

STATE OF CALIFORNIA
Budget Change Proposal - Cover Sheet
 DF-46 (REV 10/20)

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|--|------------------------------|---|--------------------------|
| Fiscal Year 2023-24 | Business Unit 0555 | Department California Environmental Protection Agency | Priority No. |
| Budget Request Name 0555-003-BCP-2023-GB | | Program 0340-Support | Subprogram N/A |

Budget Request Description
 CalEPA Geographic Information Officer

Budget Request Summary

The California Environmental Protection Agency (CalEPA) requests \$268,000 in permanent funding from the CalEPA Reimbursements account and 1.0 new permanent civil service position (PY) to administer CalEPA's Geographic Information Systems (GIS) environment and develop strategies, policies, and common GIS frameworks for CalEPA's Boards Divisions and Offices. Additionally, this request includes approximately \$40,000 of permanent annual funding for licensing CalEPA's GIS software tools and services.

| | | |
|--|---|-------------------------|
| Requires Legislation <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No | Code Section(s) to be Added/Amended/Repealed Click or tap here to enter text. | |
| Does this BCP contain information technology (IT) components? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <i>If yes, departmental Chief Information Officer must sign.</i> | Department CIO Sergio Gutierrez | Date 9/1/2022 |

For IT requests, specify the project number, the most recent project approval document (FSR, SPR, S1BA, S2AA, S3SD, S4PRA), and the approval date.

Project No.N/A **Project Approval Document:** N/A
Approval Date: N/A

If proposal affects another department, does other department concur with proposal? Yes No
Attach comments of affected department, signed and dated by the department director or designee.

| | | | |
|--|--------------------------|--|--|
| Prepared By Nick Kuka, Senior Project Manager for CalEPA | Date 1/10/2023 | Reviewed By Click or tap here to enter text. | Date Click or tap to enter a date. |
| Department Director Eric Jarvis, Deputy Secretary for Fiscal and Administrative Programs | Date 1/10/2023 | Agency Secretary Amelia Yana Garcia Gonzalez | Date 1/10/2023 |

Department of Finance Use Only

Additional Review: Capital Outlay ITCU FSCU OSAE Dept. of Technology

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|----------------------------------|---|
| PPBA Christian Beltran | Date submitted to the Legislature 1/10/2023 |
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A. Budget Request Summary

The California Environmental Protection Agency (CalEPA) requests \$268,000 in permanent funding from the CalEPA Reimbursements account and 1.0 new permanent civil service position (PY) to administer CalEPA's Geographic Information Systems (GIS) environment and develop strategies, policies, and common GIS frameworks for CalEPA's Boards Divisions and Offices. This request includes approximately \$40,000 of permanent annual funding for licensing CalEPA's GIS software tools and services.

B. Background/History

The California Environmental Protection Agency (CalEPA) has led California in creating and implementing some of the most progressive environmental policies in America, from the Global Warming Solutions Act (AB 32), which required a sharp reduction in greenhouse gas emissions to achieve a low carbon future, to mandating that 100 percent of the state's electricity will come from solar, wind, and other non-fossil sources by 2045 (Senate Bill 100). California was also one of the first states in the nation to codify environmental justice in statute, calling for fair treatment and inclusion in the decision-making process of vulnerable communities.

CalEPA's mission is to protect human health and the environment for all Californians. We fulfill this mission by developing, implementing, and enforcing environmental laws that regulate air, water, and soil quality, pesticide use, and waste recycling and reduction. CalEPA oversees and coordinates the activities of the following boards, departments, and offices (BDOs):

- Air Resources Board (CARB)
- Department of Pesticide Regulation (DPR)
- Department of Resources Recycling and Recovery (CalRecycle)
- Department of Toxic Substances Control (DTSC)
- Office of Environmental Health Hazard Assessment (OEHHA), and
- State Water Resources Control Board (SWRCB)

GIS Technology

GIS technology integrates many technical disciplines using geography as its common focus. GIS technology can sort through thousands of data points from many sources for analysis. GIS uses physical locations, addresses, geographic boundaries, and other statistical or scientific data and displays mapped visualizations to show trends or patterns. Visualizing data on a map is a powerful way to help leaders to make data-driven decisions.

GIS technology was initiated nearly a decade ago within a CalEPA BDO, the Office of Environmental Health Hazard Assessment (OEHHA). OEHHA uses GIS to analyze data on environmental, public health, and socioeconomic conditions in California's 8,000 census tracts to provide a clear picture of cumulative pollution burdens and vulnerabilities in communities throughout the state. The initial release of the California Communities Environmental Health Screening Tool (CalEnviroScreen¹) marked the first time a state used a science-based screening tool to demonstrate, from a geographic perspective, who is most affected by environmental injustice. CalEnviroScreen is a system that includes an

¹ CalEnviroScreen. <https://oehha.ca.gov/calenviroscreen/indicators>

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online mapping tool and a supplemental race analysis. This system analyzes data sources from external federal, state, regional, or local public agencies.

CalEnviroScreen has guided significant public investments to improve environmental conditions in California's disadvantaged communities. The tool has helped CalEPA and other local, state, and federal agencies ensure their program activities address pollution burdens and protect those communities. The success of CalEnviroScreen demonstrates the importance of combining many data sources to inform and assist policy and regulatory decision-makers in solving complex environmental and socio-equity problems. To date, the CalEPA continues to find ways to improve current systems and repeat the successful use of data we are collecting.

Recent CalEPA GIS Activities

The CalEPA initiated a project in 2022-23 to build a portal that will accurately document the jurisdictional boundaries of local enforcement agencies. These agencies are part of the unified program known as "Certified Unified Program Agencies" (CUPA). The project is known as the GIS CUPA Boundary project. CalEPA was able to secure funding for this project by applying for a grant from the "Technology Modernization Fund" (TMF), managed by the California Department of Technology (CDT). CDT approved CalEPA's application and approved a total budget of \$1.5 million to plan, design, and build a GIS portal for the GIS CUPA Boundary project. The project budget will be available to CalEPA through the end of 2022-23. While this level of funding is sufficient to complete the project, CDT does not allow TMF funding to be allocated to maintenance and support activities. Additionally, the funding cannot be used to establish and maintain permanent civil service positions needed to support the technology implemented by the project.

Once completed, the portal will be used by regulated businesses to quickly determine which agency has jurisdiction for the regulated aspects of their business. Additionally, the application will be utilized by other projects across the BDOs to establish communication protocols for environmental emergencies that impact local governing agencies.

C. State Level Consideration

CalEPA's movement into GIS applications to support enforcement efforts is part of a growing trend across the nation. Recent federal congressional research (Congressional Research Service report #R46947²) has documented a regulatory shift "toward direct regulation of GHG emissions" at the state and local government levels. In California, the State Legislature passed the California Global Warming Solutions Act of 2006 [AB 32], requiring the California Air Resources Board (CARB) to develop a plan for reducing GHG emissions in California. As compliance, monitoring, and enforcement activities become more localized, integrating data from those activities with geographical context will become increasingly important to CalEPA and its BDOs.

The GIS Boundary project will become a service and will ultimately be consumed by multiple organizations and applications. Enforcement entities and business owners throughout the state will use CalEPA's CUPA Boundary portal to identify impacted entities based on a business's address. The CUPA Boundary project and the maintenance of the resulting CalEPA GIS portal align with CalEPA's Unified Program Administration and Advisory Group (UPAAG) strategic plan. The UPAAG strategic plan includes the following goal:

² U.S. Climate Change Policy. 10/28/2021. <https://crsreports.congress.gov/product/pdf/R/R46947>

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“Leverage technology and data to promote efficient Unified Program operations/functions resulting in Program consistency and clear communication amongst all stakeholders to support the mission and vision.”

Achieving this goal includes the following objectives:

- Efficient and Effective use of Technology within the Unified Program
- Ensure technology allows for easy, accurate access to quality data and easy access to data that influences Unified Program decisions.
- Provide consistent data for all stakeholders supporting collaboration and communication between stakeholders’ data resulting in transparency and trust.

The approved TMF project will create an M&O workload. Additionally, CalEPA must begin assessing the existing GIS applications within its BDOs to align with the Open Data Policy (SAM 5160.1) and its strategic goals. This proposal requests a resource to catch up with a workload that has been growing with the number of GIS applications being produced by the BDOs.

D. Justification

CalEPA faces significant challenges in integrating GIS data into existing applications and using GIS data to build applications and analyses for future policies. As an agency, the CalEPA must provide strategic oversight for the multiple GIS programs within the BDOs. Within the BDOs, there are seven GIS web applications in production. These tools are used to:

- Help enforce environmental laws;
- Identify populations that are the most vulnerable to the effects of pollution;
- Communicate environmental issues to stakeholders; and,
- Help California residents discover more about the environment near their homes, schools, or workplaces.

As previously mentioned, CalEPA is also implementing its own GIS technology project to document CUPA boundaries.

Challenge #1: Supporting a CalEPA GIS Environment

The GIS CUPA Boundary project is CalEPA's first GIS project. While the agency was able to secure funding for consulting and software services to implement the project's final product, CDT will not allow TMF money to be used for Maintenance and Operations activities. Additionally, CDT cannot establish a new position to allocate resources to support the project's outputs without authority granted by the Department of Finance. CalEPA cannot look to its BDO resources to perform this work. While we collaborate and learn from talented individuals within our BDOs who are skilled in GIS technology applications, we cannot compromise the operational success of the BDO programs by redirecting resources to work on CalEPA projects. Additionally, a sudden loss of these employees can negatively impact our BDOs. New agency initiatives that redirect existing staff from our BDOs put BDO programs at increased key-person dependency risk. In the case of expert technical resources, redirection from BDOs reduces their capacity to continue providing public services and extends the risk of key-person dependency on CalEPA. By establishing an agency-level GIS resource, CalEPA will be positioned to mitigate key-person dependency risks for GIS expertise across the BDOs.

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Challenge #2: Licensing and support for CalEPA's GIS software and data

Operating a GIS environment requires annual subscriptions for software and data services. Once the GIS CUPA Boundary portal is deployed, the annual ownership costs will include ArcGIS licensing costs. As part of the implementation, the funding for the GIS CUPA boundary project will include \$9,800 for the first year of ArcGIS licenses. CalEPA will require reduced licensing to maintain the GIS CUPA Boundary portal each year. CalEPA will also use TMF money to purchase a subscription for parcel boundary data required for the portal. The subscription is available via a statewide contract between "Land Vision" and CDT. The first year's subscription purchased with TMF money will cost \$35,000. The CDT contract requires an annual renewal of this subscription in perpetuity. Given these implementation costs, the annual licensing and support costs for the GIS CUPA Boundary Portal are summarized in Table 1 below.

Table 1: Software Licensing Costs

| License Type | License Cost | Quantity | Maximum Annual Cost |
|---|--------------|----------|---------------------|
| ArcGIS Professional Basic | \$700.00 | 1 | \$700.00 |
| ArcGIS Creator | \$500.00 | 4 | \$2,000.00 |
| ArcGIS Editor | \$200.00 | 5 | \$1,000.00 |
| ArcGIS Storage Credits (1000 Credit bundle) | \$100.00 | 5 | \$500.00 |
| Land Vision Parcel Data Subscription | \$35,000.00 | 1 | \$35,000.00 |
| Total | | | \$39,200.00 |

As previously stated, the TMF money secured to implement the GIS CUPA Boundary project cannot be used to procure future licensing and support for the portal delivered by the project. With this proposal, CalEPA is requesting permanent annual funding for the licensing components of our new GIS environment.

Challenge #3: Creating a "One-CalEPA" approach to GIS

The seven GIS applications mentioned above were produced independently. As CalEPA and the BDOs grow our portfolio of GIS applications, we also increase our need for a common GIS strategy. Developing a common strategy for all BDOs is the responsibility of CalEPA. Ensuring our data, GIS or otherwise is structured for maximum interoperability so that it can be made broadly available is required by SAM 5160.1. CalEPA does not have any resources with the skillsets or availability to develop common strategies, structures, and frameworks for GIS applications and GIS data. As the BDOs—and now CalEPA—have developed a growing portfolio of GIS applications, the workload for ensuring that the data collected by those applications and the structure and standards for developing new GIS applications remain consistent across the enterprise has also grown. Ensuring the interoperability of the existing and future applications to align with the UPAAG strategic plan and with the statewide Open Data Policy has grown into a workload that CalEPA does not have the resources to support.

This challenge is like "Challenge #1" with its risk of key-person dependency. While the BDOs currently employ resources with GIS skillsets, all of them are fully engaged with maintaining their GIS environments and developing applications for their respective BDOs. By redirecting resources from the BDO GIS programs, to develop strategies and frameworks – or even to support a CalEPA GIS environment—the agency would be increasing the key-person dependency risk if those resources leave. Simultaneously, a redirection would

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compromise GIS BDO programs' ability to continue their operational success in developing and supporting critical applications.

1.0 PY IT Specialist III/Geographic Information Officer (GIO)

This position will mitigate these challenges. The GIO will administer the CalEPA GIS technical infrastructure and manage all related service contracts. The GIO will also be a member of the IT governance committee, which includes subject matter experts from all BDOs and representatives of other disciplines within the collective agency and BDOs.

The GIO will lead an assessment effort and will focus on documenting how each BDO supports existing GIS systems and the technical standards for developing the systems. The GIO will document and catalog the data analyzed by GIS systems. The GIO will propose ways to improve the agency's ability to leverage geographic data to build new web applications, communicate with policymakers, and produce business intelligence. The GIO will develop data standards and promote strategies for updating existing GIS applications across the organizations, facilitate cross-BDO resource sharing on GIS technology projects, and provide the highest level of technical expertise and advisory services to the executive leadership.

E. Outcomes and Accountability

This proposal will result in the recruitment of a GIO position and the maintenance and administration of CalEPA's GIS environment. Additionally, this proposal will fund ongoing licensing support for GIS software tools and parcel data used to operate the GIS CUPA Boundary Portal. The GIO position will also provide expert advisory services for CalEPA and the BDOs. The GIO will assess the current GIS applications and the data used and collected by GIS applications. The GIO will propose and implement enterprise-wide strategies, standards, and frameworks for developing GIS applications.

F. Analysis of All Feasible Alternatives

Alternative 1: Approve the request for \$268,000 in permanent funding from the CalEPA Reimbursements account and 1.0 new permanent civil service position to administer CalEPA's GIS environment and develop strategies, policies, and common GIS frameworks for CalEPA's BDOs.

Pros:

- Allows CalEPA to support GIS applications developed as part of an approved TMF project.
- Includes annual licensing costs for the GIS CUPA Boundaries portal.
- Provides a resource at the agency level to document and catalog the data analyzed by GIS systems and develop strategy, common standards, and frameworks for building applications that use GIS technology.
- Provides CalEPA with a resource for administering their GIS environment.

Cons: This alternative will use funds that the BDOs would otherwise use.

Alternative 2: Approve \$150,000 of permanent annual funding from the CalEPA Reimbursements account to support GIS applications developed as part of an approved TMF project. This alternative does not include any new civil service positions. Instead, it

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provides funding for GIS software licenses and consulting service hours from the GIS software manufacturer to assist CalEPA in administering their GIS environment.

Pros:

- Includes annual licensing costs for the GIS CUPA Boundaries portal.
- Does not require the establishment of a new Civil Service Position.

Cons:

- Uses funds that the BDOs would otherwise use.
- Does not provide CalEPA with a resource that has GIS skillsets.
- CalEPA will depend upon BDOs or consultant contracts for any resources with GIS skills.
- CalEPA will not have the resources to develop strategy, common standards, and frameworks for building applications that use GIS technology.

Alternative 3: Status Quo. Do not approve funding for the requested GIO position or the annual software licenses to support the CalEPA GIS Environment.

Pros: No additional costs added to the CalEPA baseline budget.

Cons:

- Does not provide CalEPA with a resource with GIS skillsets for administering the CalEPA GIS environment.
- CalEPA will not be able to pay for the required licenses to operate the GIS CUPA boundary portal.
- CalEPA will not have the resources to develop strategy, common standards, and frameworks for building applications that use GIS technology.
- The CalEPA will remain out of alignment with the SAM and strategic goals and objectives.
- CalEPA will not be able to mitigate the challenges discussed in the proposal.

G. Implementation Plan

The proposed implementation plan is as follows:

April – June 2023

- Develop the GIO hiring package.

July -September 2023

- Recruit and fill the GIO position

October – December 2023

- GIO initiates and manages the renewal of all CalEPA GIS-related contracts.

January - June 2024

- Continued support for the CalEPA GIS environment.
- Initiation and support of a GIS Center of Excellence for CalEPA and the BDOs

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H. Supplemental Information

This request is based on the mid-range salary step of the Information Technology Specialist III classifications, our standard rate for operating expenses and equipment, and staff benefits.

I. Recommendation

CalEPA recommends Alternative 1 and approval of the request for \$268,000 in permanent funding from the CalEPA Reimbursements account and 1.0 new permanent civil service position to administer CalEPA's GIS environment and develop strategies, policies, and common GIS frameworks for CalEPA's BDOs.

BCP Fiscal Detail Sheet

BCP Title: CalEPA Geographic Information Officer

BR Name: 0555-003-BCP-2023-GB

Budget Request Summary

Personal Services

| Personal Services | FY23 Current Year | FY23 Budget Year | FY23 BY+1 | FY23 BY+2 | FY23 BY+3 | FY23 BY+4 |
|---------------------------------|-------------------------|------------------------|--------------|--------------|--------------|--------------|
| Positions - Permanent | 0.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Total Positions | 0.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Salaries and Wages | 0 | 122 | 122 | 122 | 122 | 122 |
| Earnings - Permanent | | | | | | |
| Total Salaries and Wages | \$0 | \$122 | \$122 | \$122 | \$122 | \$122 |
| Total Staff Benefits | 0 | 82 | 82 | 82 | 82 | 82 |
| Total Personal Services | \$0 | \$204 | \$204 | \$204 | \$204 | \$204 |

Operating Expenses and Equipment

| Operating Expenses and Equipment | FY23 Current Year | FY23 Budget Year | FY23 BY+1 | FY23 BY+2 | FY23 BY+3 | FY23 BY+4 |
|--|-------------------------|------------------------|--------------|--------------|--------------|--------------|
| 5301 - General Expense | 0 | 2 | 2 | 2 | 2 | 2 |
| 5302 - Printing | 0 | 1 | 1 | 1 | 1 | 1 |
| 5304 - Communications | 0 | 2 | 2 | 2 | 2 | 2 |
| 5320 - Travel: In-State | 0 | 4 | 4 | 4 | 4 | 4 |
| 5322 - Training | 0 | 1 | 1 | 1 | 1 | 1 |
| 5324 - Facilities Operation | 0 | 10 | 10 | 10 | 10 | 10 |
| 5346 - Information Technology | 0 | 4 | 3 | 3 | 3 | 3 |
| 5368 - Non-Capital Asset Purchases - Equipment | 0 | 40 | 40 | 40 | 40 | 40 |
| Total Operating Expenses and Equipment | \$0 | \$64 | \$63 | \$63 | \$63 | \$63 |

Total Budget Request

| Total Budget Request | FY23 Current Year | FY23 Budget Year | FY23 BY+1 | FY23 BY+2 | FY23 BY+3 | FY23 BY+4 |
|-----------------------------|-------------------------|------------------------|--------------|--------------|--------------|--------------|
| Total Budget Request | \$0 | \$268 | \$267 | \$267 | \$267 | \$267 |

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Fund Summary

Fund Source

| Fund Source | FY23 Current Year | FY23 Budget Year | FY23 BY+1 | FY23 BY+2 | FY23 BY+3 | FY23 BY+4 |
|--|-------------------------|------------------------|--------------|--------------|--------------|--------------|
| 0995 - Reimbursements | 0 | 268 | 267 | 267 | 267 | 267 |
| Total State Operations Expenditures | \$0 | \$268 | \$267 | \$267 | \$267 | \$267 |
| Total All Funds | \$0 | \$268 | \$267 | \$267 | \$267 | \$267 |

Program Summary

Program Funding

| Program Funding | FY23 Current Year | FY23 Budget Year | FY23 BY+1 | FY23 BY+2 | FY23 BY+3 | FY23 BY+4 |
|---------------------------|-------------------------|------------------------|--------------|--------------|--------------|--------------|
| 0340 - Support | 0 | 268 | 267 | 267 | 267 | 267 |
| Total All Programs | \$0 | \$268 | \$267 | \$267 | \$267 | \$267 |

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Personal Services Details

Positions

| Positions | FY23 Current Year | FY23 Budget Year | FY23 BY+1 | FY23 BY+2 | FY23 BY+3 | FY23 BY+4 |
|---|-------------------------|------------------------|--------------|--------------|--------------|--------------|
| 1415 - Info Tech Spec III (Eff. 07-01-2023) | 0.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| Total Positions | 0.0 | 1.0 | 1.0 | 1.0 | 1.0 | 1.0 |

Salaries and Wages

| Salaries and Wages | FY23 Current Year | FY23 Budget Year | FY23 BY+1 | FY23 BY+2 | FY23 BY+3 | FY23 BY+4 |
|---|-------------------------|------------------------|--------------|--------------|--------------|--------------|
| 1415 - Info Tech Spec III (Eff. 07-01-2023) | 0 | 122 | 122 | 122 | 122 | 122 |
| Total Salaries and Wages | \$0 | \$122 | \$122 | \$122 | \$122 | \$122 |

Staff Benefits

| Staff Benefits | FY23 Current Year | FY23 Budget Year | FY23 BY+1 | FY23 BY+2 | FY23 BY+3 | FY23 BY+4 |
|--------------------------------|-------------------------|------------------------|--------------|--------------|--------------|--------------|
| 5150350 - Health Insurance | 0 | 36 | 36 | 36 | 36 | 36 |
| 5150450 - Medicare Taxation | 0 | 2 | 2 | 2 | 2 | 2 |
| 5150500 - OASDI | 0 | 8 | 8 | 8 | 8 | 8 |
| 5150600 - Retirement - General | 0 | 36 | 36 | 36 | 36 | 36 |
| Total Staff Benefits | \$0 | \$82 | \$82 | \$82 | \$82 | \$82 |

Total Personal Services

| Total Personal Services | FY23 Current Year | FY23 Budget Year | FY23 BY+1 | FY23 BY+2 | FY23 BY+3 | FY23 BY+4 |
|--------------------------------|-------------------------|------------------------|--------------|--------------|--------------|--------------|
| Total Personal Services | \$0 | \$204 | \$204 | \$204 | \$204 | \$204 |