

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

Fiscal Year 2022-23	Business Unit 3540	Department Department of Forestry and Fire Protection	Priority No.
Budget Request Name 3540-019-BCP-2022		Program 2465 FIRE PROTECTION	Subprogram 2465019 FIRE CONTROL

Budget Request Description
 Office of Wildfire Technology Research and Development (SB 109)

Budget Request Summary

The Department of Forestry and Fire Protection (CAL FIRE) requests \$1.8 million General Fund in 2022-23, \$1.7 million ongoing, and 7.0 positions to establish the Office of Wildfire Technology Research and Development, as specified by Chapter 239, Statutes of 2021 (SB 109).

Requires Legislation <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Code Section(s) to be Added/Amended/Repealed	
Does this BCP contain information technology (IT) components? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <i>If yes, departmental Chief Information Officer must sign.</i>	Department CIO	Date

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. _____ **Project Approval Document:** _____

Approval Date: _____

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	Date	Reviewed By	Date
Department Director	Date	Agency Secretary	Date

Department of Finance Use Only

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

PPBA Stephen Benson	Date submitted to the Legislature 1/10/2022
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A. Budget Request Summary

The Department of Forestry and Fire Protection (CAL FIRE) requests \$1.8 million General Fund in 2022-23, \$1.7 million ongoing, and 7.0 positions to establish the Office of Wildfire Technology Research and Development, as specified by Chapter 239, Statutes of 2021 (SB 109).

B. Background/History

Each year, California potentially faces complex disasters ranging from catastrophic wildfires and earthquakes to human-caused oil spills and cybersecurity attacks. The complexities of these disasters seem to grow worse with each passing year, while the overall number of disasters also increases.

California continually faces historic challenges from wildfires as climate change brings hotter and drier weather to the region, wreaking havoc across the state's private and public forests and Wildland Urban Interface (WUI). The 2020 fire season produced five of the seven largest wildfires in California history and saw more than four million acres burned. Together, these fires claimed 33 lives and consumed more than 10,000 structures.

Throughout the state, there are numerous private and public entities working to develop new and improved tools and technologies to better prepare for emergencies and to prevent, engage, and suppress wildfires. However, there is currently no designated government entity funded to function as a centralized conduit for these entities to present emerging tools and technologies to public safety agencies. Additionally, the state's current capacity to conduct independent research and testing is limited.

CAL FIRE currently operates a research and development (R&D) program that partners with federal and state agencies, academic institutions, and private entities to develop projects and products related to fire prevention, fire suppression, and post-fire restoration. Over the years, the Department's R&D program has relied upon individual Departmental programs to oversee a number of projects that have proven to be essential to fire service throughout the country.

CAL FIRE's R&D program has studied, tested, and provided recommendations regarding procurement of emerging technologies and tools in order to prevent and suppress wildfires throughout the state, and has resulted in the following partnerships/contracts:

- Hendrickson Mobile Equipment (HME): Over the past seven years, CAL FIRE pioneered the specification, development, and delivery of the widely used Type 3 Fire Engine Apparatus, Model 34. This fire engine is now used across the country and viewed as the most versatile firefighting apparatus for wildland firefighting, having been adopted by numerous firefighting agencies nationwide, as well as support entities such as CalOES.
- The ALERTWildfire camera network is a product of CAL FIRE's partnership with the University of California, San Diego, and has now grown to include multiple states, public utilities, and universities. This camera network provides critical fire validation capabilities to CAL FIRE's field commanders to better understand a fire's behavior and location during an incident.
- The Department is currently engaged in a partnership with Forest Technology Systems to maintain and calibrate 96 Remote Automated Weather Stations (RAWS) that provide critical fire weather data into the national weather network. The RAWS are maintained to specific standards, allowing the information to feed into the National Fire Danger Rating System (NFDRS). The data and calibration standard, universally adopted by the national wildland fire agencies, is used to create various indices utilized for fire business decisions and is also linked to the Wildland Fire Assessment System (WFAS) technology.

In 2019, Governor Newsom implemented the Request for Innovative Ideas (RFI2) process, which was intended to provide a new approach to problem solving, where instead of a state entity asking a vendor for a product, the state instead asks for a solution to a problem. This flexible approach to procurement allows for innovators and entrepreneurs to provide leading-edge

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solutions, while also allowing for maximum collaboration between the vendor, academic, scientific, and entrepreneurial communities.

Governor Newsom tasked CAL FIRE with becoming the first state entity to successfully implement this process through Executive Order N-04-19. The RFI2 process included in-depth evaluation, ranking, and research of over 100 differing technologies, and resulted in a contract with Technosylva Inc. for wildland fire simulation modeling and forecasting. The Budget Act of 2020 approved funding and positions to implement Technosylva's FireSIM and FireCAST technologies, which were identified by CAL FIRE in collaboration with the California Department of Technology and Department of General Services.

SB 109 was signed by Governor Newsom in September 2021 and establishes the Office of Wildfire Technology Research and Development within the Department of Forestry and Fire Protection under the direct control of the Director of the Department. This office will be responsible for studying, testing, and advising regarding procurement of emerging technologies and tools in order to more effectively prevent and suppress wildfires throughout the state.

C. State Level Consideration

This proposal is consistent with the following goals and objectives in CAL FIRE's 2019 Strategic Plan:

Goal #1: Improve our core capabilities.

Objective 1: Analyze and integrate core operations functions at all levels of the Department.

Objective 2: Evaluate and improve existing emergency response capabilities.

Goal #2: Enhance internal operations

Objective 1: Analyze business support functions and improve operational efficiencies.

Objective 4: Create a secure, responsive, and integrated user-centric technology culture.

D. Justification

In order to comply with SB 109, CAL FIRE will establish the Office of Wildfire Technology Research and Development by expanding its current R&D program. This will be accomplished by leveraging the current staffing that already includes uniquely qualified program experts such as forestry scientists, engineers, and wildland firefighters, in addition to the positions included in this request. These experts and support staff will provide real world testing and research and will establish ongoing partnerships with outside entities that could further foster the collaborative approach to wildfire problem solving. CAL FIRE is already the statewide expert in fire science, and the Department's existing R&D program already has dozens of partners that pioneer in the push to integrate cutting edge technologies into the current firefighting landscape. Supplanting the current R&D program with the Office of Wildfire Technology Research and Development would allow for a seamless transition of those pre-existing partnerships and allow the new staff to demonstrate value from day one.

CAL FIRE will also create a "Fire Service Incubator" within the newly established Office of Wildfire Technology Research and Development. This team will lead in the research, development, and innovation of solutions that preserve the safety of first responders and residents, the integrity of the natural environment, and the resiliency of watersheds and rural communities throughout California. In accordance with its Strategic Plan, CAL FIRE will continue to develop partnerships that present insight, innovation, and the application of new and novel approaches to solving firefighting challenges. Current partnerships have proven to be essential to fire service throughout the country.

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The establishment of the Office of Wildfire Technology Research and Development cannot accomplish the requirements of SB 109 and be fully supported with the existing R&D staffing and funding. Therefore, the additional positions will be required:

- 1.0 Assistant Chief (AC) will be known as the Wildfire Technology R&D Chief, and will coordinate, manage, schedule, and oversee testing, evaluation, and operational implementation of tools and technologies in the field. The AC will also provide actual subject matter expertise for the Office, and interface with appropriate field units, operational programs, and information technology to ensure operational legitimacy of any proposals.
- 1.0 Research Data Manager (RDM) will oversee the operations of the Office. These duties include Department-wide leadership and coordination with allied program resources and directing research and development activities.
- 1.0 Information Technology Specialist II and 1.0 Information Technology Specialist I will manage the general website operation, the website's R&D intake platform, and the website's internal challenge posting platform. They will also lead in the development of dashboards, tools, and website capabilities to help to support the R&D program.
- 2.0 Research Data Specialist I's will liaise between various internal programs and external partners, supporting reporting and research work, writing grants, funding, outreach, and broad-based coordination between R&D partners within CAL FIRE and external entities.
- 1.0 Associate Governmental Program Analyst (AGPA) will oversee and manage the administrative functions of the unit. The AGPA will calendar events, coordinate meetings, oversee ordering and contracts, and manage timesheets in support of the RDM.

The enactment of SB 109 requires CAL FIRE to support and administer an advisory board to provide direction and guidance regarding wildland fire technology research and development.

The area of procurement of emerging technologies and tools is ever changing, and the tort law related to it is very specialized. Although there is a separate statute within the Government Code allowing the Attorney General to approve outside legal representation for the State, CAL FIRE requests separate legal authority within the Public Resources Code to allow the Department to engage expert outside legal counsel to help advise the board on matters within its purview. This aspect was not considered in the formulation of the legislation but will be a necessary addition to ensure appropriate legal decisions and actions are advised and monitored, and ultimately, that these best serve and meet the needs of the State and CAL FIRE.

E. Outcomes and Accountability

If approved, the Department will have the resources necessary to establish the Office of Wildfire Technology Research and Development. This group will lead in the studying, testing, and advising regarding procurement of emerging technologies and tools in order to more effectively prevent and suppress wildfires throughout the state, per SB 109.

F. Analysis of All Feasible Alternatives

Alternative 1: Approve the request of \$1.8 million General Fund in 2022-23, \$1.7 million ongoing, and 7.0 positions to establish the Office of Wildfire Technology Research and Development, as specified by Chapter 239, Statutes of 2021 (SB 109).

Costs:

- \$1.8 million General Fund in 2022-23, \$1.7 million ongoing.

Advantages:

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- Allows CAL FIRE to have a matrixed R&D program to establish and deliver more transparency and communication to the public regarding the organization's engagement.
- Allows CAL FIRE to expand its current R&D program over time and procure funding to add permanent positions to provide adequate support.
- Allows CAL FIRE's R&D program to create a "Fire Service Incubator" that would lead the fire service in the research, development, and innovation of solutions that preserve the safety of first responders and residents, the integrity of the natural environment, and the resiliency of watersheds and rural communities throughout California in accordance with CAL FIRE's Strategic Plan.

Disadvantages:

- Additional General Fund would be required that could be used for other higher priority requests.

Alternative 2: Do not approve funding and positions to comply with the passage of SB 109.

Costs:

- \$0

Advantages:

- Does not require additional General Fund.

Disadvantages:

- CAL FIRE would not develop and implement a matrixed R&D program to establish and deliver more transparency and communication to the public regarding the organization's engagement.
- CAL FIRE would not be able to create a "Fire Service Incubator" that would lead the fire service in the research, development, and innovation of solutions that preserve the safety of first responders and residents, the integrity of the natural environment, and the resiliency of watersheds and rural communities throughout California in accordance with the CAL FIRE Strategic Plan.
- There would be no increased support to expand CAL FIRE's current R&D program over time and procure funding to add permanent positions to provide adequate support.

G. Implementation Plan

Upon approvals and enactment of the Budget Act of 2022, CAL FIRE expects to advertise for the positions through CalCareers and other recruitment outlets. All list eligible, lateral/transfer, and/or State Restriction of Appointments (SROA) candidates will be considered.

H. Supplemental Information

None.

I. Recommendation

Alternative 1. Approve the request of \$1.8 million General Fund in 2022-23, \$1.7 million ongoing, and 7.0 positions to establish the Office of Wildfire Technology Research and Development, as specified by Chapter 239, Statutes of 2021 (SB 109).

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BCP Fiscal Detail Sheet

BCP Title: Office of Wildfire Technology Research and Development (SB 109)

BR Name: 3540-019-BCP-2022-GB

Budget Request Summary

Personal Services

Personal Services	FY22 Current Year	FY22 Budget Year	FY22 BY+1	FY22 BY+2	FY22 BY+3	FY22 BY+4
Positions - Permanent	0.0	7.0	7.0	7.0	7.0	7.0
Total Positions	0.0	7.0	7.0	7.0	7.0	7.0
Earnings - Permanent	0	807	807	807	807	807
Total Salaries and Wages	\$0	\$807	\$807	\$807	\$807	\$807
Total Staff Benefits	0	580	580	580	580	580
Total Personal Services	\$0	\$1,387	\$1,387	\$1,387	\$1,387	\$1,387

Operating Expenses and Equipment

Operating Expenses and Equipment	FY22 Current Year	FY22 Budget Year	FY22 BY+1	FY22 BY+2	FY22 BY+3	FY22 BY+4
5301 - General Expense	0	55	44	44	44	44
5302 - Printing	0	7	7	7	7	7
5304 - Communications	0	14	14	14	14	14
5306 - Postage	0	7	7	7	7	7
5320 - Travel: In-State	0	7	7	7	7	7
5322 - Training	0	14	14	14	14	14
5324 - Facilities Operation	0	49	49	49	49	49
5326 - Utilities	0	7	7	7	7	7
5340 - Consulting and Professional Services - Interdepartmental	0	10	0	0	0	0
5340 - Consulting and Professional Services - External	0	62	61	61	61	61
5346 - Information Technology	0	70	56	56	56	56
5368 - Non-Capital Asset Purchases - Equipment	0	74	17	17	17	17
Total Operating Expenses and Equipment	\$0	\$376	\$283	\$283	\$283	\$283

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Total Budget Request

Total Budget Request	FY22 Current Year	FY22 Budget Year	FY22 BY+1	FY22 BY+2	FY22 BY+3	FY22 BY+4
Total Budget Request	\$0	\$1,763	\$1,670	\$1,670	\$1,670	\$1,670

Fund Summary

Fund Source

Fund Source	FY22 Current Year	FY22 Budget Year	FY22 BY+1	FY22 BY+2	FY22 BY+3	FY22 BY+4
State Operations - 0001 - General Fund	0	1,763	1,670	1,670	1,670	1,670
Total State Operations Expenditures	\$0	\$1,763	\$1,670	\$1,670	\$1,670	\$1,670
Total All Funds	\$0	\$1,763	\$1,670	\$1,670	\$1,670	\$1,670

Program Summary

Program Funding

Program Funding	FY22 Current Year	FY22 Budget Year	FY22 BY+1	FY22 BY+2	FY22 BY+3	FY22 BY+4
2465019 - Fire Control	0	1,763	1,670	1,670	1,670	1,670
Total All Programs	\$0	\$1,763	\$1,670	\$1,670	\$1,670	\$1,670

Personal Services Details

Positions

Positions	FY22 Current Year	FY22 Budget Year	FY22 BY+1	FY22 BY+2	FY22 BY+3	FY22 BY+4
1039 - Asst Chief	0.0	1.0	1.0	1.0	1.0	1.0
1100 - Office Svcs Mgr II	0.0	1.0	1.0	1.0	1.0	1.0
1414 - Info Tech Spec II	0.0	1.0	1.0	1.0	1.0	1.0
5393 - Assoc Govtl Program Analyst	0.0	1.0	1.0	1.0	1.0	1.0
5740 - Research Data Mgr	0.0	1.0	1.0	1.0	1.0	1.0
5742 - Research Data Spec I	0.0	2.0	2.0	2.0	2.0	2.0
Total Positions	0.0	7.0	7.0	7.0	7.0	7.0

Salaries and Wages

Salaries and Wages	FY22 Current Year	FY22 Budget Year	FY22 BY+1	FY22 BY+2	FY22 BY+3	FY22 BY+4
1039 - Asst Chief	0	183	183	183	183	183
1100 - Office Svcs Mgr II	0	116	116	116	116	116
1414 - Info Tech Spec II	0	127	127	127	127	127
5393 - Assoc Govtl Program Analyst	0	84	84	84	84	84
5740 - Research Data Mgr	0	116	116	116	116	116
5742 - Research Data Spec I	0	181	181	181	181	181
Total Salaries and Wages	\$0	\$807	\$807	\$807	\$807	\$807

Staff Benefits

Staff Benefits	FY22 Current Year	FY22 Budget Year	FY22 BY+1	FY22 BY+2	FY22 BY+3	FY22 BY+4
5150900 - Staff Benefits - Other	0	580	580	580	580	580
Total Staff Benefits	\$0	\$580	\$580	\$580	\$580	\$580

Total Personal Services

Total Personal Services	FY22 Current Year	FY22 Budget Year	FY22 BY+1	FY22 BY+2	FY22 BY+3	FY22 BY+4
Total Personal Services	\$0	\$1,387	\$1,387	\$1,387	\$1,387	\$1,387

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Parameters	Selected Values
Year	FY22
Department	3540
House	GB Dept Working
BR Name	3540-019-BCP-2022-GB
Run Time	11/20/2021 06:38:56 PM
Last Data Refresh	11/20/2021, 06:37 PM