



ESP Associates, P.A. proposes to present a training session at the New Mexico Floodplain Managers Association Spring 2018 Workshop. The session will provide an introduction to 2D modeling with a primary focus on the capabilities of the latest version of the US Army Corps of Engineers HEC-RAS software. Since ESP Associates has worked with the University of New Mexico's Earth Data Analysis Center (EDAC) on several Base Level Engineering (BLE) Analyses within the State of New Mexico, the presentation will conclude with several interactive examples of opportunities for utilizing the latest 2D BLE models. This will include model revisions and updates, dam breach analyses, and flood monitoring. ESP is excited to offer this training session as a unique way to present the 2D models developed for the latest BLE analyses and also to encourage and equip those interested in learning more about the process of developing 2D models in HEC-RAS.

ESP plans to present this training session over approximately 4 hours, with a proposed schedule as follows:

#### Introduction to 2D Modeling (30 minutes)

- 1D vs 2D modeling
- Foundational elements of a 2D model (Hydrology/Hydraulics)
- Different 2D methodologies
- Various programs used for 2D modeling

#### 2D Modeling with HEC-RAS (2 hours)

- HEC-RAS basics
- Simple model how-to
- Different modeling options
  - o Geometry File
  - o Boundary conditions/flow sources
  - o Run options
- RAS Mapper (30 minutes)
  - o Includes running a HEC-RAS model and diagnosing results

#### The Many Uses of 2D BLE Models (1.5 hours, interactive, step-by-step training)

- Updating and manipulating BLE models
- Dam breaches
- Flood monitoring/warning