2019 NSF Civic Innovation Challenge - Outline
Code for Sacramento - Resilience Theme

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2. **GIS Portals**
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3. **GIS Datasets**
    a. Sacramento County
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        ii. Major Roads: Dataset , GeoJSON API
        iii. Hydrology Polygons: Dataset , GeoJSON API
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        v. Rivers: Dataset , GeoJSON API
        vi. City Boundaries: Dataset , GeoJSON API
        vii. Subdivisions: Dataset , GeoJSON API
        viii. Parcels: Dataset , GeoJSON API
    b. FEMA: NHFL KML Data , Data Portal
    c. OES: GIS Portal , NOAA FFPI , USGS WBD , Urgent Care , USGS NHD
    d. Department of Water Resources (DWR)
        i. Legal Delta Boundary: Dataset , GeoJSON API
        ii. 2012 Levee Centerlines: Dataset , GeoJSON API
    e. Sacramento River Watershed Program: GIS Portal
        i. GIS Layers: Surface Geology, Watershed Vegetation, Watershed Land Use
    f. Sacramento River Forum: GIS Portal
        i. GIS Layer Descriptions:
            1. ACOE Levees: This map file displays riprap and levees installed by the U.S. Army Corps of Engineers between 1963 & 1983. Additionally, it maps the river banks of the Sacramento River, the State Maintenance Area, and the levees of the Sacramento River Flood Control Project.
            2. Recent Alluvial Deposition: Unweathered gravel, sand, and silt deposited by present-day stream and river system that drain the Coast Ranges, Klamath Mountains, and the Sierra Nevada. Differentiated from older stream-channel deposits (Qao and Qal) by position in modern channels. These units lie outboard of unit Qsc but inside the first low terraces flanking modern stream channels. The deposits from levees along the main course of the Sacramento River, and broad alluvial fans of low surface relief along the western and southwestern side of the valley. Because of high organic content, the levee deposits are darker gray than the alluvium flanking the channels on smaller streams. Thickness varies from a few centimeters, to 10 meters.
            3. River Channel (2012): Line coverage displaying the Sacramento River channel as seen on the 2012 NAIP aerial photography. The coverage extends from river mile 302 (Keswick Dam in Shasta County) to River mile 140 in Colusa County.

4. Inner River Zone: The Inner River Zone is the area along the Sacramento River that has been determined to be the most prone to channel movement and flooding. Reaches 1 & 2 were defined by combining the past 100 year meander belt with projected erosion locations 50 years in the future, while boundaries in reaches 3 & 4 were influenced by existing flood control structures. It should be noted that the boundary is only a guideline, as its location will be influenced by several factors: voluntary participation by public and private landowners, unexpected changes in channel alignment, and individual decisions to install bank protection.
5. Conservation Areas: The 222 miles of the Sacramento River and the adjacent 213,000 acres of land extending from Keswick Dam in Shasta County south to the town of Verona in Sutter County; the area is targeted for preservation of existing riparian habitat as well as restoration of previous zones of riparian habitat.
6. River Miles: This dataset is a point coverage that identifies river mile markers along the Sacramento River. The river mile markers are a commonly-used reference system for discussing areas and locations along the River. This particular dataset is from the Army Corps of Engineers river miles from the 1991 Army Corps of Engineers Sacramento River Atlas.
7. Surface Geology: Surface geology as mapped by Helley and Harwood (1985) and modified by DWR - Northern District for the River Bank Erosions Investigation (1994) conducted by Koll Buer (Reach 2 & Reach 3). And as mapped by Helley and Harwood (1985) without modification (Reach 1 & Reach 4).
8. Riparian Vegetation: Sacramento River riparian habitat/vegetation mapped along a 100 mile stretch between Red Bluff and Colusa. This large project covers the Sacramento River Conservation Area and was completed by the California State University, Chico, Geographical Information Center.