1. **HEC-RAS:** HEC-RAS is a computer program for modeling water flowing through systems of open channels and computing water surface profiles. HEC-RAS finds particular commercial application in floodplain management and flood insurance studies to evaluate floodway encroachments. Some of the additional uses are: bridge and culvert design and analysis, levee studies, and channel modification studies. It can be used for dam breach analysis, though other modeling methods are presently more widely accepted for this purpose.

2. **CCHE 2D:** It is a general model for two-dimensional simulation and analysis of river flows, dam break flows, non-uniform sediment transport, morphologic processes, coastal processes, pollutant transport and water quality

3. **ENVI:** ENVI combines advanced image processing and proven geospatial technology to help you extract meaningful information from all kinds of data and make better decisions.

4. **ARC GIS:** ArcGIS is a geographic information system (GIS) for working with maps and geographic information. It is used for: creating and using maps; compiling geographic data; analyzing mapped information; sharing and discovering geographic information; using maps and geographic information in a range of applications; and managing geographic information in a database.

5. **HYDRUS**: Proprietary (HYDRUS 2D/3D) Hydrus is a suite of Windows-based modeling software that can be used for analysis of water flow, heat and solute transport in variably saturated porous media (e.g., soils).

6. **WMS:** (Watershed Modeling System) is proprietary software application from Aquaveo used to develop watershed computer simulations

7. **MIKE 1-1:** It is a computer program that simulates flow and water level, water quality and sediment transport in rivers, flood plains, irrigation canals, reservoirs and other inland water bodies. MIKE 11 is a 1-dimensional river model. It was developed by DHI

8. **ARC SWAT:** It is an ArcGIS-ArcView extension and graphical user input interface for SWAT.

9. **QGIS:** QGIS (previously known as Quantum GIS) is a cross-platform free and open-source desktop geographic information system (GIS) application that provides data viewing, editing, and analysis. Similar to other software GIS systems, QGIS allows users to create maps with many layers using different map projections.

10. **ERDAS IMAGINE:** ERDAS Imagine is a remote sensing application with raster graphics editor abilities designed by ERDAS for geospatial applications. The latest version is 2015. Imagine is aimed mainly at geospatial raster data processing and allows users to prepare, display and enhance digital images for mapping use in geographic information system (GIS) and computer-aided design (CAD) software.

11. **WEAP**: Water Evaluation and Planning system is a Windows-based decision support system for integrated water resources management and policy analysis. WEAP is a model-building tool, used to create simulations of water demand, supply, runoff, evapotranspiration, infiltration, crop irrigation requirements, instream flow

requirements, ecosystem services, groundwater and surface storage, reservoir operations, and pollution generation, treatment, discharge and instream water quality, all under scenarios of varying policy, hydrology, climate, land use, technology and socio-economic factors.

12. **MIKE11:** MIKE 11 is a computer program that simulates flow and water level, water quality and sediment transport in rivers, flood plains, irrigation canals, reservoirs and other inland water bodies. MIKE 11 is a 1-dimensional river model.

13. **ARCGIS:** ArcGIS is a geographic information system (GIS) for working with maps and geographic information. It is used for: creating and using maps; compiling geographic data; analyzing mapped information; sharing and discovering geographic information; using maps and geographic information in a range of applications; and managing geographic information in a database.

14. **INVEST**: InVEST models are spatially-explicit, using maps as information sources and producing maps as outputs. InVEST returns results in either biophysical terms (e.g., tons of carbon sequestered) or economic terms (e.g., net present value of that sequestered carbon).

15. **SDSM**: SDSM (Statistical DownScaling Model) is a decision support tool for assessing local climate change impacts from outputs of global climatic change using statistical downscaling approach. SDSM facilitates the rapid development of multiple, low-cost, single-site scenarios of daily surface weather variables under current and future regional climate forcing.

16. **GMS 10.2**: GMS is advanced 3D simulation software for groundwater flow & transport modeling.

17. **FEFLOW**: FEFLOW provides best-in-class technology for groundwater flow, contaminant, groundwater age and heat transport simulations. With its efficient user interface and its yet unmatched range of functionality and flexibility, FEFLOW has become a standard in premium groundwater modelling over the last 35 years

18. **COMSOL MULTI PHYSICS**: COMSOL Multiphysics is a finite element analysis, solver and simulation software / FEA software package for various physics and engineering applications, especially coupled phenomena, or multiphysics. The package is cross-platform (Windows, Mac, and Linux). In addition to conventional physics-based user interfaces, COMSOL Multiphysics also allows entering coupled systems of partial differential equations (PDEs). The PDEs can be entered directly or using the so-called weak form.