

## GEOSPATIAL TECHNOLOGIES FOR FLOOD DISASTER MANAGEMENT

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	Topic name	Learning outcomes	Learning activities / Assignments	Basic learning materials
<b>Day 1</b>	Introduction to the GeoSpatial Technologies and disaster management cycle (mitigation, preparedness, response and recovery)	<ul style="list-style-type: none"> <li>• To explain basic knowledge about GeoSpatial Technologies</li> <li>• To examine phases of disaster management cycle</li> <li>• To analyze critically the disaster management of your country</li> </ul>	<ul style="list-style-type: none"> <li>• Introduction presentation</li> <li>• Lectures (Providing some reading materials)</li> <li>• Sharing personal experience in disaster management</li> <li>• Group Discussion on phases of the disaster management</li> <li>• Role playing in flood disaster management</li> </ul>	<ul style="list-style-type: none"> <li>• PowerPoint slides</li> <li>• Web pages  <a href="http://www.un.org/esa/sustdev/publications/flood_guidelines_sec02.pdf">http://www.un.org/esa/sustdev/publications/flood_guidelines_sec02.pdf</a>  <a href="https://www.environmentalscience.org/geospatial-technology">https://www.environmentalscience.org/geospatial-technology</a>  <a href="https://www.aaas.org/content/what-are-geospatial-technologies">https://www.aaas.org/content/what-are-geospatial-technologies</a> </li> <li>• Computer lab with appropriate software (QGIS)</li> </ul>
<b>Day 2</b>	Methods and Practice using GeoSpatial Technologies in pre-disaster management (mitigation and preparedness)	<ul style="list-style-type: none"> <li>• To describe hazard analysis and risk modelling</li> <li>• To interpret incident information</li> <li>• To apply GeoSpatial Technologies to interpret the disaster management</li> <li>• To design evacuation zone profiles</li> </ul>	<ul style="list-style-type: none"> <li>• Lectures</li> <li>• Sharing personal experience</li> <li>• Group Discussion about mitigation and preparedness of disaster management</li> <li>• Providing some reading materials</li> <li>• Lab session</li> </ul>	<ul style="list-style-type: none"> <li>• Maps and shapefiles</li> <li>• QGIS</li> <li>• Web pages  <a href="https://www.onlinejournal.in/IJIRV2I3/025.pdf">https://www.onlinejournal.in/IJIRV2I3/025.pdf</a> </li> <li>• PowerPoint slides</li> <li>• Computer lab with appropriate software (QGIS)</li> </ul>
<b>Day 3</b>	Methods and Practice using GeoSpatial Technologies post-disaster management (response and recovery)	<ul style="list-style-type: none"> <li>• To discuss the role of GeoSpatial Technologies in damage assessment and emergency management</li> <li>• To apply GeoSpatial Technologies in flood disaster recovery plan</li> <li>• To design evacuation routes</li> </ul>	<ul style="list-style-type: none"> <li>• Lectures</li> <li>• Sharing personal experience</li> <li>• Group Discussion about response and recovery of disaster management</li> <li>• Providing some reading materials</li> <li>• Lab session</li> </ul>	<ul style="list-style-type: none"> <li>• Maps and shapefiles</li> <li>• QGIS</li> <li>• Web pages</li> <li>• PowerPoint slides</li> <li>• Computer lab with appropriate software (QGIS)</li> </ul>
<b>Day 4</b>	Case Study and Group Project	<ul style="list-style-type: none"> <li>• To recognize the flooding disaster of Turrialba, Costa Rica</li> <li>• To interpret information about floods in the study area</li> <li>• To evaluate solutions to minimize the impacts of floods in the study area</li> <li>• To propose a workable disaster management plan for the study area</li> </ul>	<ul style="list-style-type: none"> <li>• Lab session</li> <li>• Group Discussion about the case study and group project</li> </ul>	<ul style="list-style-type: none"> <li>• QGIS</li> <li>• Dataset (csv files)</li> <li>• Computer lab with appropriate software (QGIS)</li> </ul>
<b>Day 5</b>	Presentation and Results	<ul style="list-style-type: none"> <li>• To demonstrate communication of scientific research results</li> <li>• To evaluate the results of the flooding project</li> </ul>	<ul style="list-style-type: none"> <li>• Presentation of the results of the project work</li> </ul>	<ul style="list-style-type: none"> <li>• StoryMaps  <a href="https://storymaps.arcgis.com/en/">https://storymaps.arcgis.com/en/</a> </li> <li>• PowerPoint slides</li> <li>• A multi-media room for presentation</li> </ul>