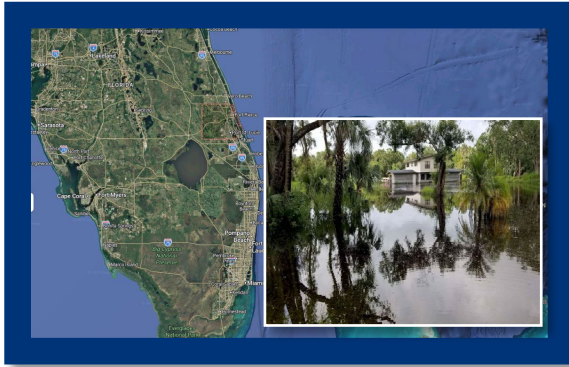
Planning

- Comprehensive master planning
- Advanced hydrologic modeling
- Compound risk assessment

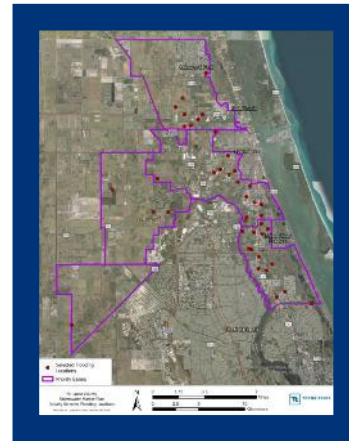
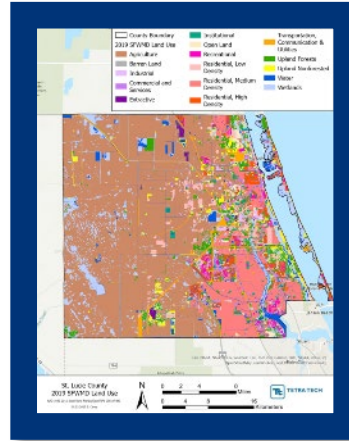


Planning: Stormwater Master Plan for St. Lucie, FL

Need for plan



Analysis and research



Plan development



Public engagement



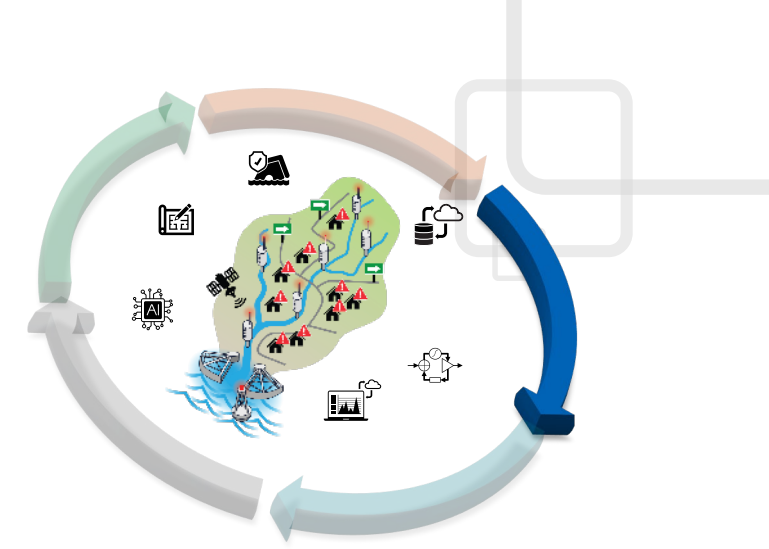
Plan adoption



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Preparedness

- Low-cost sensor network
- Real-time control through internet-of-things
- AI-based data ingestion

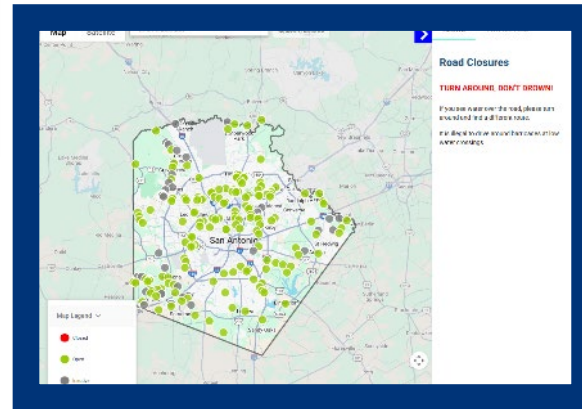


Preparedness: Bexar County, TX flood management system

IoT sensors and automatic road closures



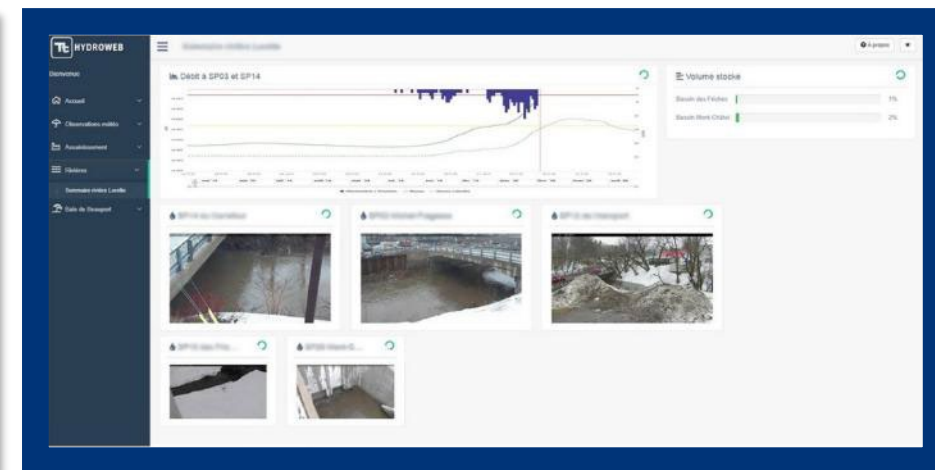
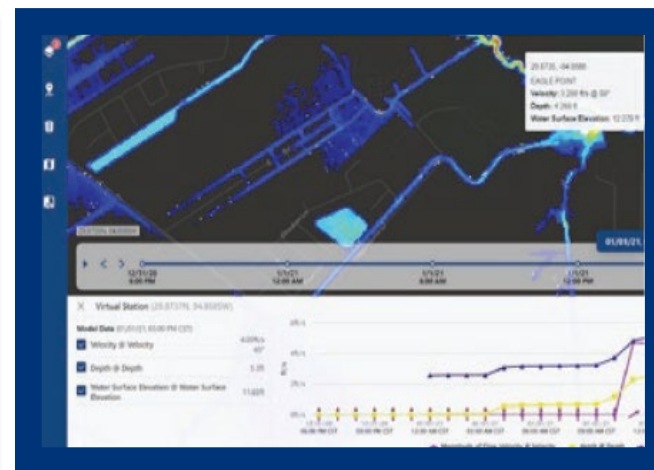
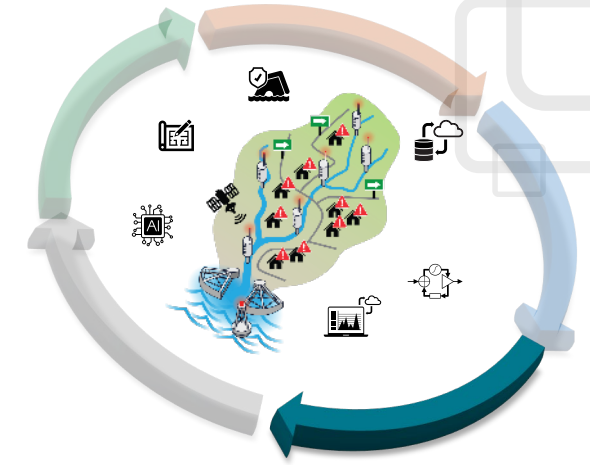
App-based dashboard



Flood PREPARE™

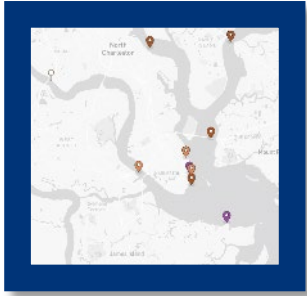
Response

- Customizable decision dashboards
- Real-time data and model forecasts
- ML- and SQL-analysis on the fly
- AI-based decision-support

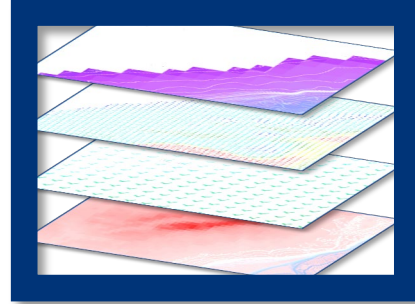


Response: Flood MAP™ - infinitely customizable dashboard

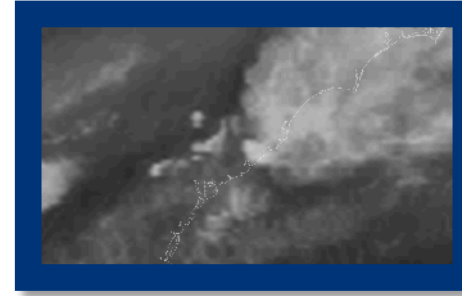
Buoys and gages



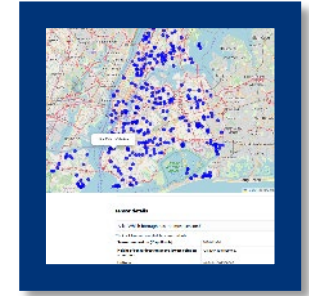
Computer models



Satellite imagery

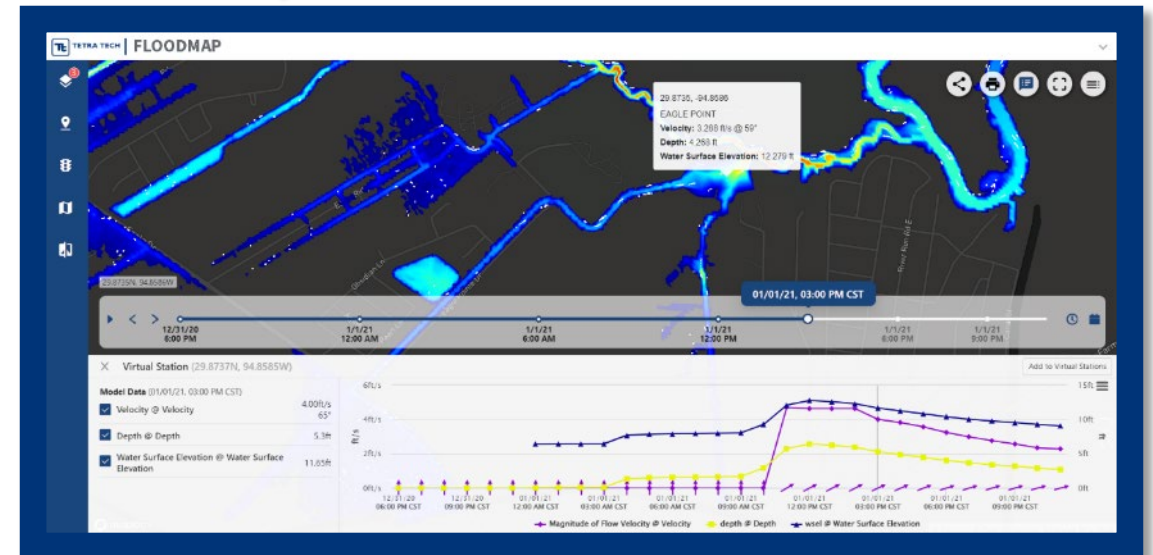
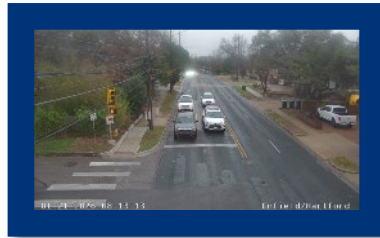
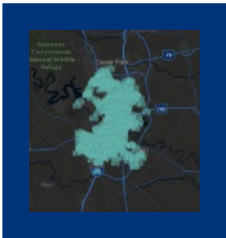


Sensor networks



Data dashboard

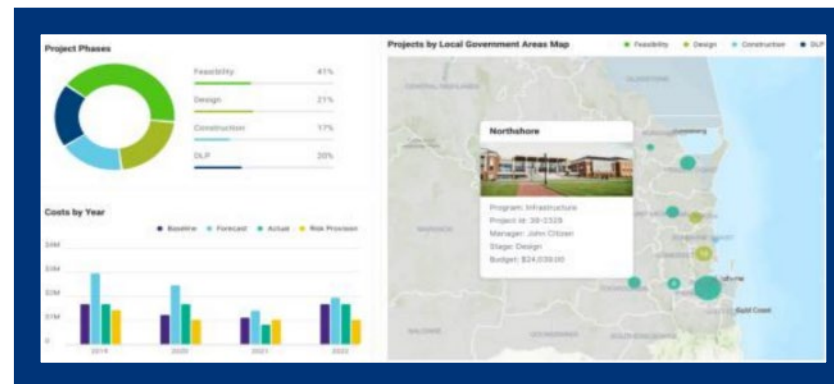
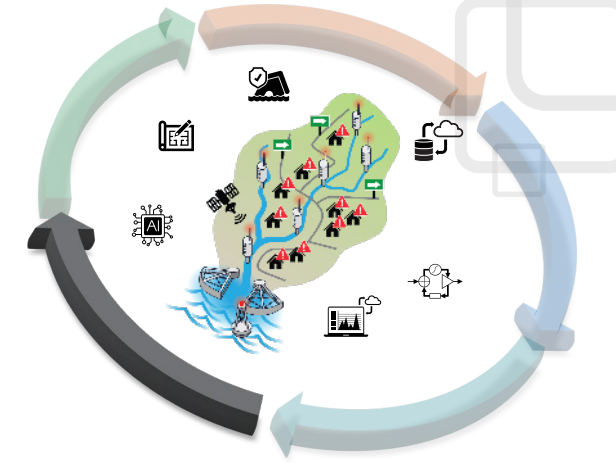
Live cameras



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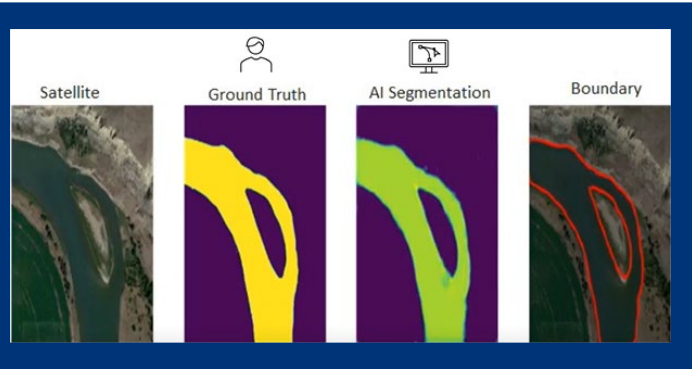
Recovery

- Post-disaster damage assessment
- Resource tracking
- Custom recovery key performance indicators
- Community Rating Systems
- First response and evacuation coordination



Recovery: AI-native post-disaster management planning and implementation

Computer vision-based Change detection



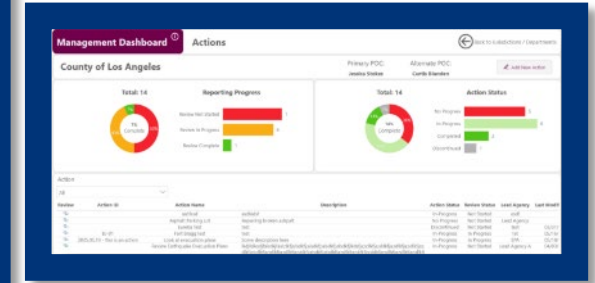
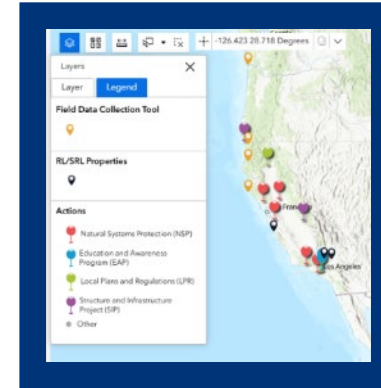
Real-time alerting and response



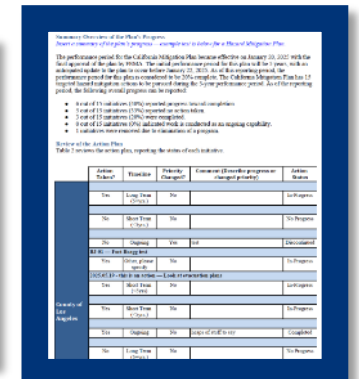
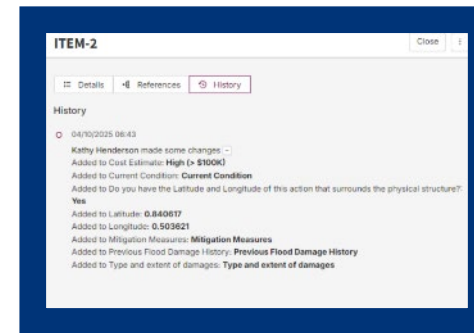
Mitigation and Recovery planning



Real-time geospatial progress tracking



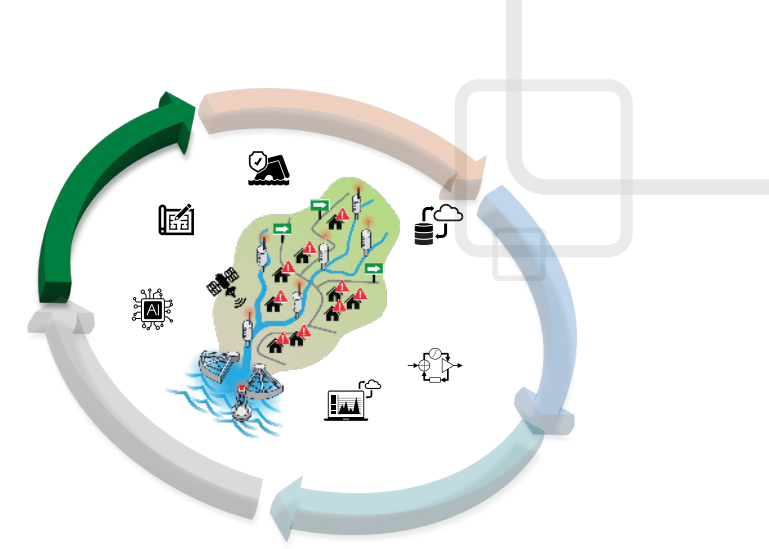
Auditing and reporting



Flood PREPARE™

Adaptive Management

- Planning and cost-benefit analysis across different scenarios
- Evaluation and certification of flood protection infrastructure and plans over time
- Designing conventional and nature-inclusive infrastructure for flood protection and other co-benefits
- Flood insurance rate map development



Flood PREPARE™ Working with Nature



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