

September 3, 2015

To: Senator Lois Wolk  
State Capitol Room 5114  
Sacramento, CA 95814

c/o: Mindy Simmons [Mindy.Simmons@sen.ca.gov](mailto:Mindy.Simmons@sen.ca.gov)

The California GIS Council hereby endorses Senate Joint Resolution 18, requesting that the Federal government facilitate the use of Unmanned Aircraft Systems (drones) for agriculture in counties designated as being in "severe drought" by NOAA. It requests that the draft FAA rules on UAS operation, issued February 2015, apply to drought-affected agriculture in order to enable better water conservation and crop management.

The California GIS Council is a non-profit, voluntary organization established to enable California's professional geospatial community to work together to develop, maintain, and share accurate and consistent place-based information, making it accessible to the general public and to the agencies and organizations that serve them. The Council's members come from local, State, and federal jurisdictions, tribal governments, universities, and the private sector. They contribute their professional knowledge and experience to advise and offer recommendations on public policy issues concerning the creation, maintenance, use, and distribution of geographic information for the benefit of all Californians. The Council acts as an advisory body to members of its constituencies, the State Geographic Information Officer, and agencies and groups that develop and implement geospatial initiatives, policies, and standards, by providing recommendations, best practices, and expertise.

#### Discussion

Using UASs to carry multi-spectral and thermal imagery cameras for mapping would enable farmers to obtain up-to-date information about the health of their crops far more frequently, at a higher resolution, and at lower cost than more traditional satellite or piloted aircraft methods. This imagery enables estimation of how much water is needed on a daily basis to meet the demands of plants, and it can help detect which plants have shut down as a result of not having enough water at the root zone. In addition, UAS-based imagery can help detect problems that exist in irrigation systems, such as broken lines, clogged lines, and areas of uneven application.

The FAA rules still require a lot of paperwork, which may discourage many farmers from participating. A better request might be that the FAA allow UASs to be used for agriculture in drought counties that follow hobbyist rules. However, the current request can serve the

intended purpose. U.C. Davis has been designated as a "Center of Excellence" by the FAA, thus positioning it to propose a broad COA that would include a representative sampling of drought-stricken farmers. This proposal could help California to prototype automated UAS traffic control, allowing California to increase air safety and reduce the amount of water, fertilizer, and pesticide needed to grow crops.

This resolution advances the Governor's Executive Order B-29-15, signed in January 2014, in which item 17 recommends that we should invest in new technologies:

**INVEST IN NEW TECHNOLOGIES**

17. The California Energy Commission, jointly with the Department and the Water Board, shall implement a Water Energy Technology (WET) program to deploy innovative water management technologies for businesses, residents, industries, and agriculture. This program will achieve water and energy savings and greenhouse gas reductions by accelerating use of cutting-edge technologies such as renewable energy-powered desalination, integrated on-site reuse systems, water-use monitoring software, irrigation system timing and precision technology, and on-farm precision technology.

Sincerely,

  
Mark Greninger  
California GIS Council Chair