

TR202510: Use of Small UAVs for Field Measurement of Hydraulic Parameters in Small Drainage Basins

Questions and Answers

Q1: Can you clarify if clear water is assumed in drainage basins?

This information makes a big difference in terms of sensing technology in this application. Particularly visual sensors cannot see through muddy water.

A1: No. While clear water would be an ideal situation for visual sensors, it should not be assumed that is the typical situation encountered during field collection. One end project goal would be to be able to use the technology on any stream (within a certain range) during routine conditions and during more extreme flooding conditions, if necessary (which tend to be more turbulent).

Q2: The RFP mentions the use of UAVs for small drainage basins, are there specific or targeted stream reaches of interest?

A2: No specific stream reaches of interest. General basin sizes are anticipated to range from 10 sq. miles to 100 sq. miles but can vary depending on teams' proposal. Preferable to have locations in varying drainage basin size and regions within Missouri.

Q3: Will MoDOT provide field survey UAVs, or should they be included within the project budget?

A3: This should be considered part of the budget as necessary.

Q4: Can the project be led by a team where the principal investigator does not have a PE license, but the co-principal investigator holds a PE license in Missouri?

A4: NO, there can be two joint co-PIs where one has a PE and one does not. But the non-PE person cannot be listed as the main PI.

Q5: The due date on the website says October 14th, and the PDF says October 16th. Can you please clarify which date to follow?

A5: The correct date is October 16.

Q6: The first page of the RFP states that the project must be led by a Professional Engineer (PE) in Missouri. Does this mean the PE needs to be the Lead Principal Investigator (PI), or are they only required to seal the report?

If so, can universities outside of Missouri lead the proposal?

A6: The PE needs to be the PI or there can be two co-PIs (see question 4). Universities can be outside Missouri but the PI must have a Missouri PE. This is state law within Missouri.

Q7: What are the typical characteristics of the drainage basins focused on in this study? Will the five selected drainage basins be announced, or are they chosen by the investigators?

A7: See the answer to question 2 above about typical characteristics. Would recommend the proposals provide a list of locations they're willing to investigate and the number of sites should they chose to consider more than 5. The final locations will be agreed upon between the TAC and the winning team.

Q8: Will bathymetry, velocities, and flow depth be measured during flooding by drone at the same time?

A8: MoDOT considers this to be part of the procedure and should be determined by the research team.