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## ▶ Group Capability Model

*John F. Kennedy Space Center, Florida*

The Group Capability Model (GCM) is a software tool that allows an organization, from first line management to senior executive, to monitor and track the health (capability) of various groups in performing their contractual obligations. GCM calculates a Group Capability Index (GCI) by comparing actual head counts, certifications, and/or skills within a group. The model can also be used to simulate the effects of employee usage, training, and attrition on the GCI.

A universal tool and common method was required due to the high risk of losing skills necessary to complete the Space Shuttle Program and meet the needs of the Constellation Program. During this transition from one space vehicle to another, the uncertainty among the critical

skilled workforce is high and attrition has the potential to be unmanageable.

GCM allows managers to establish requirements for their group in the form of head counts, certification requirements, or skills requirements. GCM then calculates a Group Capability Index (GCI), where a score of 1 indicates that the group is at the appropriate level; anything less than 1 indicates a potential for improvement. This shows the “health” of a group, both currently and over time. GCM accepts as input head count, certification needs, critical needs, competency needs, and competency critical needs. In addition, team members are categorized by years of experience, percentage of contribution, ex-members and their skills, availability, function, and “in-work” requirements. Outputs are several re-

ports, including actual vs. required head count, actual vs. required certificates, CGI change over time (by month), and more. The program stores historical data for summary and historical reporting, which is done via an Excel spreadsheet that is color-coded to show health statistics at a glance.

GCM has provided the Shuttle Ground Processing team with a quantifiable, repeatable approach to assessing and managing the skills in their organization. They now have a common frame of reference across NASA/contractor lines to communicate and mitigate any critical skills concerns.

*This work was done by Michael Olejarski, Amy Appleton, and Stephen Deltorchio of United Space Alliance for Kennedy Space Center. Further information is contained in a TSP (see page 1). KSC-13187*

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## ▶ Dynamic Hurricane Data Analysis Tool

*NASA's Jet Propulsion Laboratory, Pasadena, California*

A dynamic hurricane data analysis tool allows users of the JPL Tropical Cyclone Information System (TCIS) to analyze data over a Web medium. The TCIS software is described in the previous article, “Tropical Cyclone Information System (TCIS)” (NPO-45748).

This tool interfaces with the TCIS database to pull in data from several different atmospheric and oceanic data sets, both observed by instruments. Users can use this information to generate histograms, maps, and profile plots

for specific storms. The tool also displays statistical values for the user-selected parameter for the mean, standard deviation, median, minimum, and maximum values. There is little wait time, allowing for fast data plots over date and spatial ranges. Users may also “zoom-in” for a closer look at a particular spatial range.

This is version 1 of the software. Researchers will use the data and tools on the TCIS to understand hurricane processes, improve hurricane forecast

models and identify what types of measurements the next generation of instruments will need to collect.

*This work was done by Brian W. Knosp, P. Peggy Li, and Quoc A. Vu of Caltech with student Michael J. Rosenman of the NASA USRP program for NASA's Jet Propulsion Laboratory. For more information, see <http://tropicalcyclone.jpl.nasa.gov>.*

*This software is available for commercial licensing. Please contact Karina Edmonds of the California Institute of Technology at (626) 395-2322. Refer to NPO-46417*

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## ▶ XVD Image Display Program

*NASA's Jet Propulsion Laboratory, Pasadena, California*

The XVD [X-Windows VICAR (video image communication and retrieval) Display] computer program offers an interactive display of VICAR and PDS (planetary data systems) images. It is designed to efficiently display multiple-GB images and runs on Solaris, Linux, or Mac OS X systems using X-Windows. XVD is the *de facto* standard image display program used within the Multimission Image Pro-

cessing Lab (MIPL) to process images from missions such as Voyager, Galileo, Cassini, MER, and Phoenix, among others.

XVD includes color, grayscale, or pseudocolor display; arbitrary zoom; the ability to display non-byte images; metadata (image label) display; full-screen displays; dither modes for 8-bit screens; 17 different stretch types; magnifying glass; and capabilities to rotate images

and display latitude and longitude for certain types of images.

*This work was done by Robert G. Deen, Paul M. Andres, Helen B. Mortensen, Vadim Parizher, Myche McAuley, Paul Bartholomew, and Gloria Connor of Caltech for NASA's Jet Propulsion Laboratory.*

*This software is available for commercial licensing. Please contact Karina Edmonds of the California Institute of Technology at (626) 395-2322. Refer to NPO-46412.*