

**First Regular Session
Seventieth General Assembly
STATE OF COLORADO**

REVISED

*This Version Includes All Amendments Adopted
on Second Reading in the Second House*

LLS NO. 15-0277.01 Esther van Mourik x4215

HOUSE BILL 15-1129

HOUSE SPONSORSHIP

Kraft-Tharp,

SENATE SPONSORSHIP

Roberts, Grantham, Heath

House Committees

Agriculture, Livestock, & Natural Resources
Appropriations

Senate Committees

Agriculture, Natural Resources, & Energy
Appropriations

A BILL FOR AN ACT

101 **CONCERNING DISASTER PREDICTION AND DECISION SUPPORT SYSTEMS**
102 **BY THE DEPARTMENT OF PUBLIC SAFETY, AND, IN CONNECTION**
103 **THEREWITH, MAKING AN APPROPRIATION.**

Bill Summary

(Note: This summary applies to this bill as introduced and does not reflect any amendments that may be subsequently adopted. If this bill passes third reading in the house of introduction, a bill summary that applies to the reengrossed version of this bill will be available at <http://www.leg.state.co.us/billsummaries>.)

The bill requires the division of fire prevention and control to partner with an organization, by entering into a contract, to establish, support, customize, and maintain a Colorado wildland fire prediction and decision support system.

The bill requires the division of homeland security and emergency

Shading denotes HOUSE amendment. Double underlining denotes SENATE amendment.
Capital letters indicate new material to be added to existing statute.
Dashes through the words indicate deletions from existing statute.

SENATE
Amended 2nd Reading
April 28, 2015

HOUSE
3rd Reading Unamended
April 15, 2015

HOUSE
Amended 2nd Reading
April 14, 2015

management to partner with an organization, by entering into a contract, to establish, support, customize, and maintain a Colorado flood prediction and decision support system.

The bill specifies that the organization must be a nonprofit Colorado-based research organization focused on research, education, and advanced technology development for atmospheric and related earth sciences.

The bill also requires each division to assist in the coordination of users across the state to further refine the systems to best meet all Colorado users' unique requirements.

The bill allows each division to seek and accept gifts, grants, or donations to assist in the development of the Colorado flood prediction and decision support system and the Colorado wildland fire prediction and decision support system.

1 *Be it enacted by the General Assembly of the State of Colorado:*

2 **SECTION 1. Legislative declaration.** (1) The general assembly
3 hereby finds and declares that:

4 (a) Wildland fires are exceedingly complex phenomena. Despite
5 rigorous training, abundant resources, and weather forecasts, even
6 seasoned responders may be tragically unprepared for complex,
7 unpredictable, and dramatic fire behavior. Human intelligence cannot
8 integrate all the interacting factors to anticipate when weather and other
9 factors will combine with topography to dramatically amplify fire
10 behavior.

11 (b) Wildland fires can degrade air quality for days and even weeks
12 across large areas, affecting the health of thousands of people located far
13 from the flames. After a fire, flooding and water quality threats also
14 increase.

15 (c) Studies suggest that severely damaging fire seasons in the
16 United States could occur two to four times more often by midcentury.
17 Colorado's most destructive fire on record struck near Colorado Springs

1 in June 2013, resulting in two deaths and the destruction of more than
2 five hundred homes.

3

4 (d) Since 2000, wildland fire suppression in the United States has
5 cost more than two billion dollars per year. According to some
6 economists, the economic impact from natural resource loss, land
7 rehabilitation, and lost business and recreation are far greater, as much as
8 ten to fifty times the fire suppression costs. Some of the contributing
9 factors to these increased costs include:

10 (I) Increased development in the wildlands, thereby increasing the
11 population living in the wildland-urban interface;

12 (II) A century of fire suppression practices that have altered the
13 state of the wildlands; and

14 (III) Climate variability such as drought and early snow melt
15 overlapping with weather events such as Front Range windstorms that
16 favor large fire growth.

17

18 (e) Being able to predict fire behavior simultaneously with
19 weather is exceedingly important. It is understood that decision makers
20 need reliable, accurate, up-to-the-minute, state-of-the-art, tailored, and
21 geo-referenced current and predicted information that is easily accessible
22 at all times. Timely information allows decision makers to better judge
23 current conditions, future trends, transitions in wind speed or direction,
24 and the potential for rapid growth and extreme fire behaviors.

25 (f) Prediction systems are needed for wildland fires that
26 predict fire behavior and that couple numerical weather prediction
27 with wildland fire modules to predict fire behavior. Advanced

1 fire behavior technologies developed and tested in Colorado would be
2 extraordinarily helpful to Colorado.

3 (2) Now, therefore, it is the general assembly's intent in enacting
4 House Bill 15-1129 to further support the development of a fire
5 prediction and decision support system and to ensure that such a system
6 is tailored to meet the state's needs.

7 **SECTION 2.** In Colorado Revised Statutes, add 24-33.5-1232 as
8 follows:

9 **24-33.5-1232. Colorado wildland fire prediction and decision**
10 **support system - definitions - development - contract.** (1) AS USED IN
11 THIS SECTION, UNLESS THE CONTEXT OTHERWISE REQUIRES:

12 (a) "ORGANIZATION" MEANS AN ORGANIZATION THAT IS
13 ORGANIZED AS A NOT-FOR-PROFIT ENTITY OR HAS OBTAINED TAX-EXEMPT
14 STATUS UNDER SECTION 501 OF THE FEDERAL "INTERNAL REVENUE CODE
15 OF 1986", AS AMENDED, AND IS A COLORADO-BASED RESEARCH
16 ORGANIZATION FOCUSED ON RESEARCH, EDUCATION, AND ADVANCED
17 TECHNOLOGY DEVELOPMENT FOR ATMOSPHERIC AND RELATED EARTH
18 SCIENCES. THE ORGANIZATION MUST HAVE THE ABILITY TO PROVIDE
19 ENVIRONMENTAL PREDICTIONS AND CONDUCT A WIDE RANGE OF
20 HYDROLOGIC AND WEATHER SCIENCE. THE ORGANIZATION MUST ALSO
21 HAVE STRONG ENVIRONMENTAL MODELING AND RELATED APPLIED
22 RESEARCH FUNCTIONALITY, INCLUDING ROBUST TIES TO THE STATE AND
23 NATIONAL UNIVERSITY AND SCIENCE COMMUNITY SO AS TO OBTAIN
24 ADDITIONAL EXPERTISE AND PARTNERING AS NEEDED.

25 (b) "SYSTEM" MEANS THE COLORADO WILDLAND FIRE PREDICTION
26 AND DECISION SUPPORT SYSTEM.

27 (c) "USERS" MEANS ALL GOVERNMENT ENTITIES.

1 (2) (a) BEGINNING WITH THE 2015-16 STATE FISCAL YEAR, THE
2 DIVISION, THROUGH ITS CENTER OF EXCELLENCE FOR ADVANCED
3 TECHNOLOGY AERIAL FIREFIGHTING CREATED IN SECTION 24-33.5-1228
4 (2.5), SHALL ESTABLISH AND SUPPORT A COLORADO WILDLAND FIRE
5 PREDICTION AND DECISION SUPPORT SYSTEM.

6 (b) THE SYSTEM MUST BE SCIENCE BASED AND ABLE TO:

7 (I) IMPROVE THE ABILITY OF THE DIVISION TO PREDICT WILDLAND
8 FIRE BEHAVIOR BY TAKING ADVANTAGE OF TECHNOLOGIES EMERGING
9 FROM AN ORGANIZATION;

10 (II) IMPROVE THE SAFETY AND EFFICIENCY OF THE DIVISION'S
11 OPERATIONS;

12 (III) IMPROVE FLIGHT OPERATIONS OF THE COLORADO
13 FIREFIGHTING AIR CORPS CREATED IN SECTION 24-33.5-1228 BY PROVIDING
14 AVIATION WEATHER HAZARD INFORMATION SUCH AS UPDRAFTS,
15 DOWNDRAFTS, ROTORS, AND WIND SHEAR;

16 (IV) ENHANCE MECHANISMS FOR COMMUNICATING WILDLAND FIRE
17 HAZARD INFORMATION TO USERS; AND

18 (V) INTEGRATE WILDLAND FIRE BEHAVIOR INFORMATION WITH
19 PREDICTION TECHNOLOGIES INTO INFORMATION INFRASTRUCTURES THAT
20 SERVE USERS.

21 (c) THE DIVISION SHALL ASSIST IN THE COORDINATION OF USERS
22 ACROSS THE STATE TO FURTHER REFINE THE SYSTEM. ■ ■

23 (d) NOTWITHSTANDING THE REQUIREMENTS OF ARTICLES 101 TO
24 112 OF THIS TITLE, NO LATER THAN DECEMBER 1, 2015, THE DIRECTOR OF
25 THE DIVISION SHALL ENTER INTO A CONTRACT TO PARTNER WITH AN
26 ORGANIZATION FOR THE ESTABLISHMENT AND SUPPORT OF THE SYSTEM.
27 THE DIVISION MAY NOT BE REQUIRED TO PERFORM WORK OR PROVIDE

1 ASSISTANCE THAT IS OUTSIDE OF THE DIVISION'S SCOPE OF
2 RESPONSIBILITIES AS ESTABLISHED IN THE CONTRACT.

3 (e) AFTER THE CONTRACT IS ENTERED INTO, THE DIVISION AND THE
4 ORGANIZATION SHALL FURTHER DEVELOP THE SYSTEM BY INCLUDING
5 DETAILED USER REQUIREMENTS AND USER-CENTRIC VERIFICATION
6 METRICS AND METHODS AND SHALL BUILD A COLORADO-SPECIFIC
7 FRAMEWORK THAT INCLUDES:

8 (I) DATA INGESTION OF REAL-TIME WEATHER, UP-TO-DATE FUEL
9 INFORMATION, AND FIRE DETECTION DATA;

10 (II) THE CAPABILITY TO EASILY CONFIGURE A FIRE'S LOCATION,
11 DOMAIN SIZE, GRID RESOLUTION, AND FIRE IGNITION TIME; AND

12 (III) DATA INTERFACES AND DISPLAY APPLICATIONS THAT ALLOW
13 USERS TO VIEW THE OUTPUT ON A VARIETY OF PLATFORMS, INCLUDING
14 MOBILE DEVICES AND EXISTING APPLICATIONS AND SYSTEMS.

15 (3) THE DIVISION MAY SOLICIT AND ACCEPT MONETARY AND
16 IN-KIND GIFTS, GRANTS, AND DONATIONS FROM PRIVATE OR PUBLIC
17 SOURCES FOR THE PURPOSES OF THIS SECTION. ALL PRIVATE AND PUBLIC
18 MONEYS RECEIVED BY THE DIVISION THROUGH GIFTS, GRANTS, OR
19 DONATIONS MUST BE TRANSMITTED TO THE STATE TREASURER, WHO
20 SHALL CREDIT THE SAME TO THE COLORADO FIREFIGHTING AIR CORPS
21 FUND CREATED IN SECTION 24-33.5-1228. THE GIFTS, GRANTS, OR
22 DONATIONS CREDITED TO THE FUND FOR THE PURPOSES OF THIS SECTION
23 ARE CONTINUOUSLY APPROPRIATED TO THE DIVISION FOR THE DIRECT AND
24 INDIRECT COSTS ASSOCIATED WITH THE IMPLEMENTATION OF THIS
25 SECTION.

26 **SECTION 3.** In Colorado Revised Statutes, 24-33.5-1228,
27 **amend** (2.5) (b) (II) (B) and (2.5) (b) (III); and **add** (2.5) (b) (IV) as

1 follows:

2 **24-33.5-1228. Colorado firefighting air corps - creation -**
3 **powers - aircraft acquisitions required - center of excellence -**
4 **Colorado firefighting air corps fund - creation - report - legislative**
5 **declaration - rules.** (2.5) (b) The center of excellence shall perform, but
6 is not limited to, the following functions:

7 (II) Review current regular research and assessment projects to
8 evaluate:

9 (B) Sustainable contracting and value propositions to determine
10 which technologies and contract vehicles are most advantageous and
11 cost-effective to entities performing or providing aerial firefighting; ~~and~~

12 (III) Review current data and documentation on science and
13 technology relevant to aerial firefighting and make the results of the
14 center of excellence's research and assessment projects available to
15 persons interested in aerial firefighting effectiveness, efficiency, and
16 sustainability, including fire managers, policy decision-makers, scientists,
17 students, and any other requesting persons; AND

18 (IV) ESTABLISH AND SUPPORT A COLORADO WILDLAND FIRE
19 PREDICTION AND DECISION SUPPORT SYSTEM IN ACCORDANCE WITH
20 SECTION 24-33.5-1232.

21 ■ ■ ■

22 **SECTION 4. Appropriation.** For the 2015-16 state fiscal year,
23 \$600,000 is appropriated to the department of public safety for use by the
24 division of fire prevention and control. This appropriation is from the
25 GENERAL FUND AND IS BASED ON AN ASSUMPTION THAT THE DIVISION WILL
26 REQUIRE AN ADDITIONAL 0.5 FTE. To implement this act, the division may
27 use this appropriation to establish and support a Colorado wildland fire

1 prediction and decision support system.

2 **SECTION 5. Safety clause.** The general assembly hereby finds,
3 determines, and declares that this act is necessary for the immediate
4 preservation of the public peace, health, and safety.