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Chapter 1 : Peak-Flow Characteristics of Virginia Streams

Peak-flow characteristics for unregulated streams in Wyoming are described in this report. Frequency relations for annual peak flows through water year at streamflow-gaging stations in and near Wyoming were evaluated and revised or updated as needed.

November 20, Welcome Facilitator Sherri Gregory welcomed the group and the meeting was called to order at 1: All attendees introduced themselves, followed by a review of the overall meeting agenda. A sign-in sheet was passed around to record attendance. The next meeting is scheduled for April 8 in Sundance. Barry discussed the status of all basin studies, and agendas for future meetings. Handouts from the prior meeting were distributed. The Surface Water and Engineering Division is responsible for reviewing permit applications for any request to put surface water to beneficial use as well as operating the Safety of Dams program. The Ground Water Division is responsible for reviewing and approving water well permits and managing a statewide cooperative stream gaging program. The Board of Control is responsible for the adjudication process on each water right and any changes to the adjudicated rights. The Interstate Streams Division participates in a number of interstate river compact commissions and organizations and regional water programs. Two additional divisions include the Administrative Division, which handles the general agency administration and the Support Services Division, which manages all information technology functions for the agency. Current issues include permitting challenges in both the surface and groundwater divisions as related to coal bed methane development, the North Platte Decree Committee and Modified North Platte activities, and weather modification permitting activities. To obtain more information on the SEO, visit the website at http: He noted that the data are expensive to obtain due to frequent site visits, the measurements are labor intensive and can be hazardous, and the data quality assurance and long term storage are ongoing costs. However, the longer you collect the data at a given station, the more useful it becomes. There are 28 continuous record surface water stations in this area, of which 3 are years of record. A new publication, Peak-Flow Characteristics of Wyoming Streams, is available either in hard copy or at http: In the regression approach, known flow characteristics are regressed to basin characteristics at gaged sites, whereas appropriate basin characteristics of ungaged sites are used to estimate unknown flow characteristics. Therefore, unique regional relations exist between flow and basin characteristics. Issues associated with the regression equations and related streamflow statistics include: Used to estimate streamflow statistics for ungaged sites Developed by USGS on a state-by-state basis through the cooperative program Large efforts are needed to determine basin characteristics Many publications are out of date Labor costs for information requests are high Statistics are not available everywhere they are needed STREAMSTATS is a national prototype that will work for any state. Currently it is implemented only in parts of Idaho. It is an automated process that is completely repeatable. This project is an effort to get citizen involvement in the effort of studying rain and hail. Nolan displayed a typical gage, program website, and data for Colorado. He stated that volunteers are needed across the state of Wyoming to gather data. This promotion will be done through the National Weather Service with the major sponsor being the National Science Foundation. All data will be made available via the internet and can be used as a data source for basin evaluations. The evolution of the project was driven by increased energy production, an increased need for timely permit processing of projects related to the National Historic Preservation Act and the need for better resource management and decision making tools for private business and federal and state government and private business. The website is http: For more information on the Wyoming State Preservation Office, see http: Dead Horse Creek is currently being conducted in conjunction with the Lake DeSmet Conservation District to characterize the entire watershed. The output of this project will be an interactive GIS product on all data available. This information will be available to the public and will provide useful tools for natural resource programs, business negotiations, and determining environmental change. The meeting adjourned at 3:

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Chapter 2 : Miller, Kirk A. [WorldCat Identities]

Additional Physical Format: Miller, Kirk A. Peak-flow characteristics of Wyoming streams (OCoLC) Online version: Miller, Kirk A. Peak-flow characteristics of Wyoming streams.

Extensive hydraulic analysis and smart design are needed to limit the environmental impacts of buildings, pavements, highways, and bridges. Effective design and placement of structures built near streams and on flood plains requires an understanding of peak discharges and basin characteristics of streams. Knowledge of the magnitude and frequency of peak discharge is needed to construct highway bridges and culverts, locate transportation infrastructure, and design flood-control structures. Knowledge of basin characteristics is needed to use peak flow characteristics at ungaged locations. These needs are addressed through cooperative study and a series of scientific investigations. Digital basin boundaries have been determined at approximately current and historic surface-water gaging stations. They may be found here: Drainage Area of Selected Streams in Virginia Annual flood-peak data have been summarized for over Virginia stream gaging stations, and may be found here: Statewide regional regression equations describing peak-flow characteristics at ungaged locations have been developed. These may be found here: Peak-Flow Characteristics of Virginia Streams Models and equations for estimating Virginia urban basin peak water discharge per square mile have been developed. They describe urban area peak discharge per square mile as a function of percent urban area, and basin drainage area, for basins anywhere in Virginia with urban land use ranging from percent to percent, and basin drainage area ranging from 0. Curves and equations are being developed to describe the actual chance of a particular peak flow event occurring. One of the more confusing concepts in flow prediction is the idea of an average recurrence interval associated with a particular peak flow. It is possible for a year event to occur in each of two consecutive years, or not to occur at all during 30 consecutive years or more. When using calculations of the average frequency of peak flows, therefore, one should take note of the variation in their occurrence. This set of curves and equations will help determine the actual chance of a particular peak flow event occurring, as a function of the average recurrence interval of an event and the number of years in the interval within-which the event may occur. Check here soon for more information about acquiring and using these curves and equations. These, combined with other continuous-record gaging stations, provide annual peak-discharge data at more than gaging station locations throughout Virginia. Most of these gages have 10 years or more of peak-discharge data. Data from these gages may be found here: Peak Flow Network Data Benefits of Quality Data and Science Quality peak-flow data, combined with continued collaborative scientific investigation, provide uniquely useful application oriented information and analyses vital to understanding, anticipating, and better managing Virginia stream flows, basins, and ecosystems.

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Chapter 3 : Flooding and High-Flow Conditions in Wyoming and Montana

BIBLIOGRAPHIC DATA 1. Report No. 2. SHEET 4. I itle and Subtitle Techniques for estimating flow characteristics of Wyoming streams. 3. Recipient's Acce-.

Magnitude and Frequency of Floods annual maximum discharges C Floods in Wyomingâ€”Magnitude and frequency, by J. Report online at http: The first analysis of magnitude and frequency of floods in Wyoming, statewide. The index-flood method was used. Superseded by subsequent revisions of flood-frequency estimating procedures for Wyoming. Magnitude and frequency of floods in the United States, Part 6-A. Procedures for estimating the magnitude of floods for given frequencies at ungaged sites have been superseded. Magnitude and frequency of floods in the United States, Part 6-B. Includes listing of annual maximum discharges at gaging stations in the Platte River basin in Wyoming. Magnitude and frequency of floods in the United States, Part 9. Colorado River basin, by J. Report, including separate plate 1, online at http: Magnitude and frequency of floods in the United States, Part Report, including separate plates 1 and 2, online at http: Snake River basin, by C. Report, including separate plates , online at http: A proposed streamflow data program for Wyoming, by K. Streamflow data for Wyoming were analyzed to provide guidelines for planning future streamflow-gaging programs. The sufficiency of streamflow records for meeting accuracy goals was assessed. Includes calculated 2-, 5- ,, 25,- and year flood peak flows and 7-day, 2-year, year, and year high flows for streamflow stations in Wyoming for which there were records of sufficient length. For stations in mountainous areas only, includes results of the first regression analyses of those and other streamflow characteristics using basin characteristics as independent variables. Those equations have been superseded by subsequent analyses. Records for stations on streams in the plains areas of Wyoming were insufficient to define regression equations for any of the streamflow characteristics. Within a few years, however, sufficient data had been collected for subsequent flood-frequency analyses for plains streams. Techniques for estimating flow characteristics of Wyoming streams, by H. WRIR Miller, Streamflows in Wyoming, by H. The regression equations using physical and climatic basin characteristics have been superseded by those in WRIR Miller, The superseded equations in the national data base will be replaced by the equations of WRIR in the near future. WRIR also includes procedures and equations for estimating peak discharge using the channel width, mean annual discharge using basin characteristics or channel width, and mean monthly discharge. Those procedures and equations have not been revised or superseded. Use of paleoflood investigations to improve flood-frequency analyses of plains streams in Wyoming, by M. Nationwide summary of U. Geological Survey regression equations for estimating magnitude and frequency of floods for ungaged sites, , by M. Methods for estimating magnitude and frequency of floods in the southwestern United States, by B. A comparison has not been made of results using these methods with results using methods developed only for Wyoming. A computer program for estimating magnitude and frequency of floods for ungaged sites, compiled by K. Ries III and M. Crouse, with sections by J. Geological Survey, and R. Gray, Aqua Terra Consultants, Inc. Includes a history of U. Geological Survey flood-regionalization methods and describes in detail the National Flood Frequency Program and how to obtain and use the software. Does not include estimating equations for individual States; however, the latest version of the executable software and latest updated data base may be downloaded from: The superseded equations will be replaced by the equations of WRIR in the near future. A computer program for estimating magnitude and frequency of floods for ungaged sites, by C. A concise description of the National Flood Frequency Program Version 3 and how to obtain and use the software. Peak-flow characteristics of Wyoming streams, by K. The procedures and equations described in this report supersede all previous procedures and equations for estimating magnitude and frequency of maximum instantaneous discharge peak flow at ungaged sites in Wyoming, the most recent of which was WRIR However, the procedure and equations given in WRIR for estimating peak flows by the channel-width method are not superseded. Likewise, the procedures and

equations for estimating flood volumes and the procedure for synthesizing single-peak flood hydrographs in small ephemeral streams given in WSP are not superseded. Study of hydrographs for small drainage basins in Wyomingâ€"Progress report, by G. Synthesizing hydrographs for small semiarid drainage basins, by G. Rainfall and runoff data from small basins in Wyoming, by J. Analysis of runoff from small drainage basins in Wyoming, by G. The method for estimating the instantaneous maximum peak discharge for a given frequency has been superseded by subsequent revisions; latest: Relations between total-sediment load and peak discharge for rainstorm runoff on five ephemeral streams in Wyoming, by J. Hydrologic effects of hypothetical earthquake-caused floods below Jackson Lake, northwestern Wyoming, by W. Flood boundaries and water-surface profile for the computed year flood, Swift Creek at Afton, Wyoming, , by J. Flood boundaries and water-surface profiles for the computed , , and year floods, Childs Draw and tributary near Cheyenne, Wyoming, August , by G. Water-surface profile and flood boundaries for the computed year flood, lower Salt River, Lincoln County, Wyoming, by K.

Chapter 4 : Peak-flow characteristics of Wyoming streams (Book,) [calendrierdelascience.com]

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Chapter 5 : U.S. Geological Survey Reports About Floods in Wyoming

WRIR , Low-flow and flow-duration characteristics of Alabama streams Alaska SIR , Estimating flood magnitude and frequency at gaged and ungaged sites on streams in Alaska and conterminous basins in Canada, based on data through water year