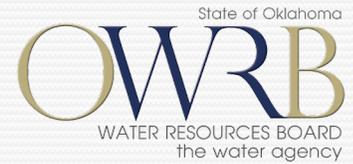


# OKLAHOMA WATER RESOURCES BOARD THE FLOOD CURRENT

Volume 25, Issue 1

Summer 2014



NEWSLETTER OF THE OKLAHOMA FLOODPLAIN MANAGEMENT PROGRAM



Visit our website for Watershed Discovery Reports.

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## Discovery Reports Available Online

OWRB Floodplain Management staff continue to be involved in the FEMA Risk MAP Program. A Discovery Meeting was recently conducted in Skiatook for the Bird Creek Watershed, which encompasses portions of four counties as well as fifteen cities and towns. The following Discovery Reports are currently available on our [Cooperating Technical Partners](#) page:

- Grand Lake O' the Cherokees
- Lower Canadian-Walnut
- Lower Cimarron-Skeleton
- Lower North Canadian
- Lower Verdigris
- Middle North Canadian
- Polecat-Snake



## 2014-2015 Workshops Announced

The dates and locations of Floodplain Management Workshops for the 2014-2015 training year have been posted on our [Workshops](#) page. The OWRB offers these workshops to Community Floodplain Administrators so they may meet the State accreditation requirement of 6 continuing education credits (CECs) per year.

Additionally, based on feedback provided to OWRB FPM Staff, we will be offering FPM 202: Roles and Responsibilities of the FPA, which is focused on the practical application of the floodplain damage prevention ordinance, development permitting, map comprehension, and flooding basics.

## New Team Member Kasie Stambaugh



Last May, the OWRB's Floodplain Management Program welcomed new team member Kasie Stambaugh. Kasie transferred to the program from the OWRB's Water Quality Division, where she worked as an intern until she completed the Master of Science

in Environmental Science program at Oklahoma State University. Since joining the team, Kasie has been providing Community Assistance Visits and Community Assistance Contacts to participating NFIP communities. She has also been providing technical and general floodplain assistance by phone. Kasie will be attending the upcoming Floodplain Management courses and is looking forward to meeting Oklahoma's Floodplain Administrators in person.

in Environmental Science program at Oklahoma State University.

Welcome Kasie!

## Floodplain Mapping with LiDAR

LiDAR, which stands for Light Detection and Ranging, is a remote sensing method that uses light in the form of a pulsed laser to measure ranges (variable distances) to Earth. When an airborne laser is pointed at a targeted area on the ground, the beam of light is reflected by the surface it encounters. A sensor records this reflected light to measure a range. When laser ranges are combined with position and orientation data generated from integrated GPS and Inertial Measurement Unit systems, scan angles, and calibration data, the result is a dense, detail-rich group of elevation points, called a "point cloud."

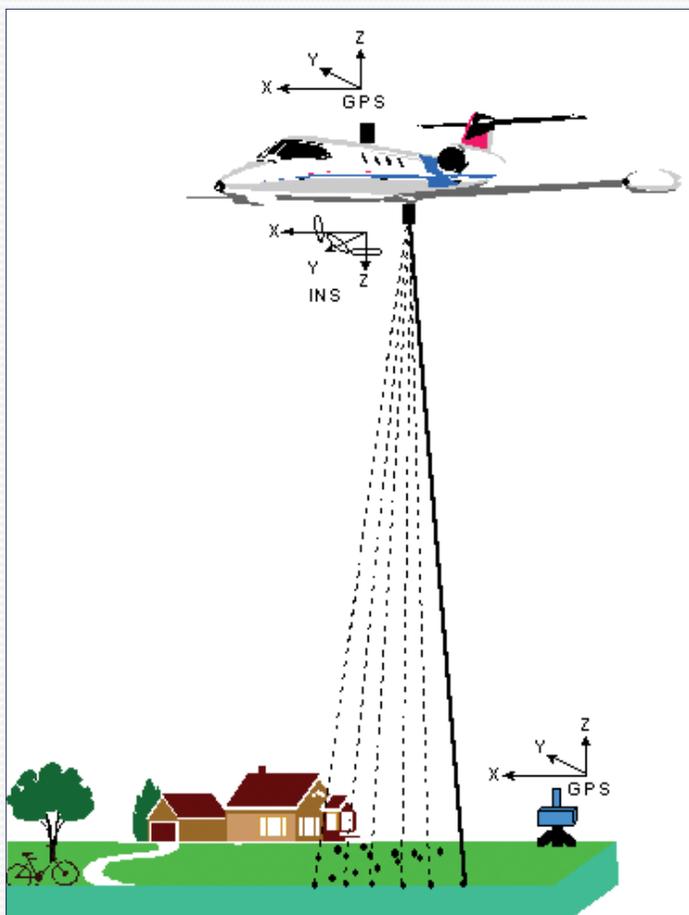
Each point in the point cloud has three-dimensional spatial coordinates (latitude, longitude, and height) that correspond to a particular point on the Earth's



surface from which a laser pulse was reflected. The point clouds are used to generate other geospatial products, such as digital elevation models, canopy models, building models, and contours. The digital elevation model (DEM) that describes the ground topography uses a regularly spaced grid of elevation values. In urban areas, a similar separation is done to identify returns from the ground versus those from buildings and structures. In case of impoundments and dams, the data is used to monitor the shape and condition of the structure, and compute upstream/downstream inundation areas.

Use of LiDAR has allowed floodplain mapping to move to a degree of accuracy that before was not available on a wide scale. Currently a significant portion of Oklahoma has had LiDAR collected through federal, state, and local partners. With continued implementation of Risk MAP, the long term goal is to have LiDAR collected for all counties in support of multiple state activities, not just floodplain mapping.

Sources: <http://oceanservice.noaa.gov/facts/lidar.html>,  
[http://pugetsoundlidar.ess.washington.edu/laser\\_altimetry\\_in\\_brief.pdf](http://pugetsoundlidar.ess.washington.edu/laser_altimetry_in_brief.pdf)



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*As the National Flood Insurance Program (NFIP) State Coordinator, the Oklahoma Water Resources Board (OWRB) partners with other state and federal agencies and local governments to prevent and mitigate the catastrophic effects of flooding disasters in Oklahoma.*

*For more information, go to [www.owrb.ok.gov/fpm](http://www.owrb.ok.gov/fpm) or call (405) 530-8800.*