

<b>General Characteristics</b>		
1	<b>Abstract of Model Capabilities</b>	The CONSEQUENCES ASSESSMENT TOOL SET (CATS) estimates the consequences of natural and technological disasters to population, resources and infrastructure. Hazards accounted for in CATS range from those associated with natural disasters, such as hurricane winds, to those associated with technological actions and acts of war.
2	<b>Sponsor and/or Developing Organization</b>	Defense Special Weapons Agency, Federal Emergency Management Agency/Science Applications International Corporation.
3	<b>Last Custodian/ Point of Contact</b>	Defense Special Weapons Agency
4	<b>Life-Cycle</b>	Program Initiated: 1993
5	<b>Model Description Summary</b>	For use in the estimation of hazards and the consequences of chemical, radiological, and biological incidents, CATS can be operated in two modes: Express and Detailed. Expressed input allows a user, otherwise untrained in the science of hazard assessment, to generate distributions of radiation intensities or concentrations of biological or user, otherwise untrained in the science of hazard assessment, to generate distributions of radiation intensities or concentrations of biological or chemical agents using predefined event types, combined with current weather information. Terrorist events include explosive dispersal of agents from large and small canisters, as well as ground and aircraft sprayers. Military events include deployment of all manner of munitions, delivering nuclear, biological and chemical warheads in credible spatial distributions. The Detailed input option allows the experienced CATS user to vary a large number of input parameters, describing munitions, agents and their manner of deployment, as well as environment variables, including multi-dimensional wind fields. While there are other code systems available that permit the display of hazard distribution, CATS emphasizes the calculation and analysis of consequences. The technological hazard spatial and temporal distributions into probabilities of casualties, including both mortality and morbidity. These probabilities can be created for diverse exposure scenarios, including time-varying protective measures. CATS operates within a full featured GIS. This allows the user to do far more than merely display graphical representations of hazard footprints on map backgrounds. Rather, CATS analytical tools enable the user to combine multiple layers of information, hazards, casualty probabilities and population, to determine total number of persons effected, as well as levels and extent of property damage and event impact on the infrastructure. It provides the flexibility to incorporate a wide range of user-specific, geo-referenced data bases, all within the spatial context of geo-referenced vector, faster and photographic images.
6	<b>Application Limitation</b>	CATS has been used for numerous exercises for scenario development and real-time play. For example, CATS has been deployed to Atlanta for the Olympics and to Denver for the G-8 meeting.
12	<b>User-Friendliness</b>	A user-friendly, UNIX-based software package, CATS combines state-of-the-art hazard and consequence prediction, digital databases and a Geographic Information System (GIS) within an easy-to-learn graphical user interface. Developed under the guidance of the US Defense Special Weapons Agency (DSWA) and US Federal Emergency Management Agency (FEMA), CATS provides significant assistance in emergency managers' training, exercises, contingency planning, logistical planning and calculating requirements for humanitarian aid. CATS provides for the calculation of hazards from a variety of sources, particularly those associated with weapons of mass destruction, as employed by military forces or terrorists. A graphical user interface (GUI) and predefined event scenarios assist the CATS user in predicting credible hazards resulting from the dispersal of radiological, biological and chemical agents, regardless of the user's level of expertise and access to information.
13	<b>Hardware-Software Interface Constraints/ Requirements</b>	CATS operates on SUN and IBM UNIX work stations. It requires license for ArcView, Version 3.0 or later, and ARC/INFO, Version 7.0.3 or later with GRID option, and approximately 5 gigabytes of disk space to accommodate the entire software package, including a reasonable amount of geographic, population and other infrastructure data.
<b>Specific Characteristics</b>		
<b>Part A: Source Term Submodel Type</b> (No Information Provided.)		
<b>Part B: Dispersion Submodel Type</b> (No Information Provided.)		
<b>Part C: Transport Submodel Type</b> (No Information Provided.)		
<b>Part D: Fire Submodel Type</b> (No Information Provided.)		
<b>Part E: Energetic Events Submodel Type</b> (No Information Provided.)		

<b>Part F: Health Consequence Submodel Type</b> (No Information Provided.)
<b>Part G: Effects and Countermeasures Submodel Type</b> (No Information Provided.)
<b>Part H: Physical Features of Model</b> (No Information Provided.)
<b>Part I: Model Input Requirements</b> (No Information Provided.)
<b>Part J: Model Output Capabilities</b> (No Information Provided.)
<b>Part K: Model Usage Considerations</b> (No Information Provided.)