Creating a Platform Independent FLDVIEW

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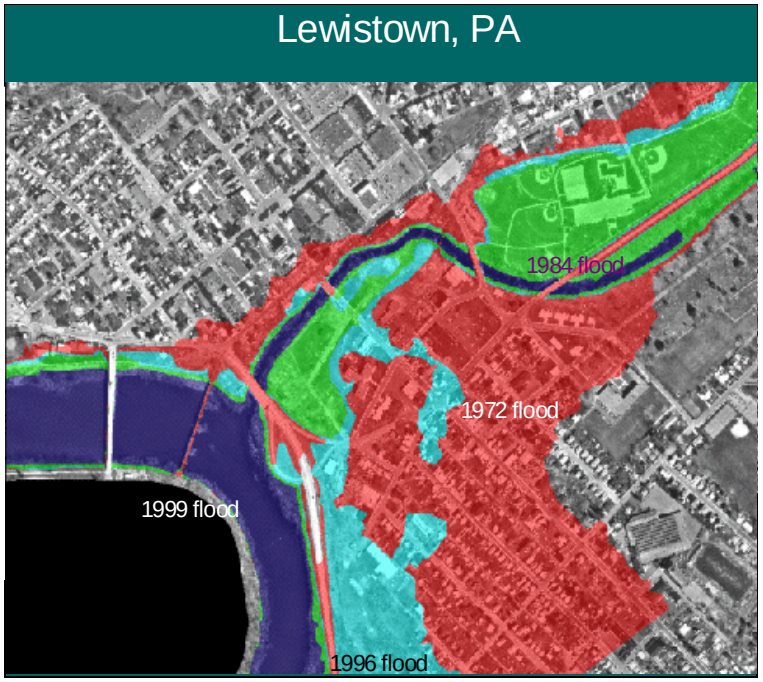
Overview

- FLDVIEW Description
- Current FLDVIEW Environment
- Recent Attempts at Platform Independence
- New FLDVIEW Environment

FLDVIEW Description

Flood forecast mapping application to display the extent of flooding for a given area

- **Features**
  - Stable - Runs under any condition
  - Fast - Runs in a reasonable amount of time (minutes vs. hours)
  - Accurate - Gives reasonable results
  - Robust - Runs with limited data
  - Easy to use - As many steps as possible are automated
  - Independent – Map application not dependent on any particular hydraulic model
- **Current Products**
  - Shape file
  - Image file (jpg)
- **Applications of FLDVIEW**
  - Susquehanna River System (Lewistown*, West Branch, Harrisburg)
  - Missouri River (St. Charles*)
  - Tar River (NC)
  - St. Johns River (FL)
  - Ohio River (Pittsburgh)
  - Rivers in Mexico, Honduras & Canada



* Indicates map verified with observed data

Current FLDVIEW Environment

- Software:
  - ESRI Arcview 3.x
  - Spatial Analyst
  - 3-D Analyst
- Platforms
  - Windows 98, 2000, XP, etc.
  - HP Unix with Operating System 10.20
- Language:
  - Avenue scripts

Current FLDVIEW Environment "Operational Environment"

- MARFC
  - Process
    - Run FLDWAV on Linux;
    - Export FLDVIEW files to HP Unix;
    - Run FLDVIEW on HP;
    - Export shape files to FLDIMS for display on web
  - Total process is run inside AWIPS
  - Total process is automatic
- SERFC
  - Process
    - Run FLDWAV on Linux
    - Export FLDVIEW files to Windows PC (outside of AWIPS)
    - Run FLDVIEW on Windows PC (create shape files)
    - Run ArcMAP 8.3 to generate flood images (jpg) from shape files
    - Export flood images (jpg) to display on web
    - Export shape files to ER site and Coastal Services Center site

Recent Attempts at Platform Independence

- Citrix Server Solution (2002)
  - Citrix software turns the Windows server into a multi-user applications server that can support simultaneous multiple remote windows sessions. Citrix makes clients that run on many different platforms including Linux.
  - Process
    - ESRI software installed on Citrix server (Windows 2000 PC)
    - FLDVIEW software & data loaded onto Linux PC
    - Flood forecast maps successfully generated from Linux PC

Recent Attempts at Platform Independence

- ESRI ArcGIS 9.1 Linux solution (2004)
  - ESRI is collaborating with the River Mechanics Group to test their latest (pre-beta) software by converting FLDVIEW from ArcView 3.x to ArcGIS for Linux.
  - Only the non-User Interface components are currently available.

New FLDVIEW Environment

- Software:
  - ESRI ArcGIS 9.1 (Pre Beta Version)
- Platforms:
  - Linux: Red Hat Linux 3.0 Enterprise (exclusively)
  - Windows (may require minor modifications)
- Language:
  - Java 1.4.2_05

New FLDVIEW Environment

- Recent Activities (May 2004)
  - Developed a list of functional requirements for GIS to allow the conversion of FLDVIEW from an ArcView application to any other GIS application
  - Did a quick evaluation to see if GRASS could be used - strictly from a functionality perspective
  - Held kickoff meeting with ESRI to start FLDVIEW conversion project
  - Received ESRI software

New FLDVIEW Environment

- Time Line
  - Phase I (June 30, 2004)
    - Evaluate basic capabilities needed to build FLDVIEW. These capabilities include features used in ArcView, 3-D Analyst, and Spatial Analyst (e.g., merging grids, importing shape files, querying tables, etc.).
  - Phase 2 (December 31, 2004 … tentative)
    - Full conversion of FLDVIEW from ArcView to ArcGIS
    - Evaluate level of complexity, ease of use, etc.
- HOSIP
  - This project will follow HOSIP as described earlier this week.

FLDVIEW Conversion Team

- Albert Momo
- Michael Richardson
- Dan Urban