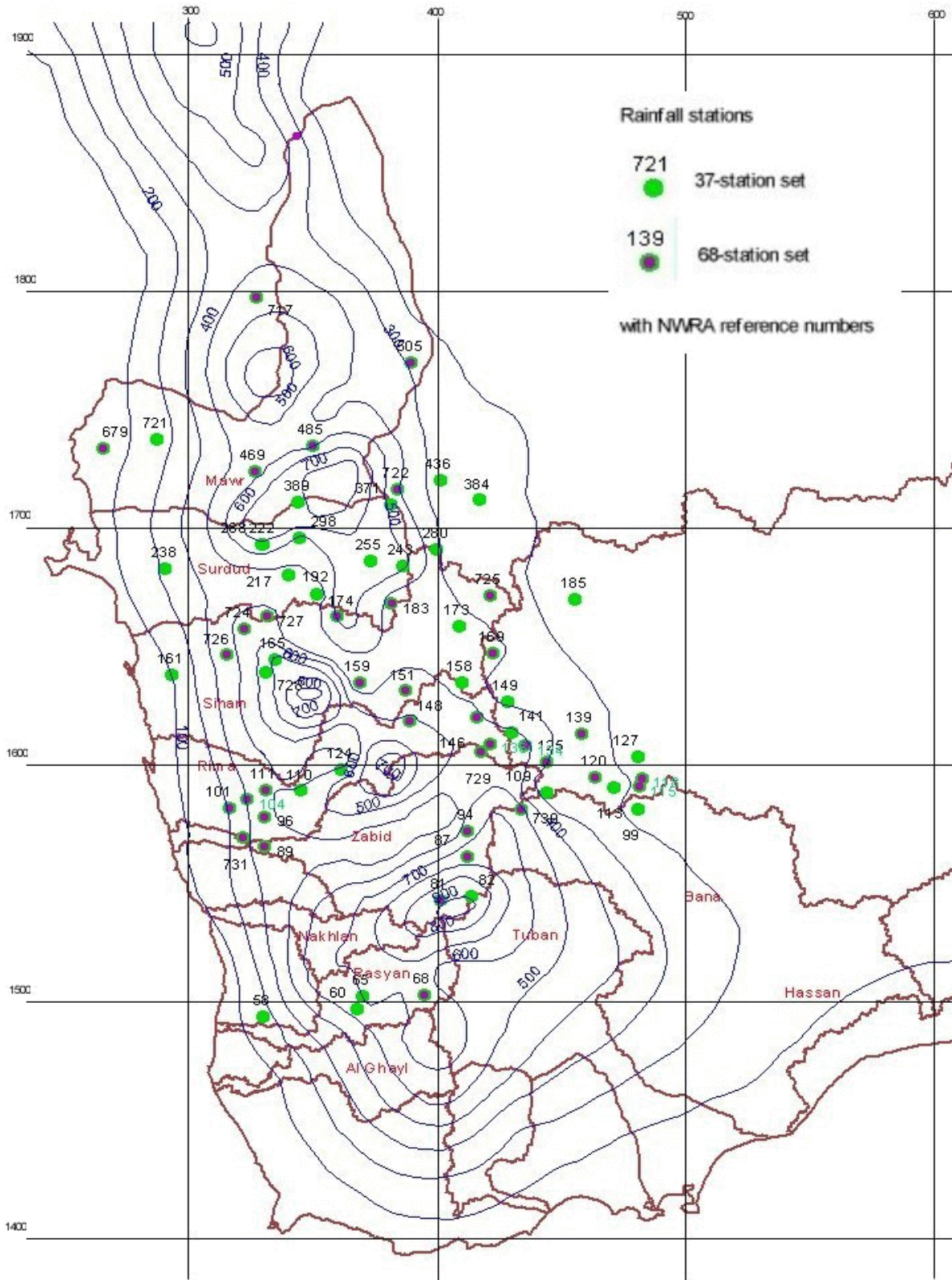
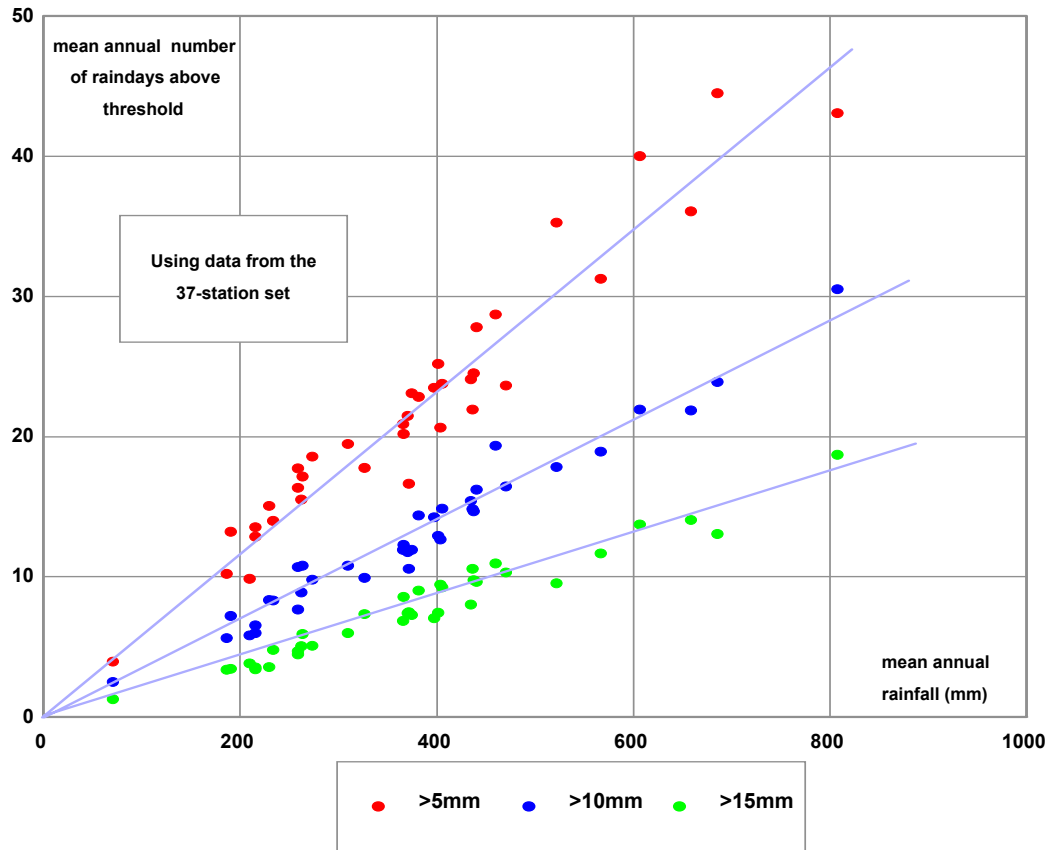


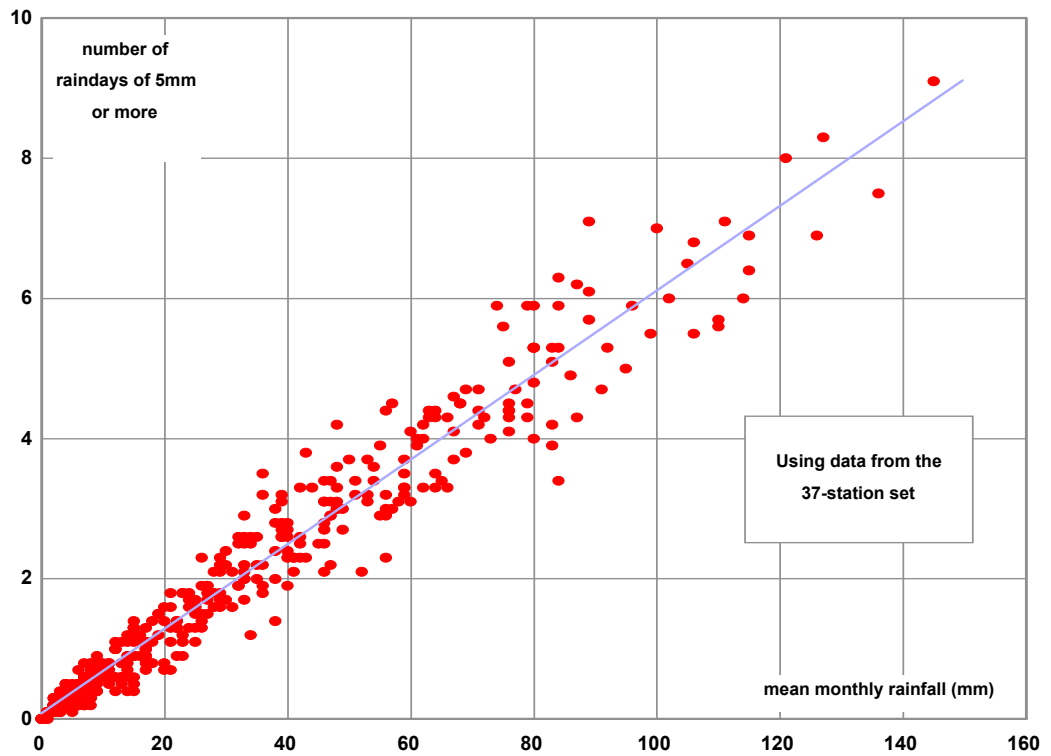
**Map 1 Selected rainfall stations and isohyets of annual rainfall**



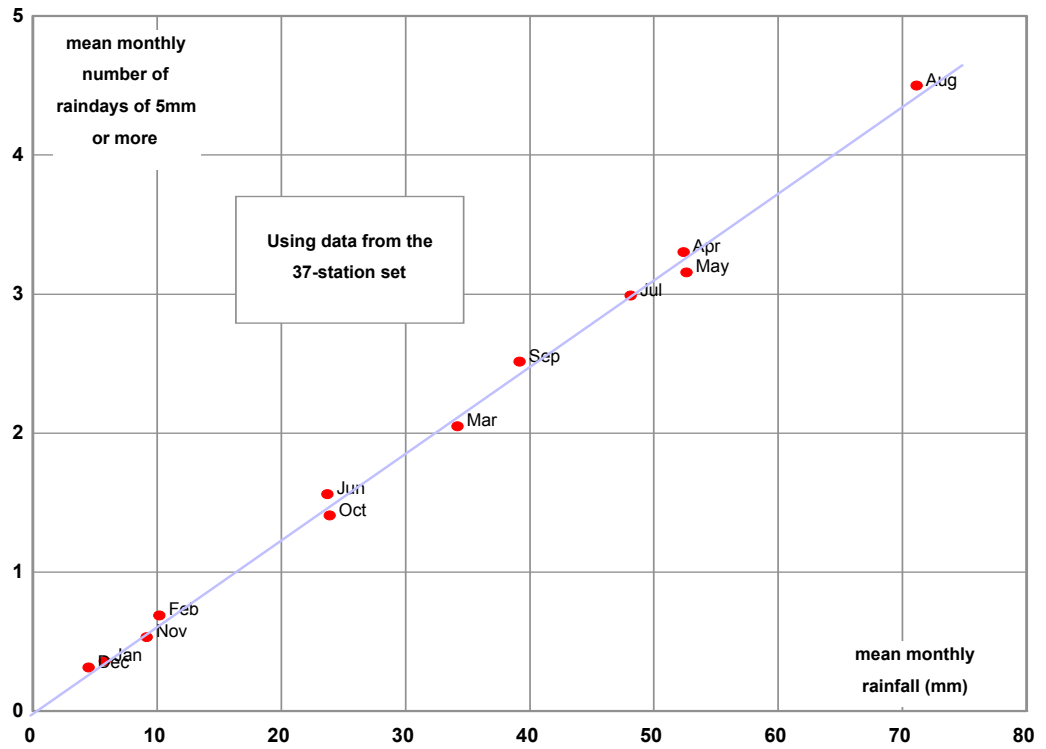
**Figure 2.1 Annual raindays above selected thresholds**



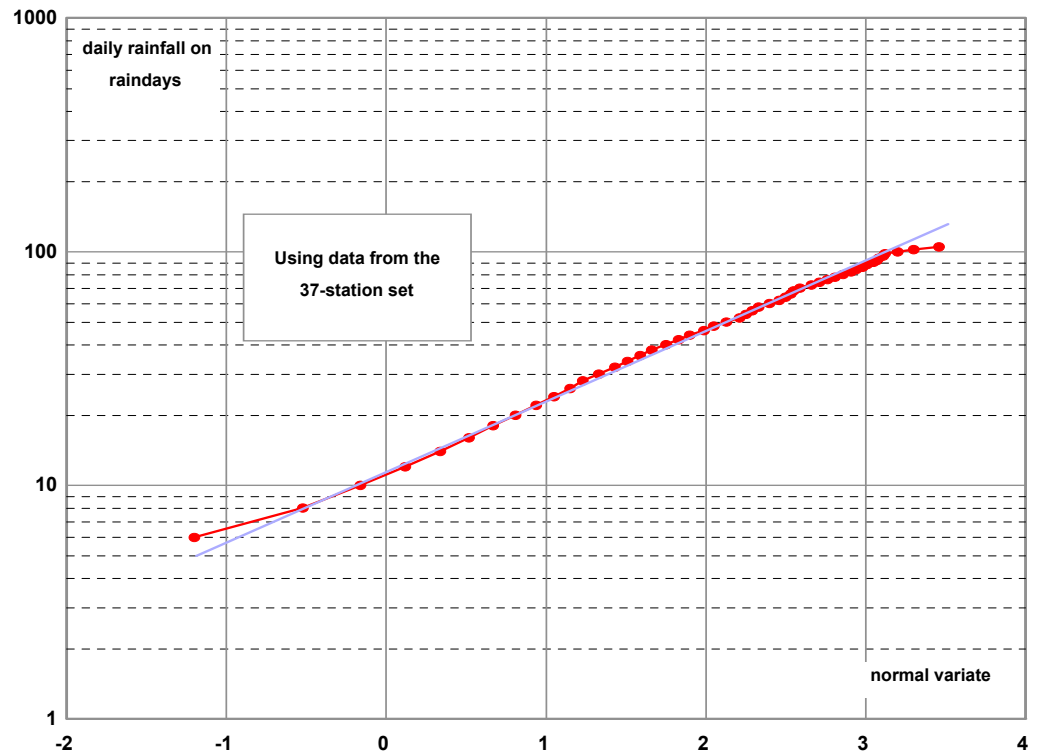
**Figure 2.2 Monthly number of raindays related to aggregate rainfall**



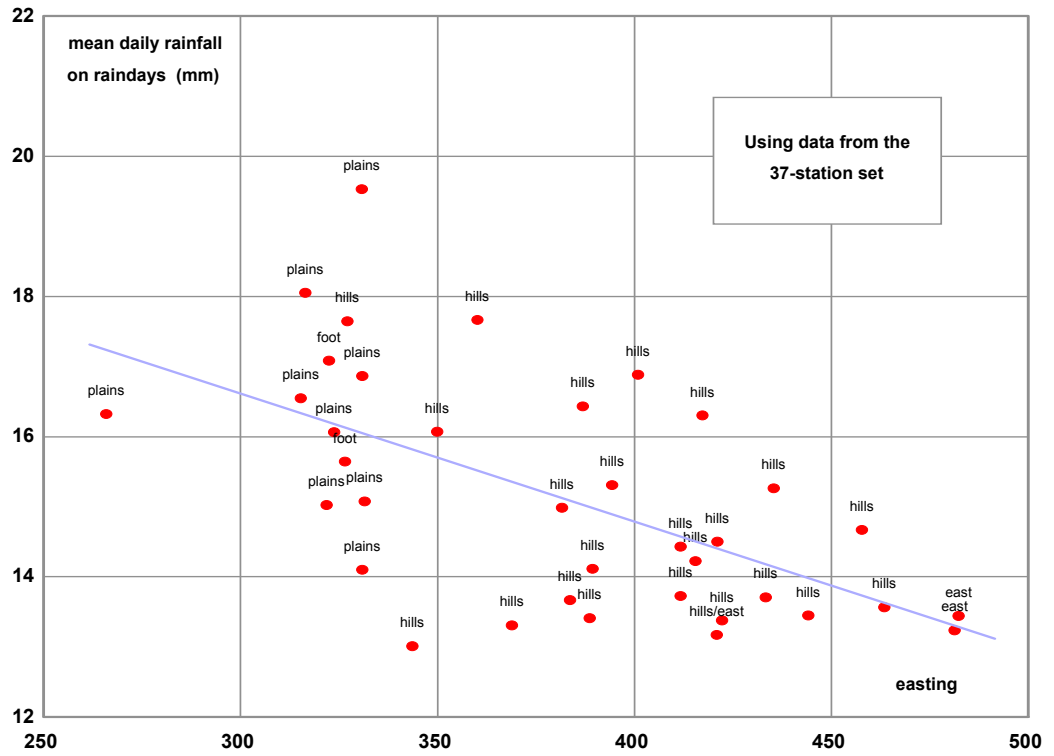
**Figure 2.3 Mean monthly raindays related to mean monthly rainfall**



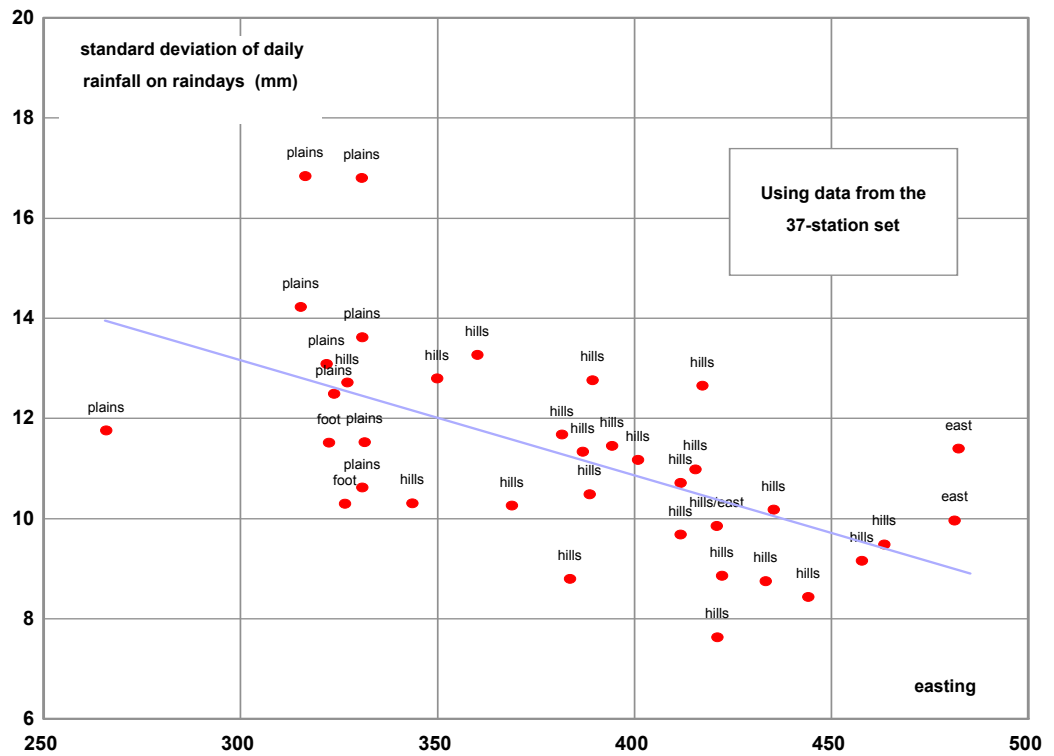
**Figure 2.4 Probability distribution of rainfall on raindays**



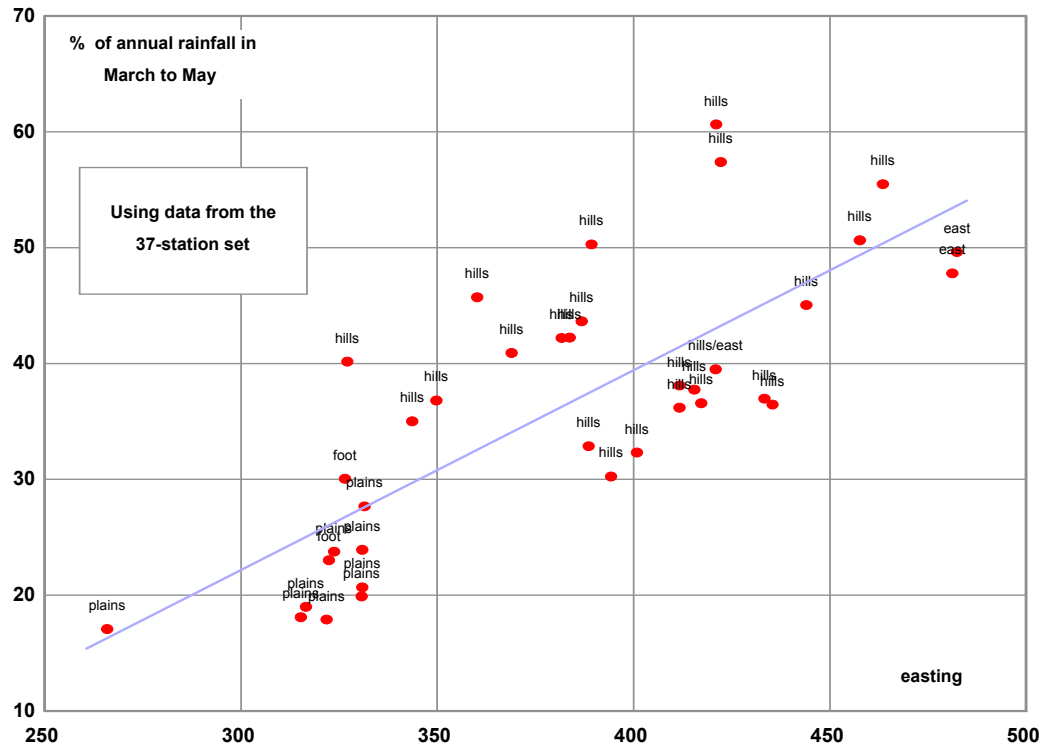
**Figure 2.5** Spatial variation of mean daily rainfall on raindays



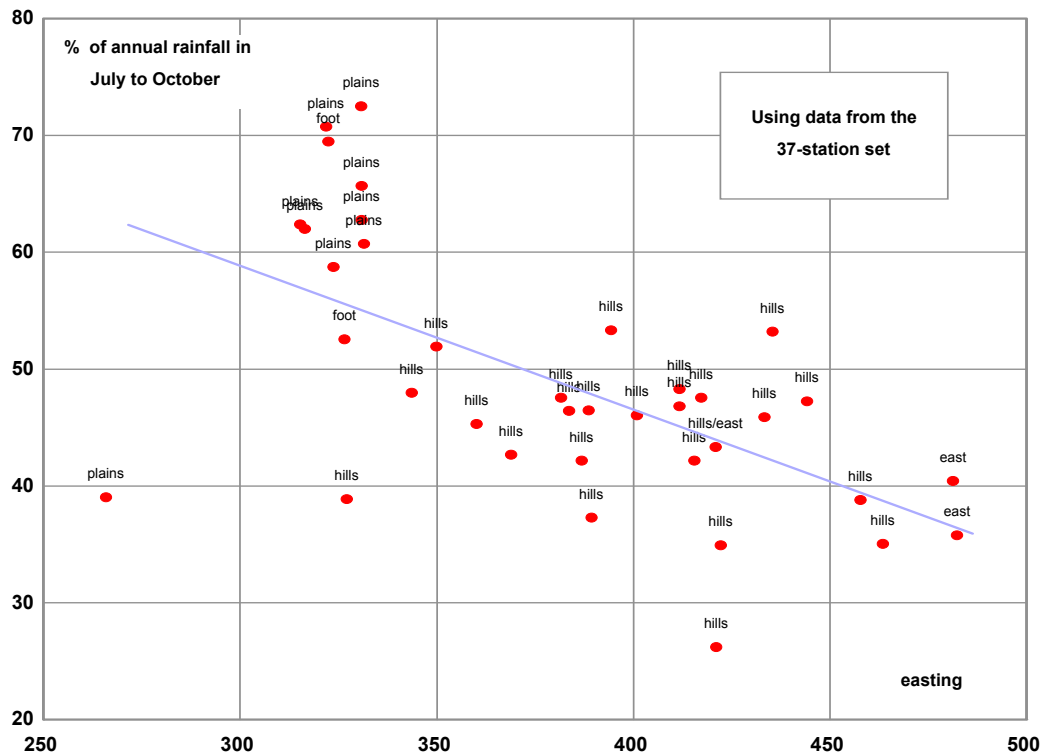
**Figure 2.6** Spatial variation of rainfall variability on raindays



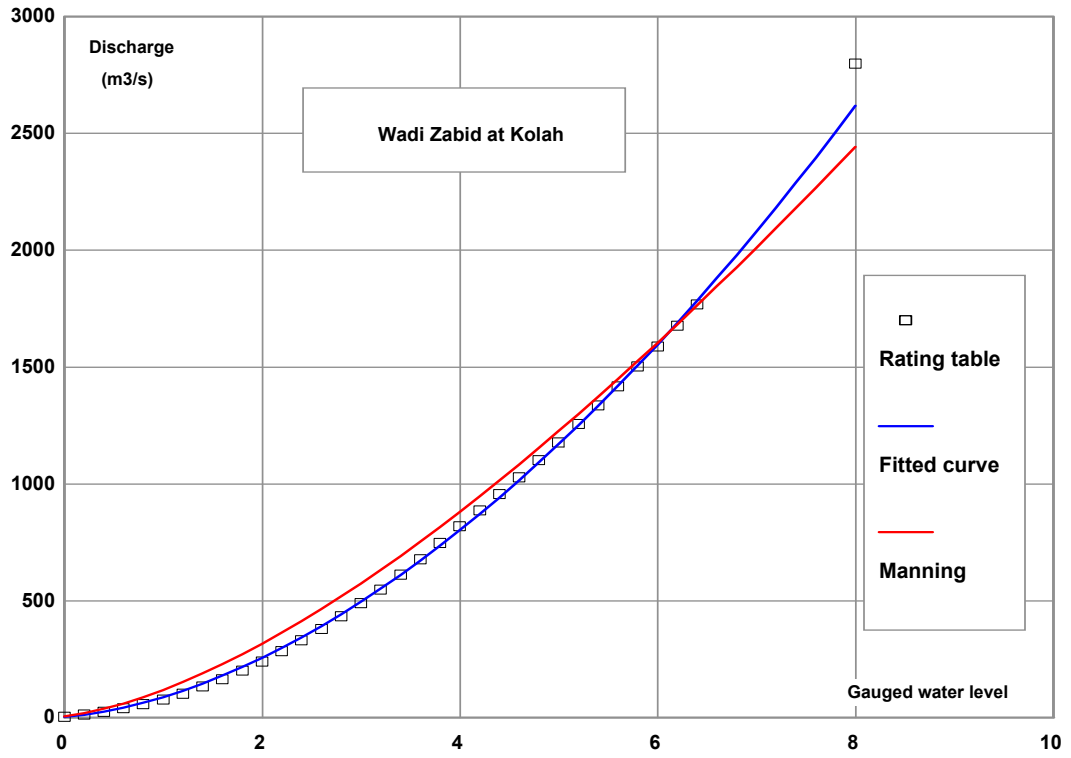
**Figure 2.7** Spatial variation of March to May rainfall



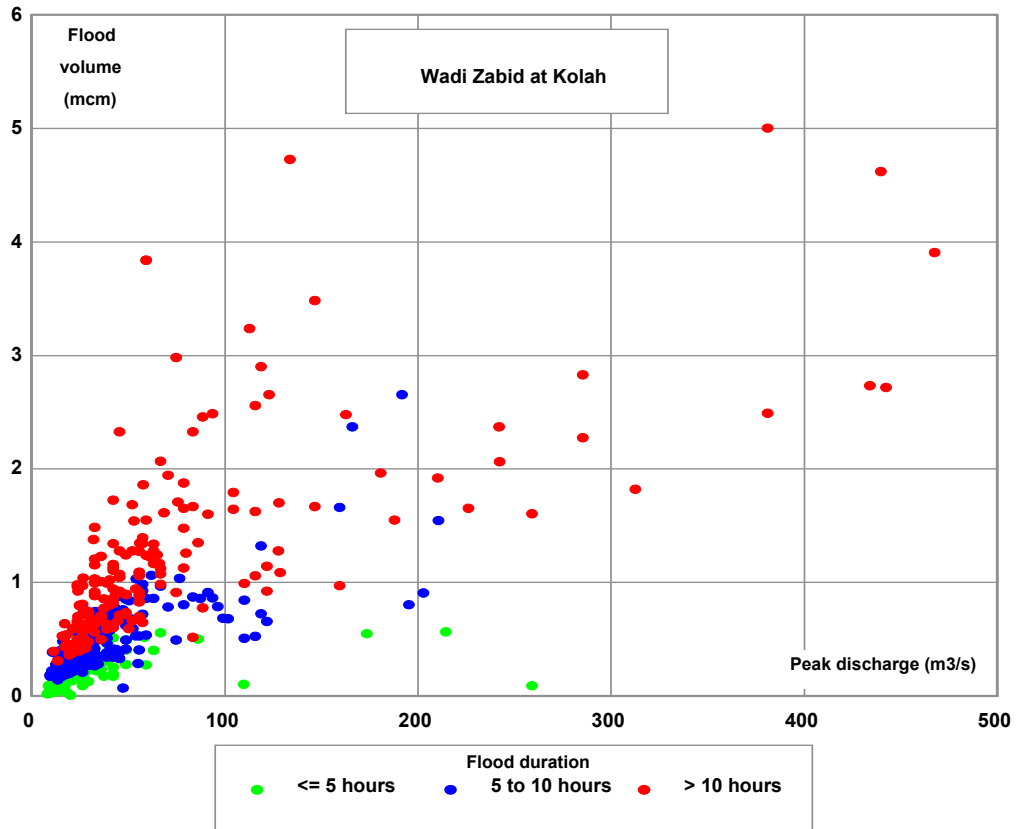
**Figure 2.8** Spatial variation of July to October rainfall



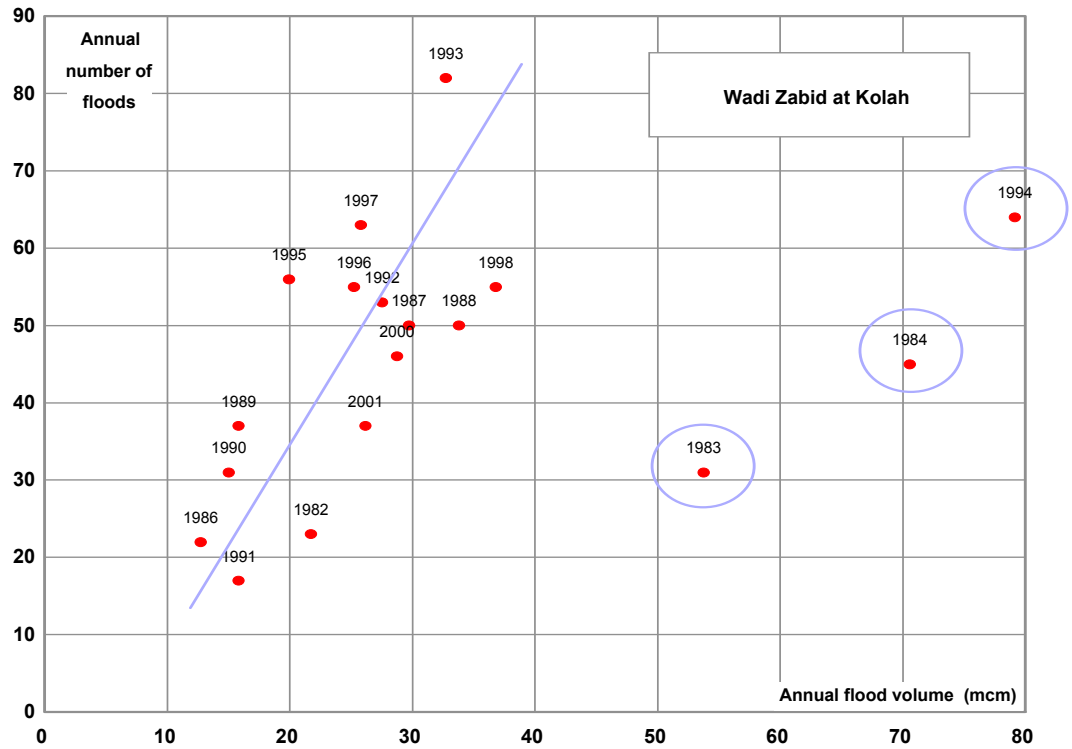
**Figure 3.1 Rating curve for Wadi Zabid at Kolah**



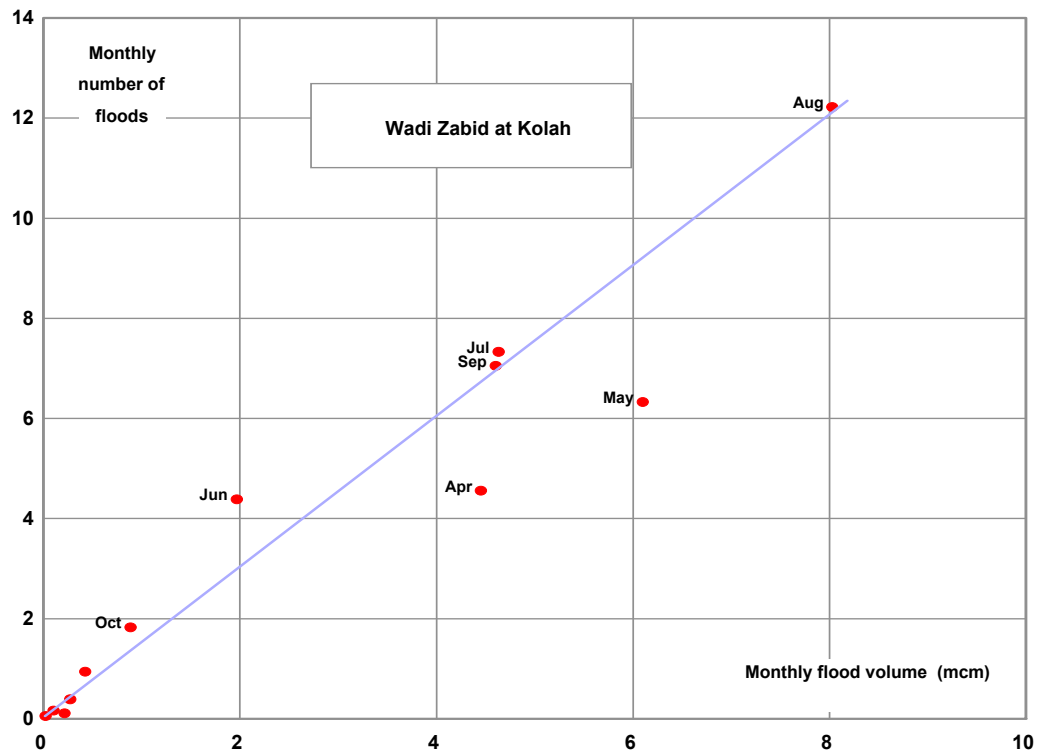
**Figure 3.2 Flood volume, peak and duration**



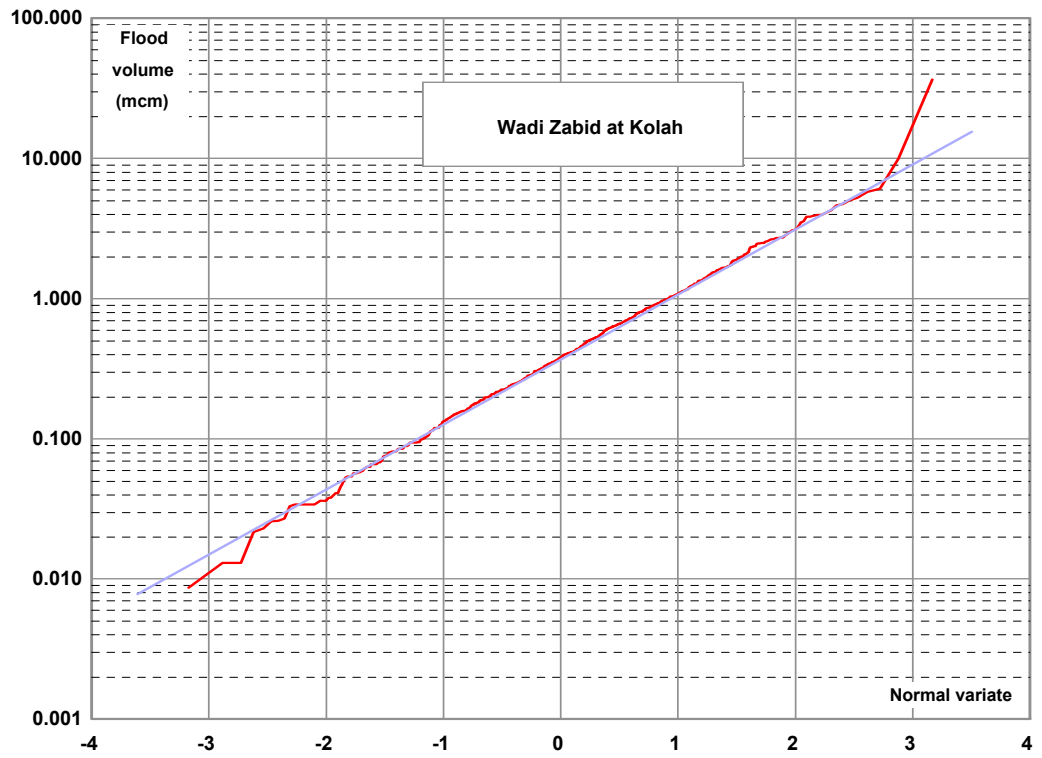
**Figure 3.3 Annual number of floods**



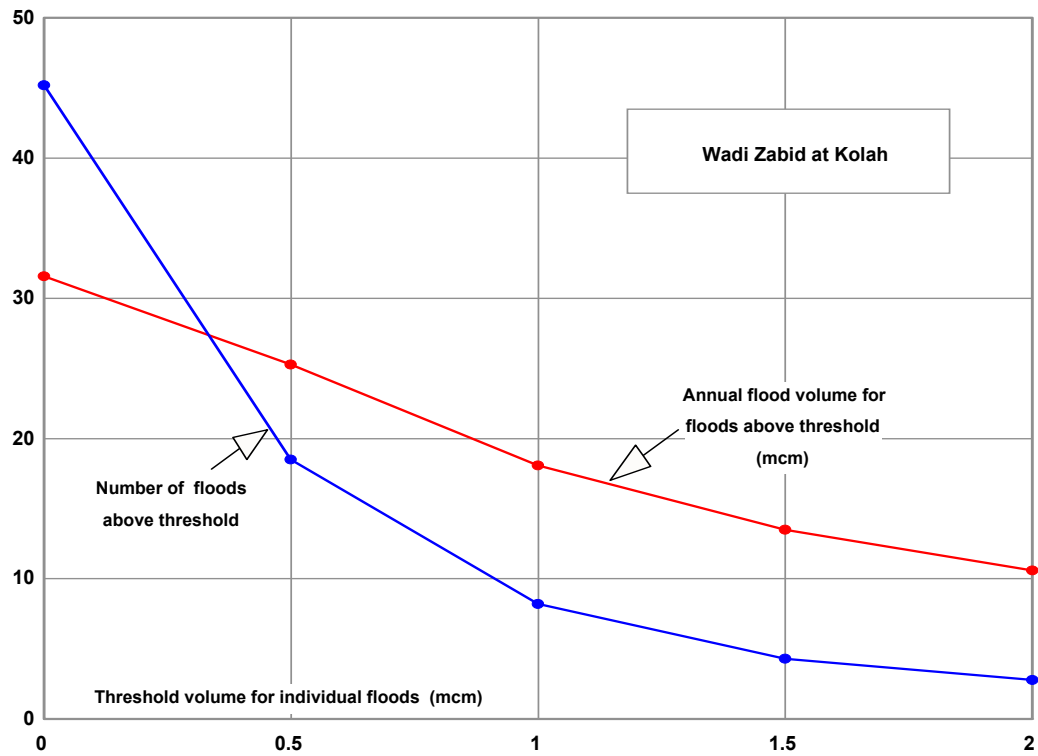
**Figure 3.4 Monthly number of floods**



**Figure 3.5** Probability distribution of flood volumes

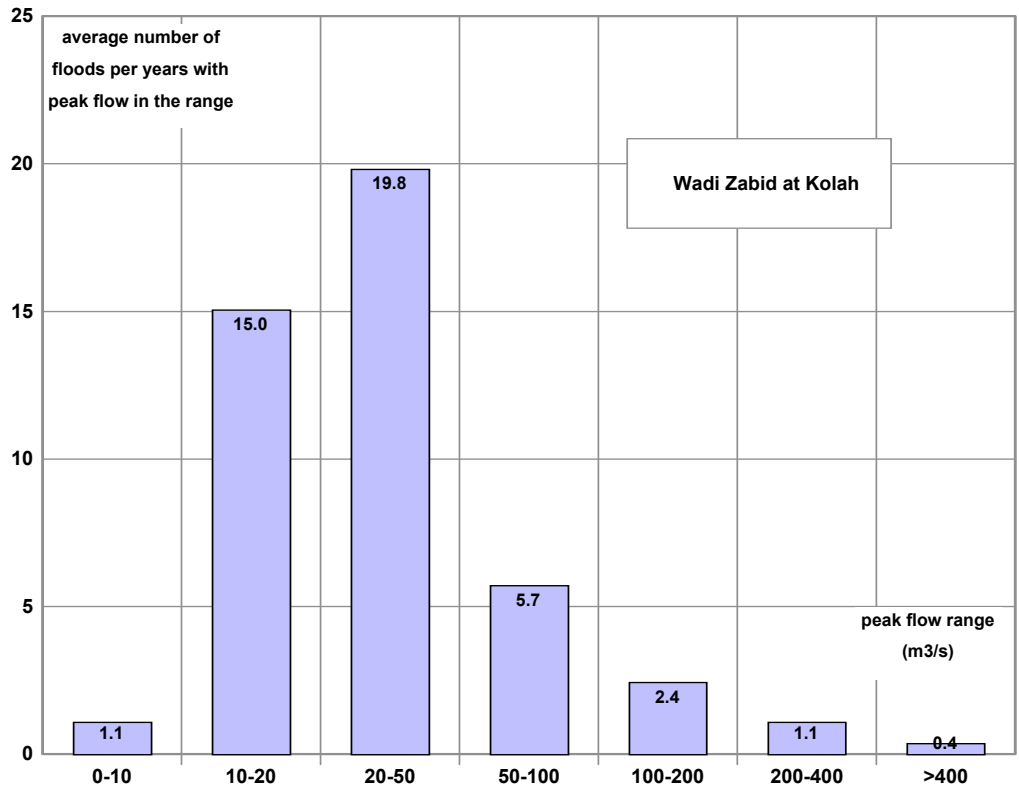


**Figure 3.6** Floods above selected threshold volumes

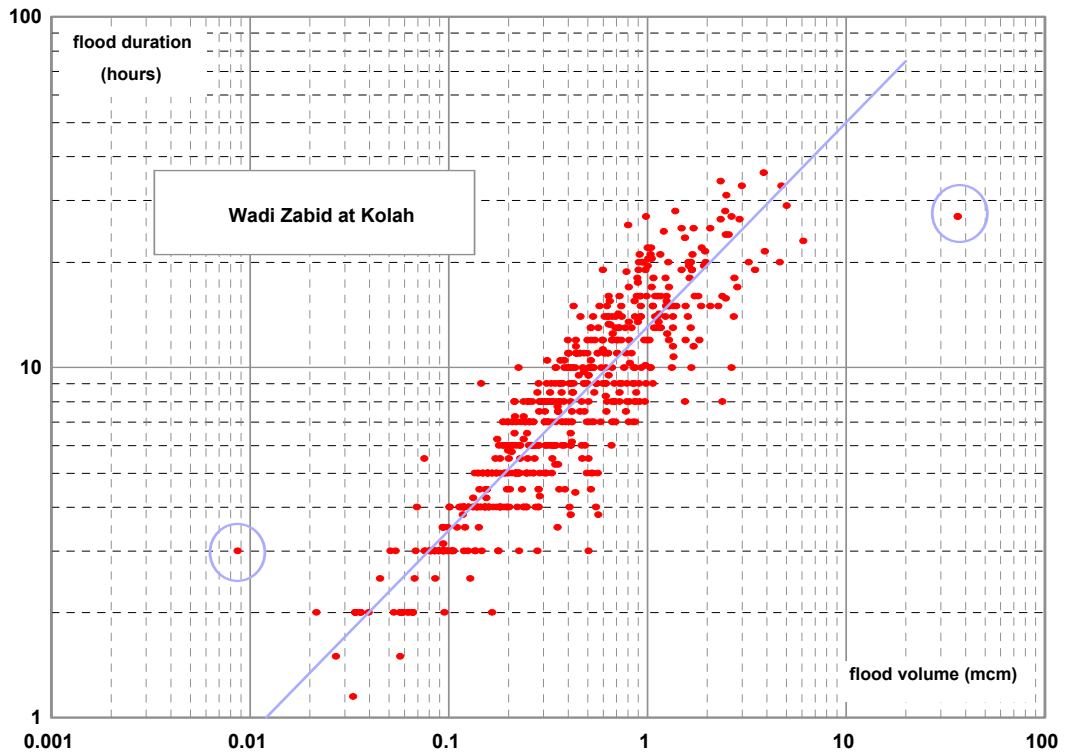




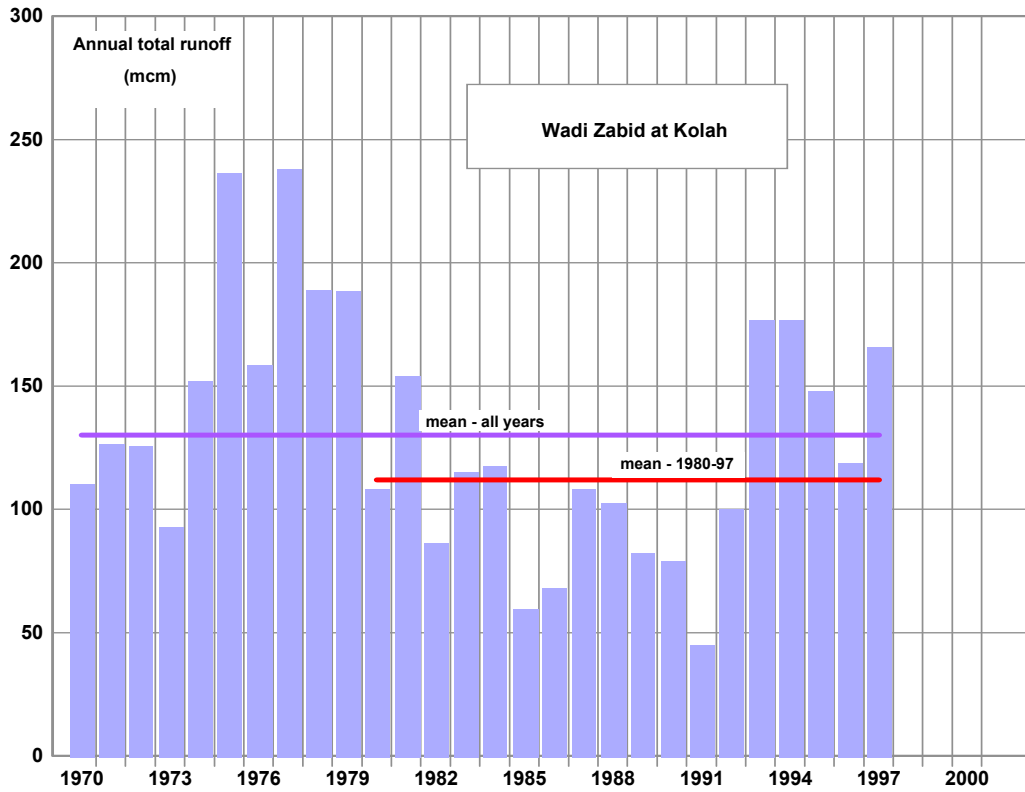
**Figure 3.7 Frequency of flood peaks**



**Figure 3.8 Flood duration related to volume**



**Figure 3.9 Time series of annual flow at Kolah**



**Figure 3.10 Variation in percentage runoff from Zabid catchment**

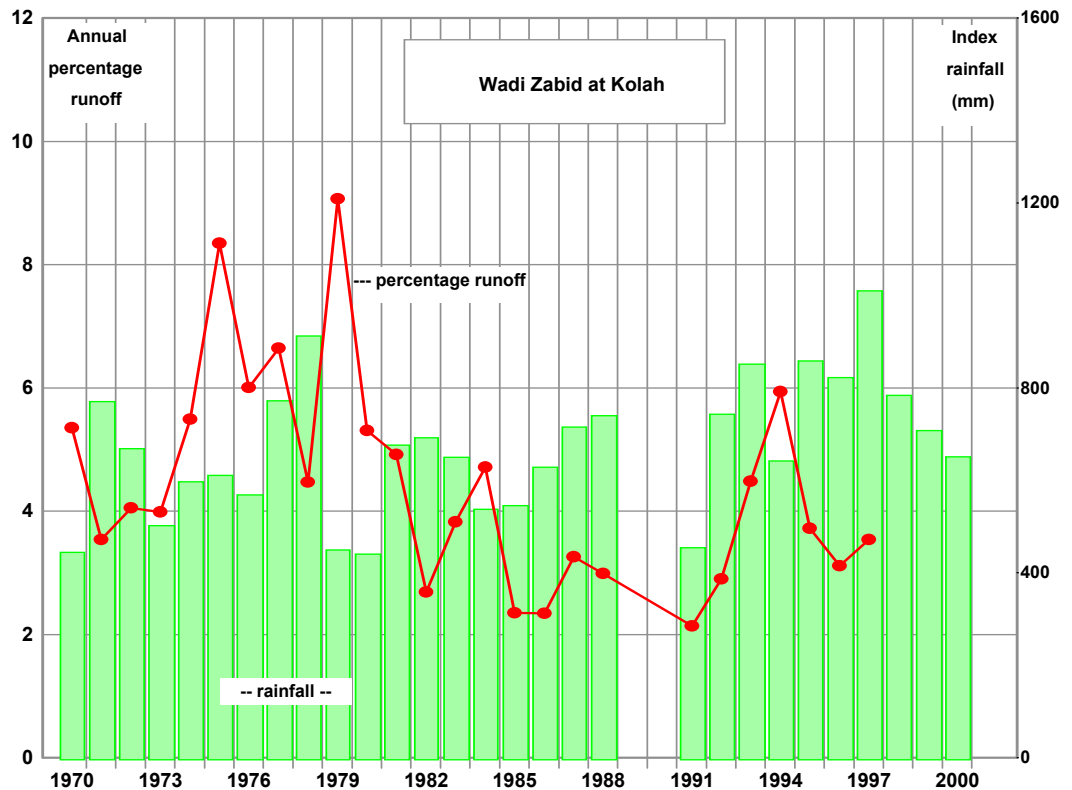
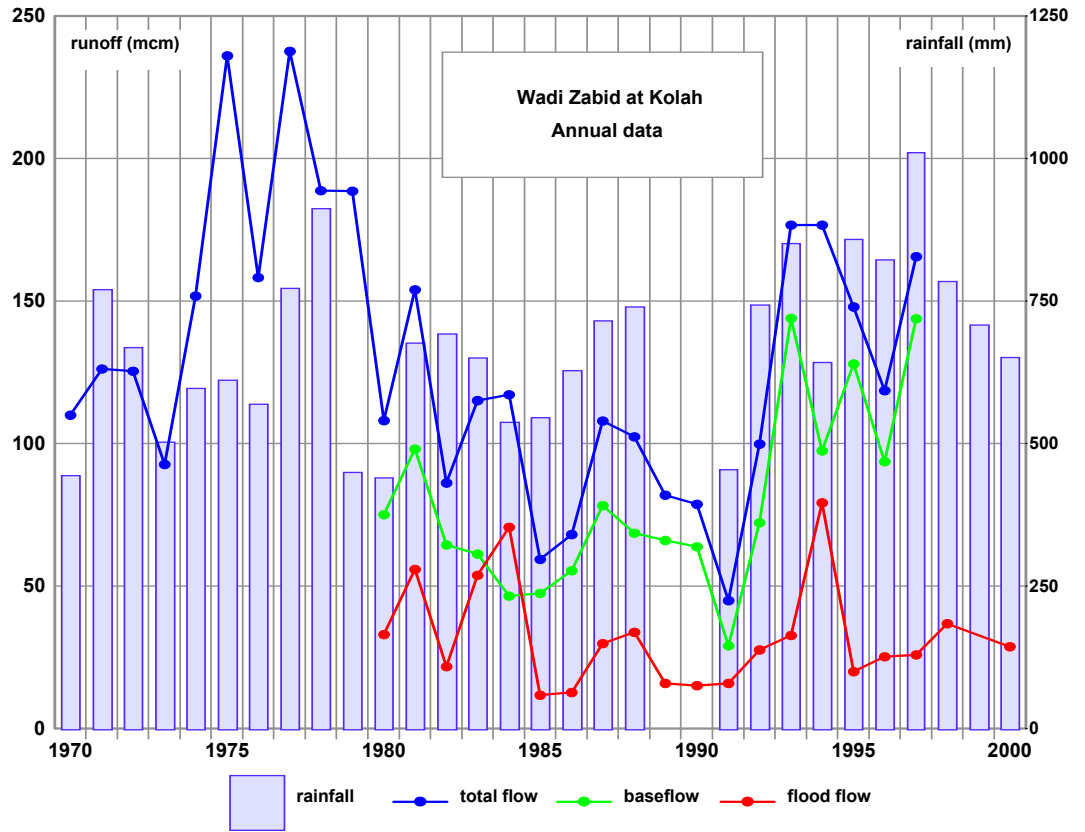
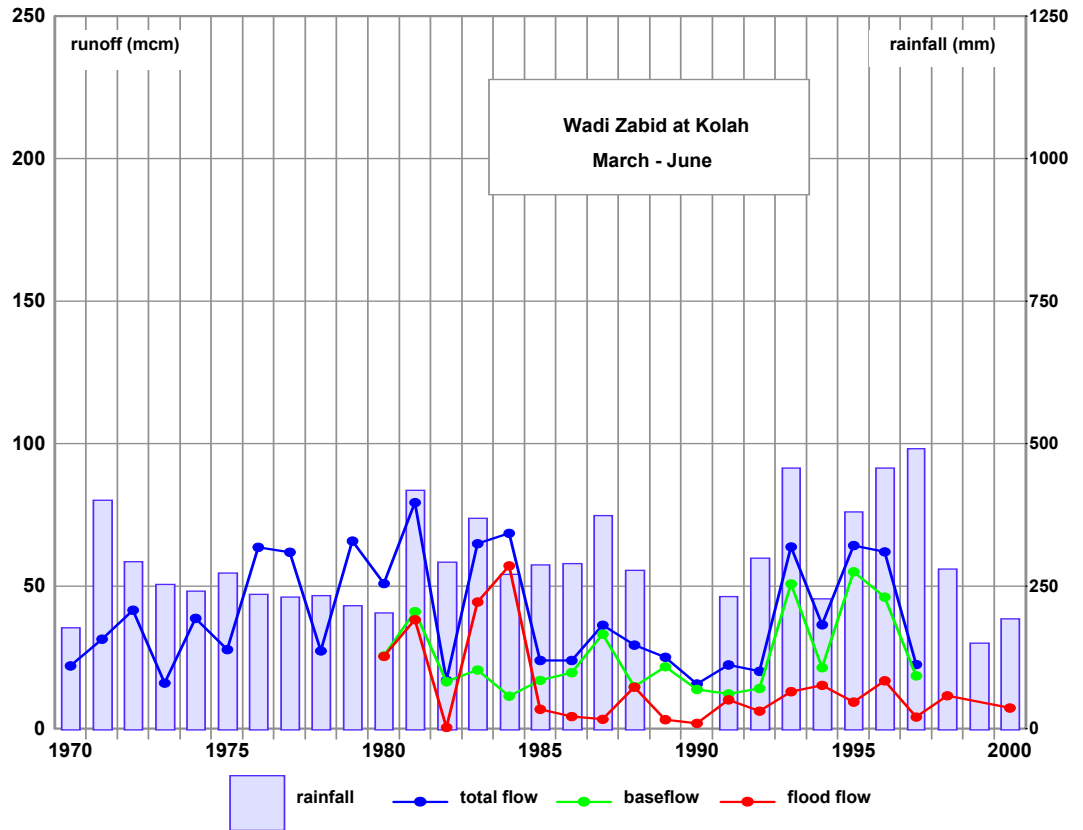


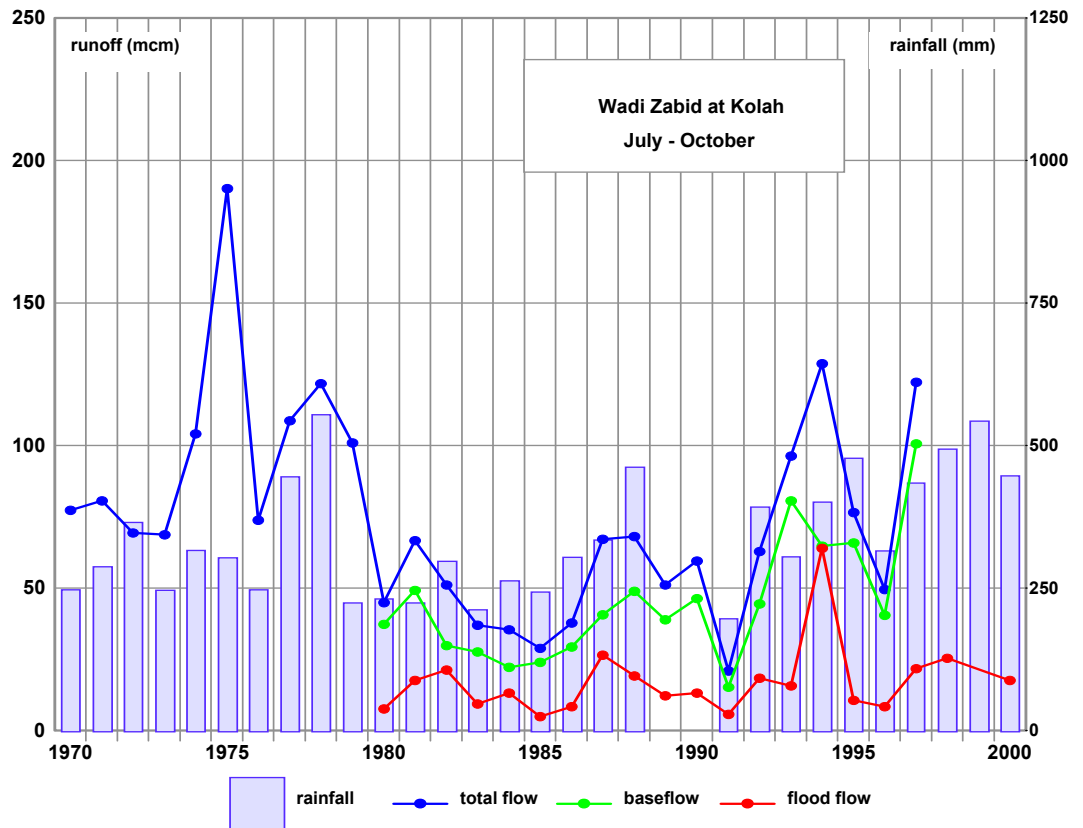
Figure 3.11 Time series of annual flood flow and baseflow



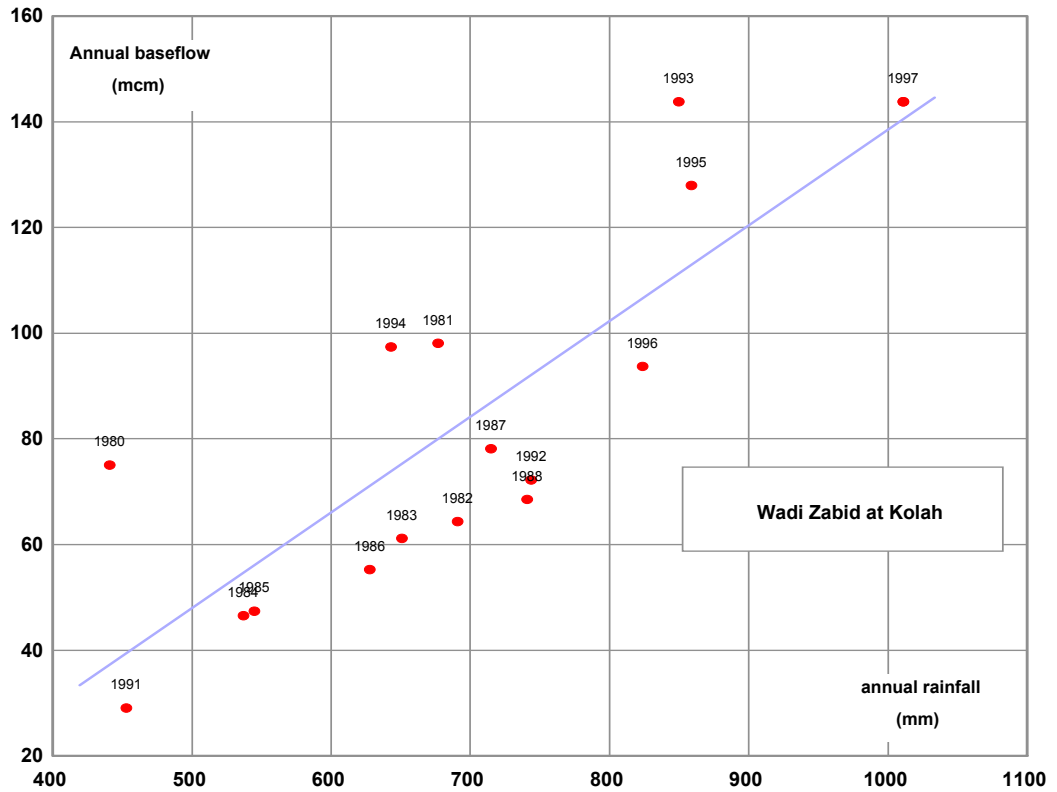
**Figure 3.12 Time series of March to June flood flow and baseflow**



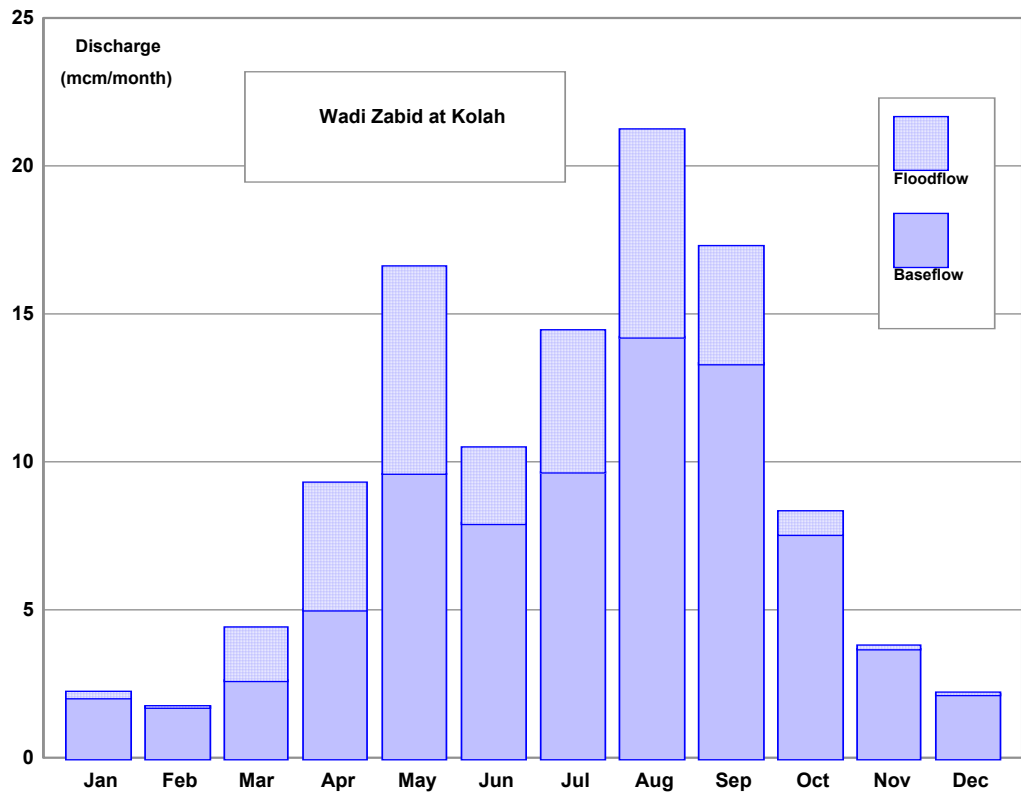
**Figure 3.13 Time series of July to October flood flow and baseflow**



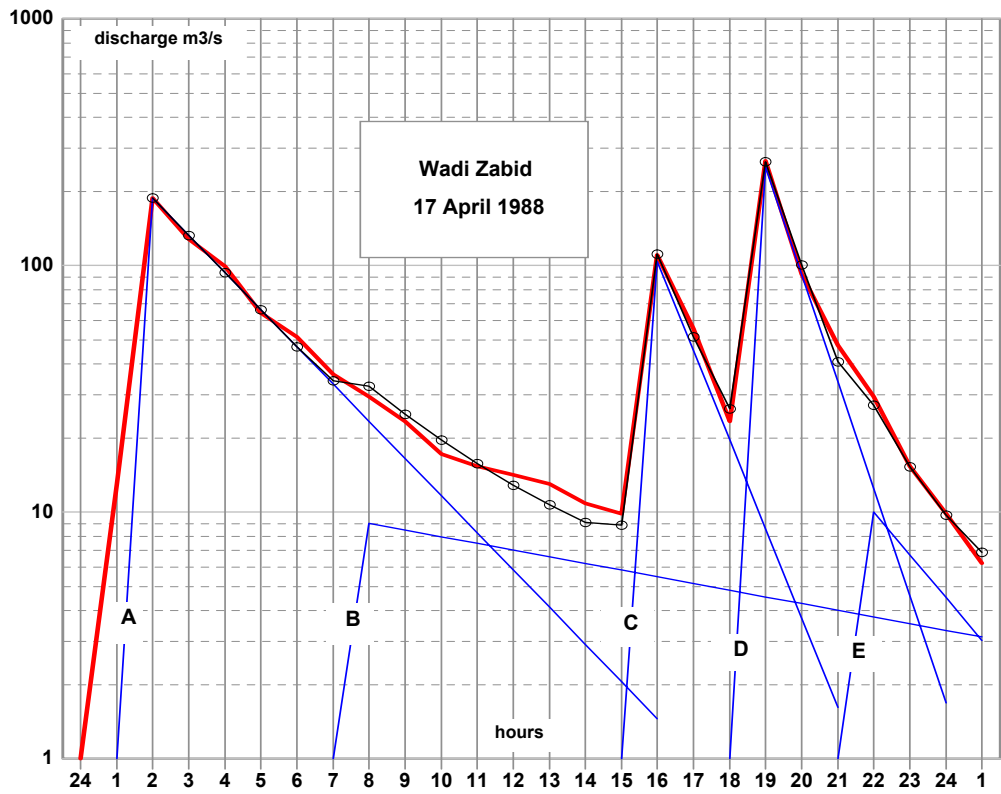
**Figure 3.14 Annual baseflow related to rainfall**



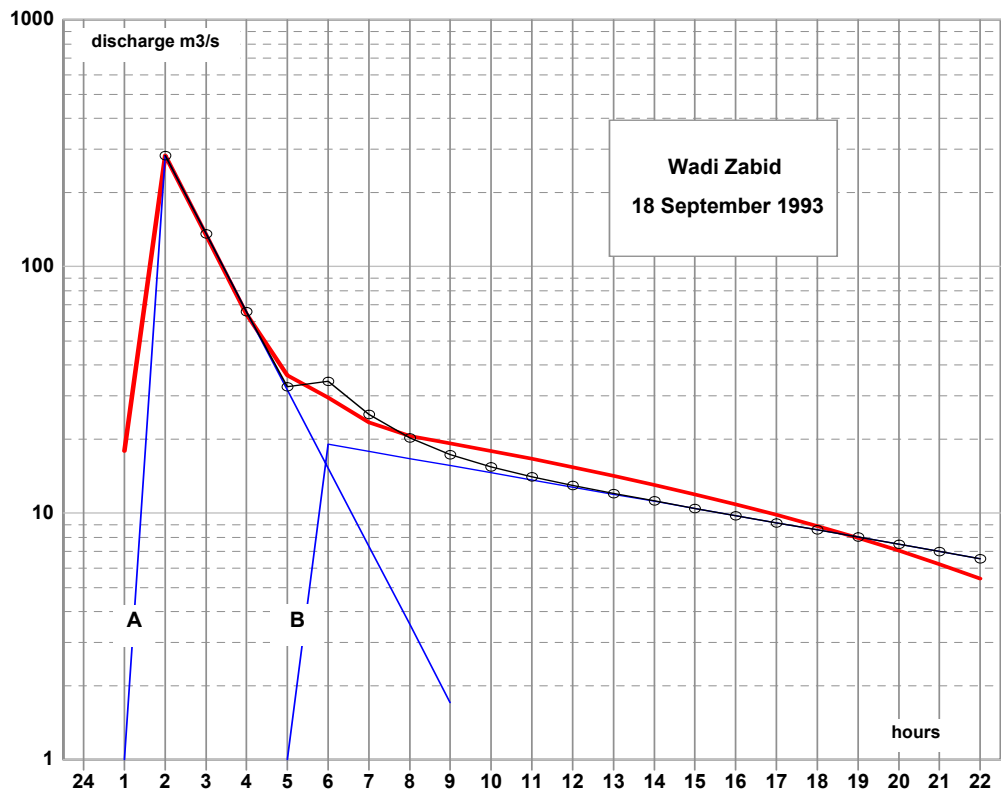
**Figure 3.15 Seasonal distribution of flood and baseflow at Kolah**



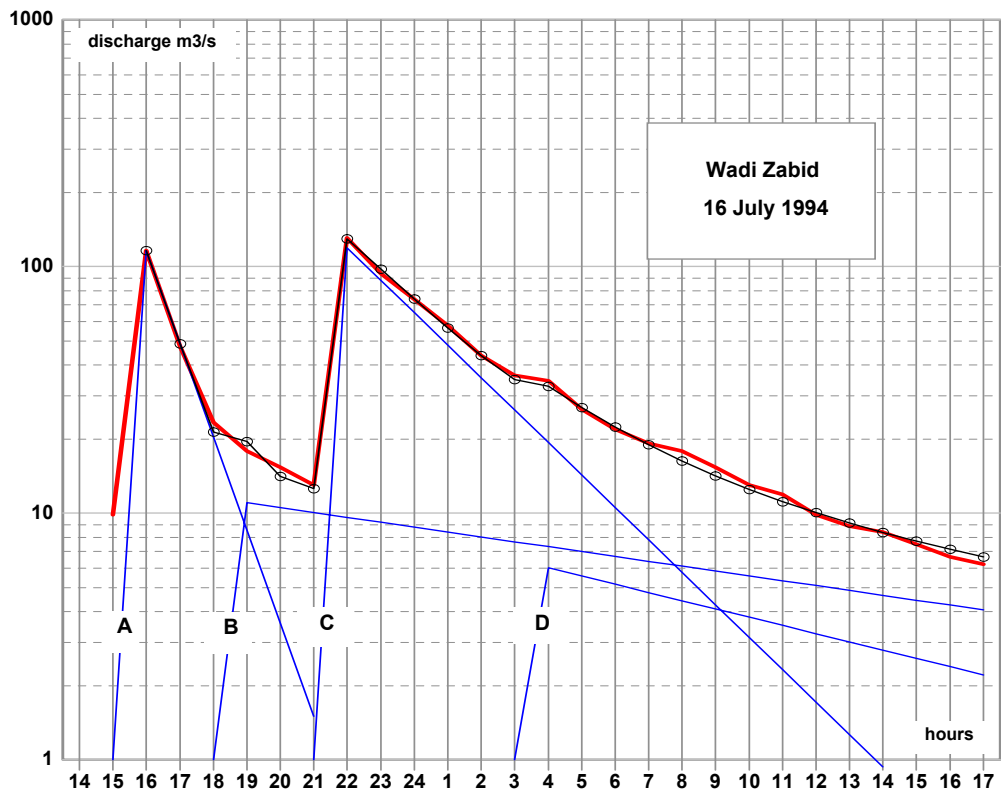
**Figure 3.16 Flood hydrograph at Kolah: 17 April 1988**



**Figure 3.17 Flood hydrograph at Kolah: 18 September 1993**



**Figure 3.18 Flood hydrograph at Kolah: 16 July 1994**



**Figure 3.19 Flood hydrograph at Kolah: 24 July 1994**

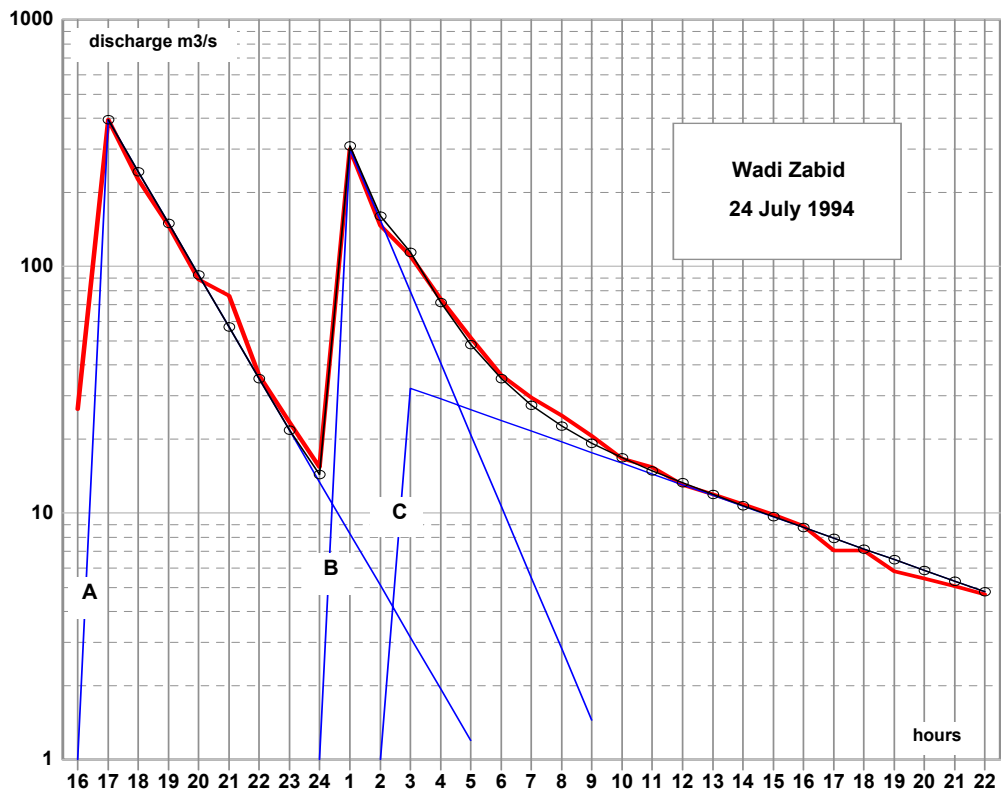
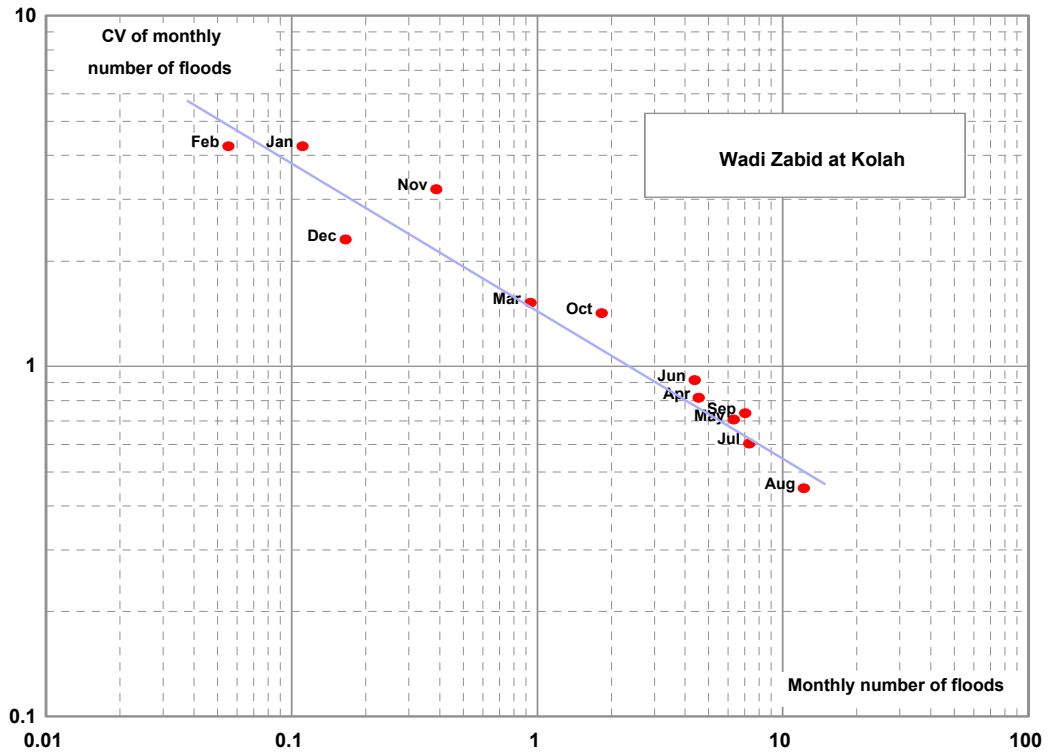
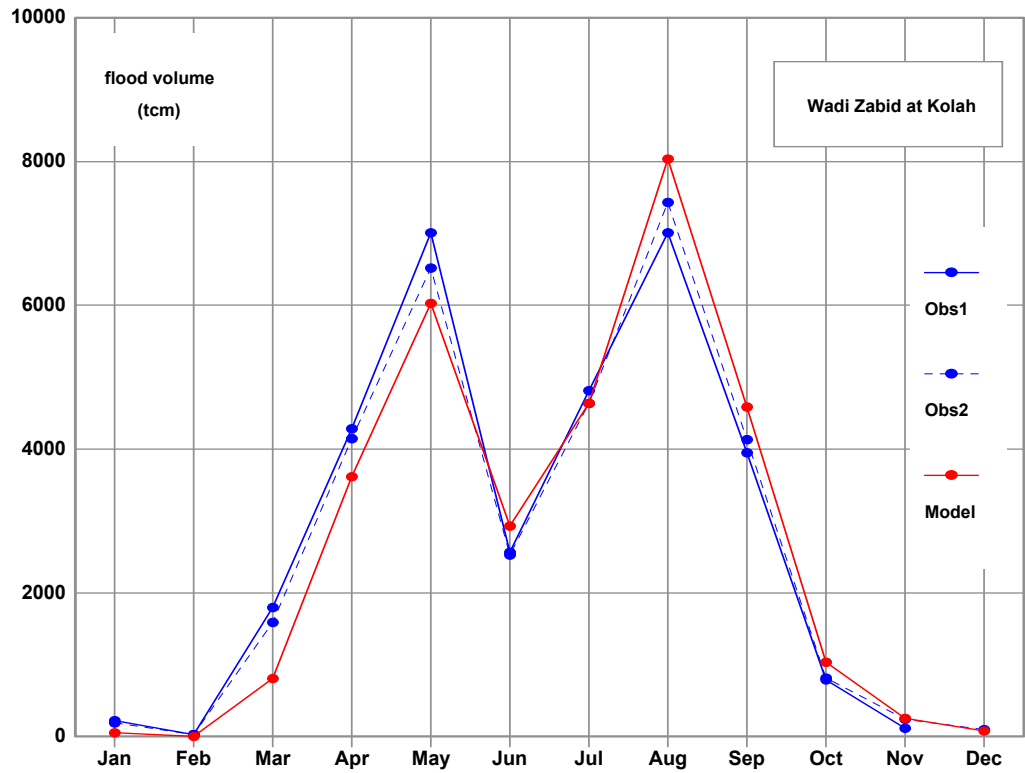


Figure 4.1 The variability of the monthly number of floods

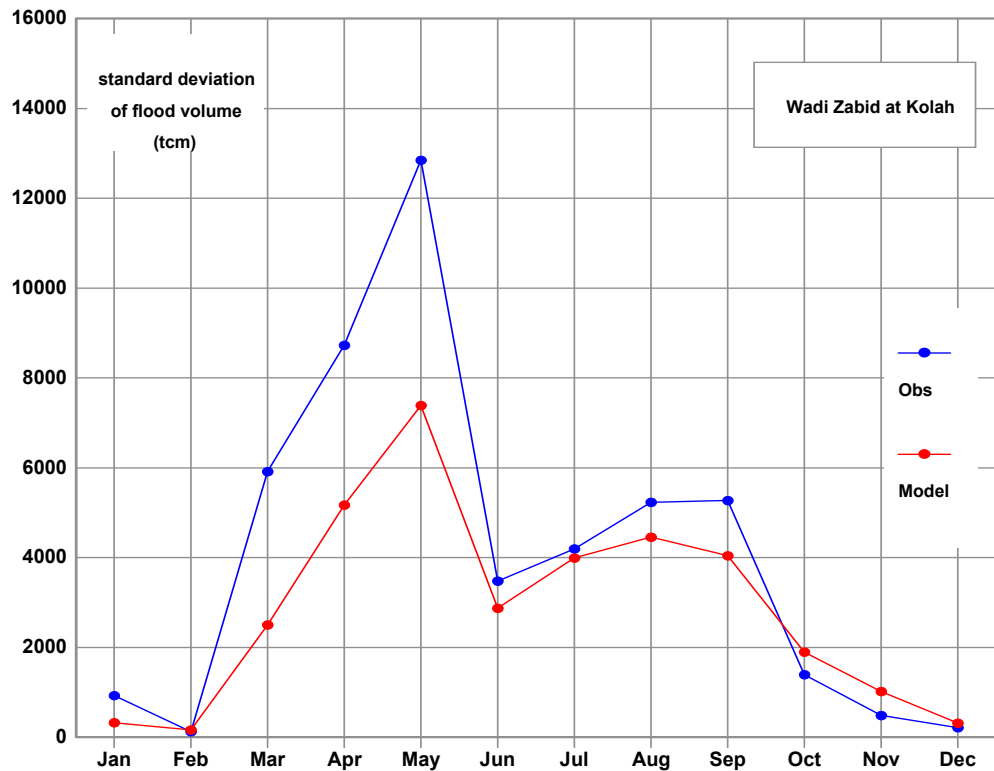




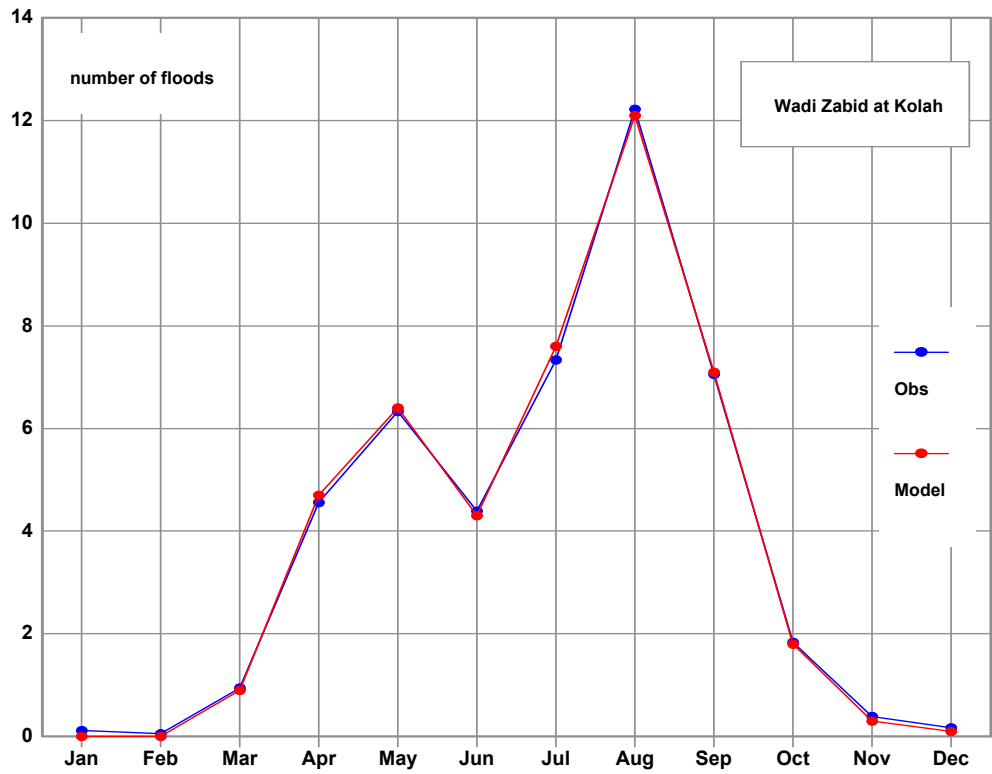
**Figure 4.2 Observed and simulated monthly flood volume**



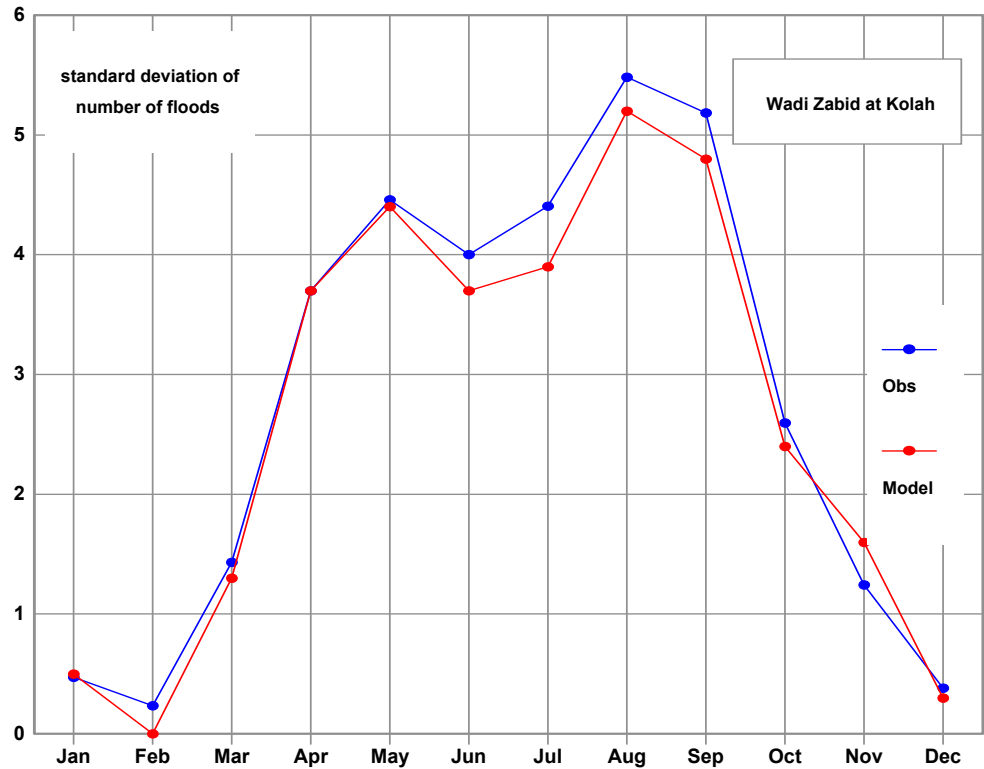
**Figure 4.3 Observed and simulated variability of monthly flood volume**



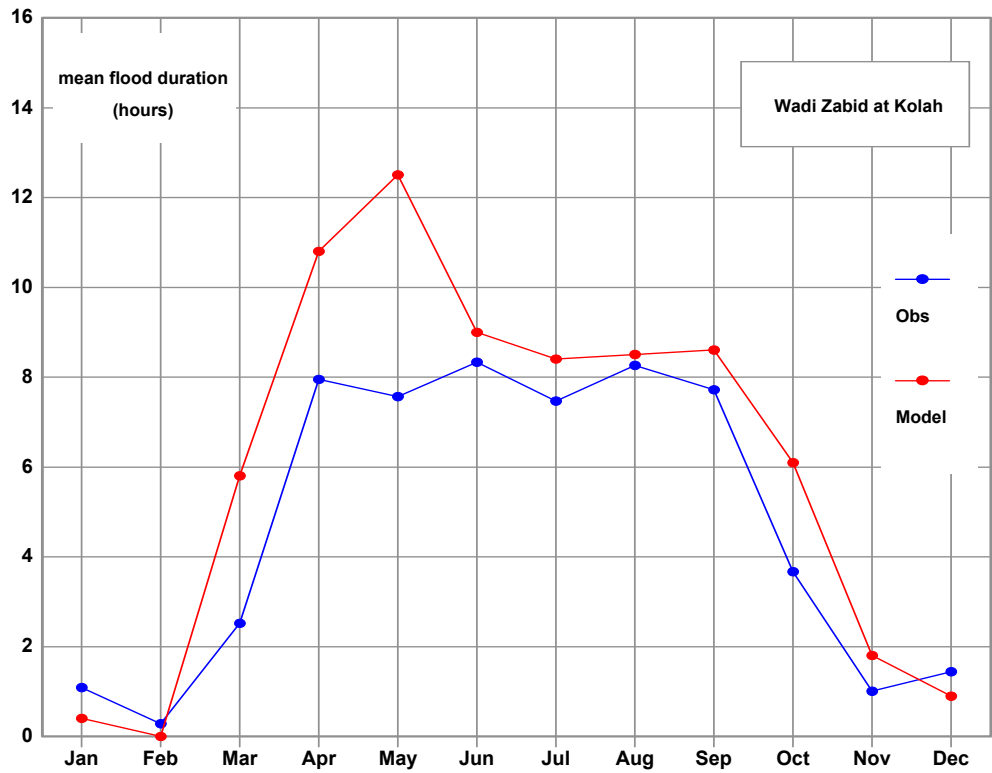
**Figure 4.4** Observed and simulated monthly number of floods



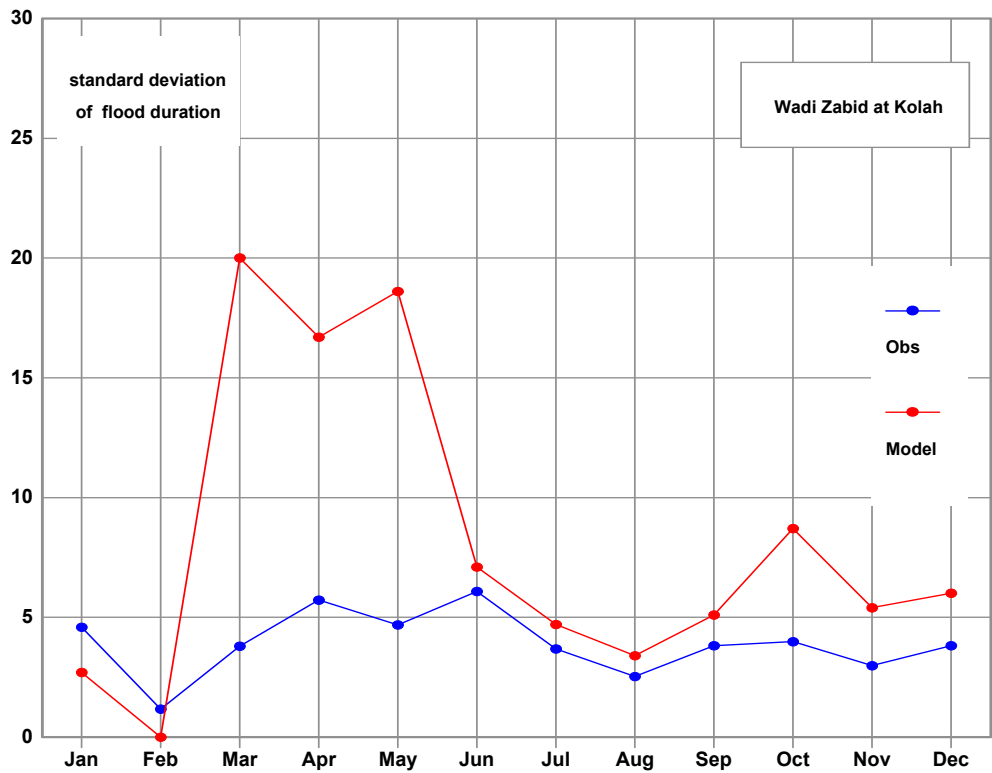
**Figure 4.5** Observed and simulated variability of monthly number of floods



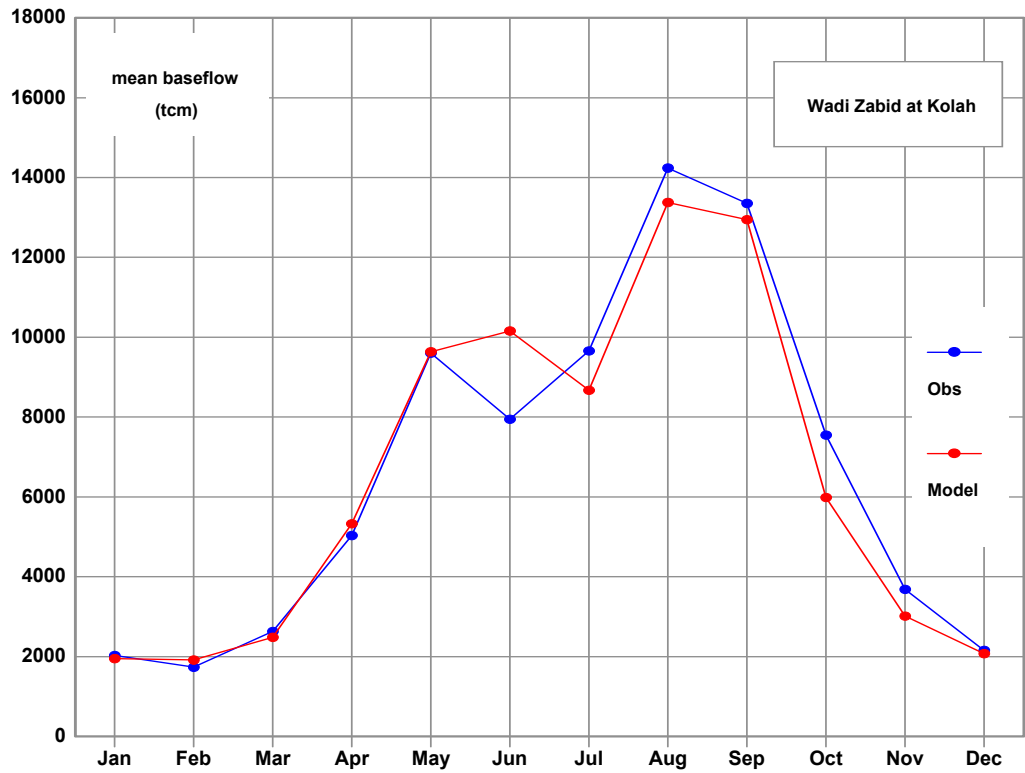
**Figure 4.6** Observed and simulated monthly flood duration



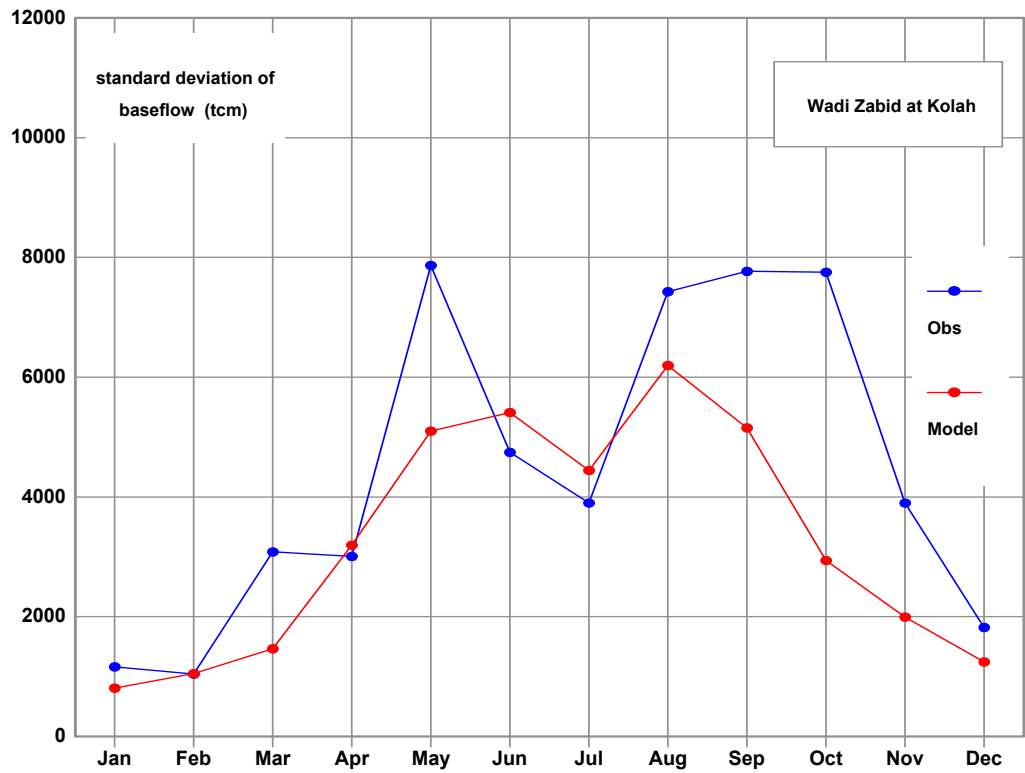
**Figure 4.7** Observed and simulated variability of monthly flood duration



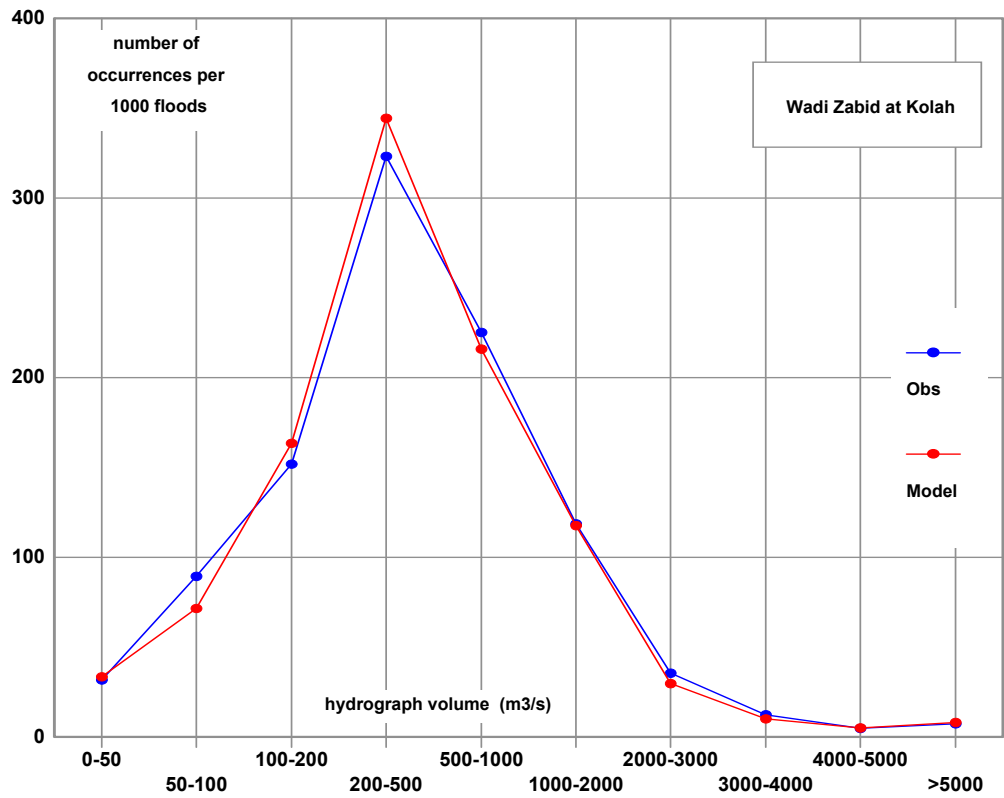
**Figure 4.8 Observed and simulated monthly baseflow**



**Figure 4.9 Observed and simulated variability of monthly baseflow**



**Figure 4.10 Observed and simulated flood volumes (from hydrographs)**



**Figure 4.11 Observed and simulated flood peak discharges**

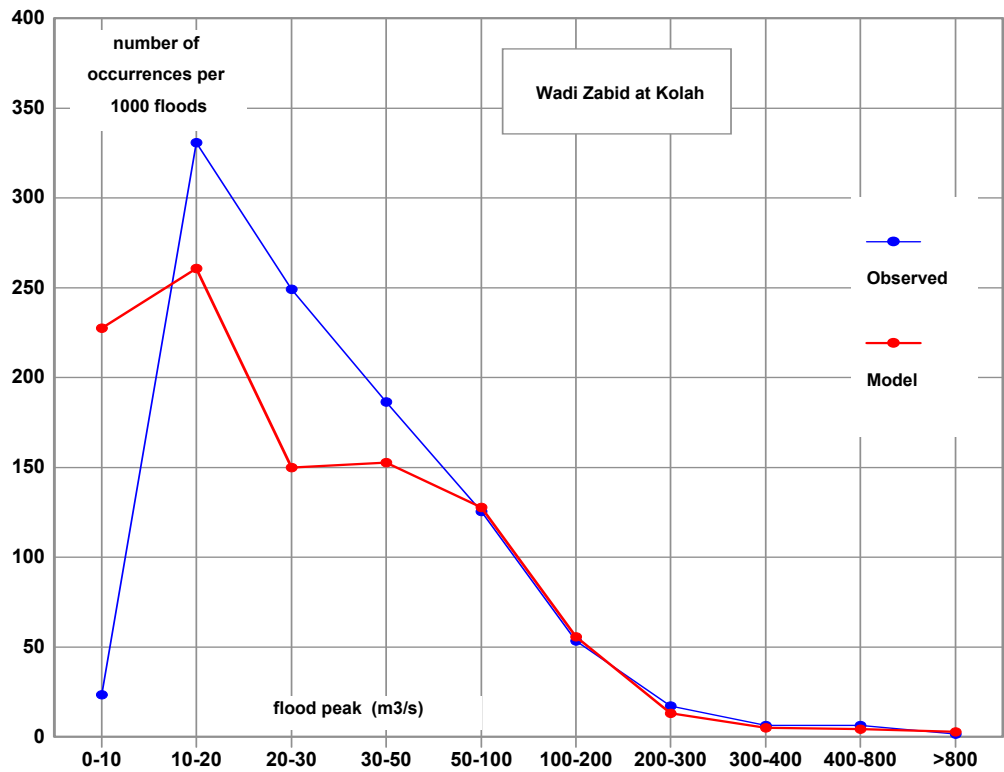
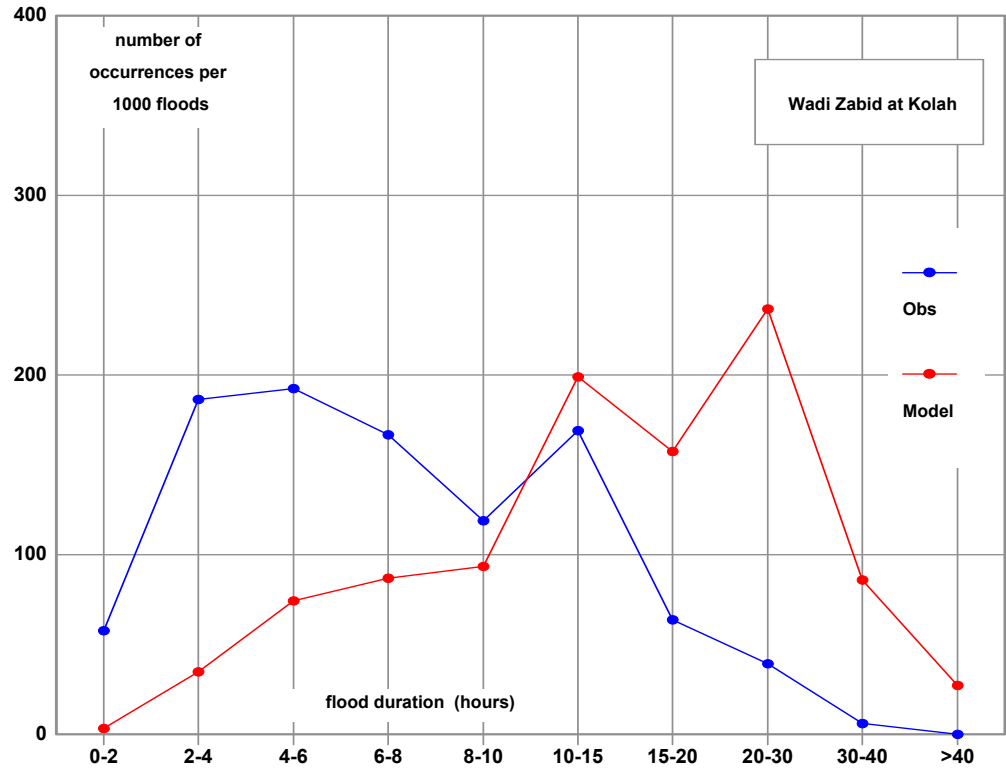
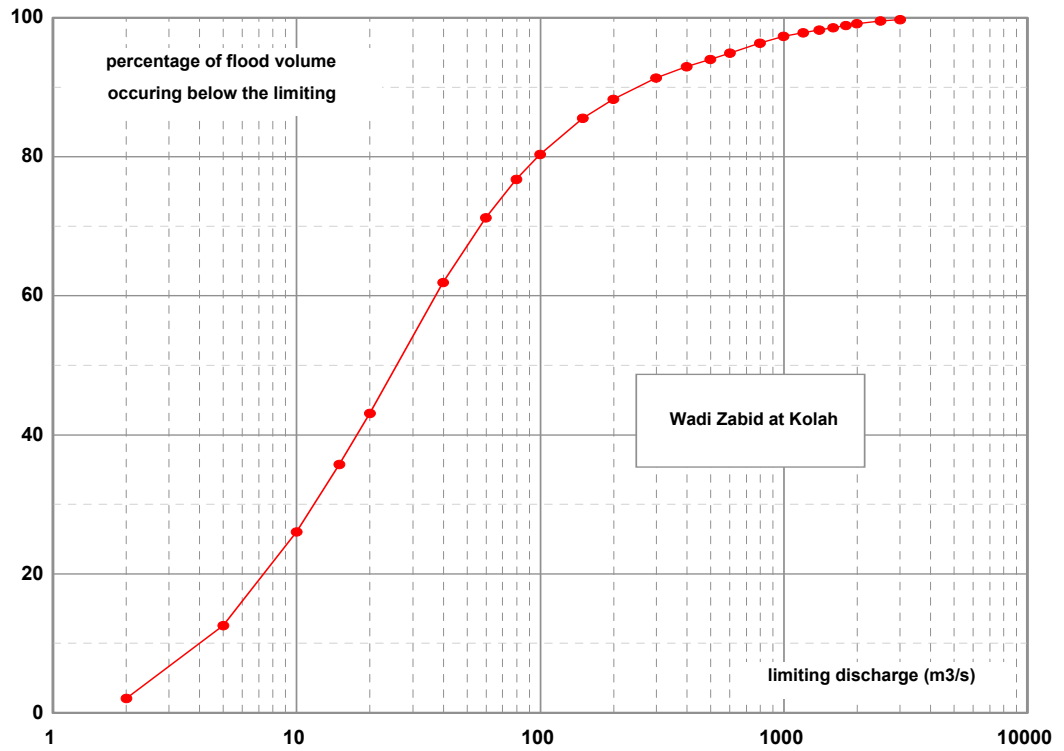


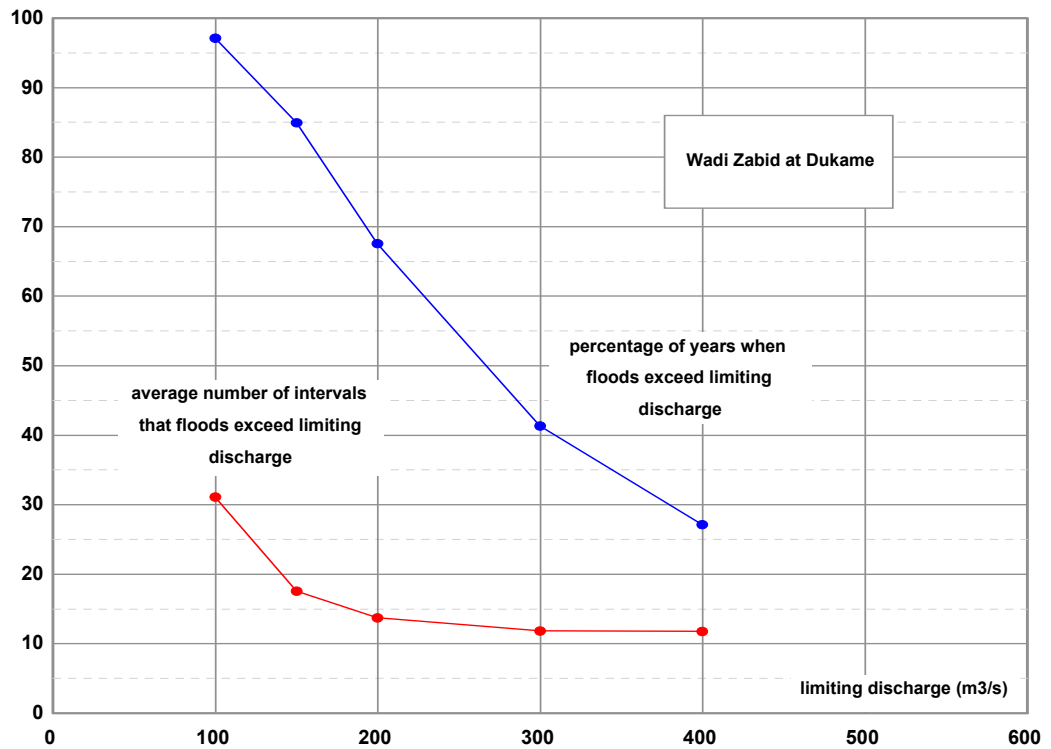
Figure 4.12 Observed and simulated flood durations (from hydrographs)



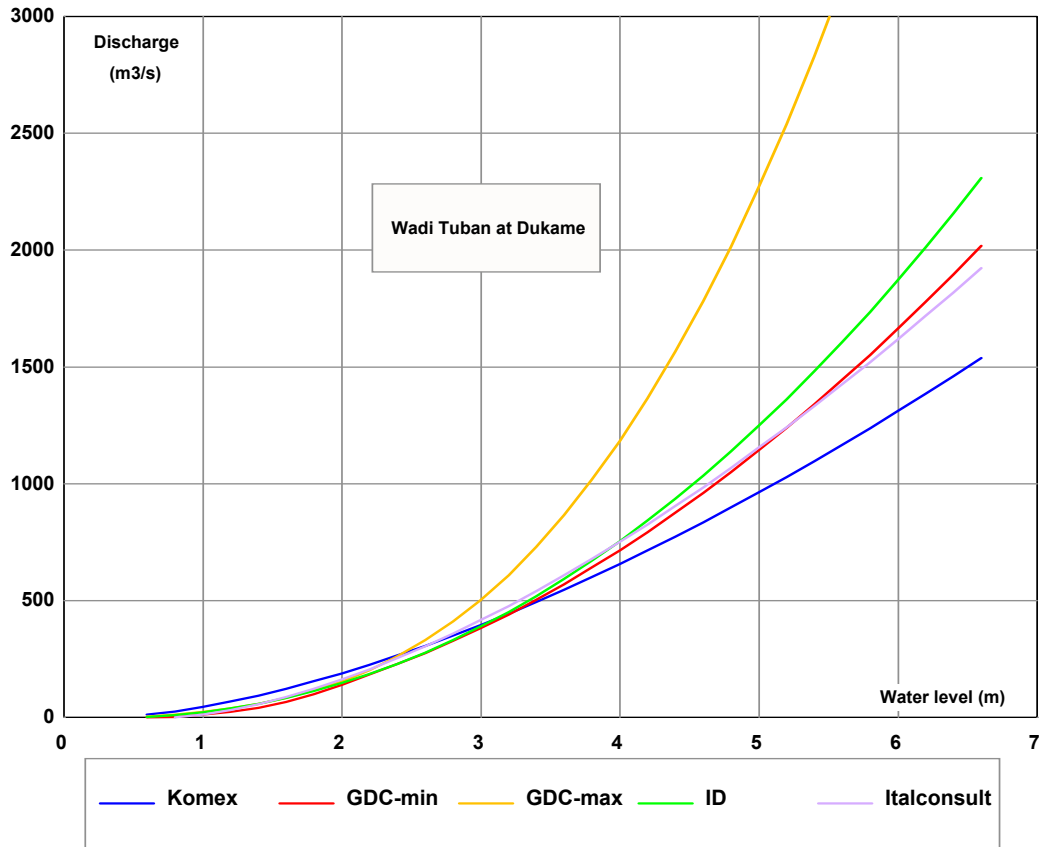
**Figure 4.13 Percentage of flood volume below a limiting discharge**



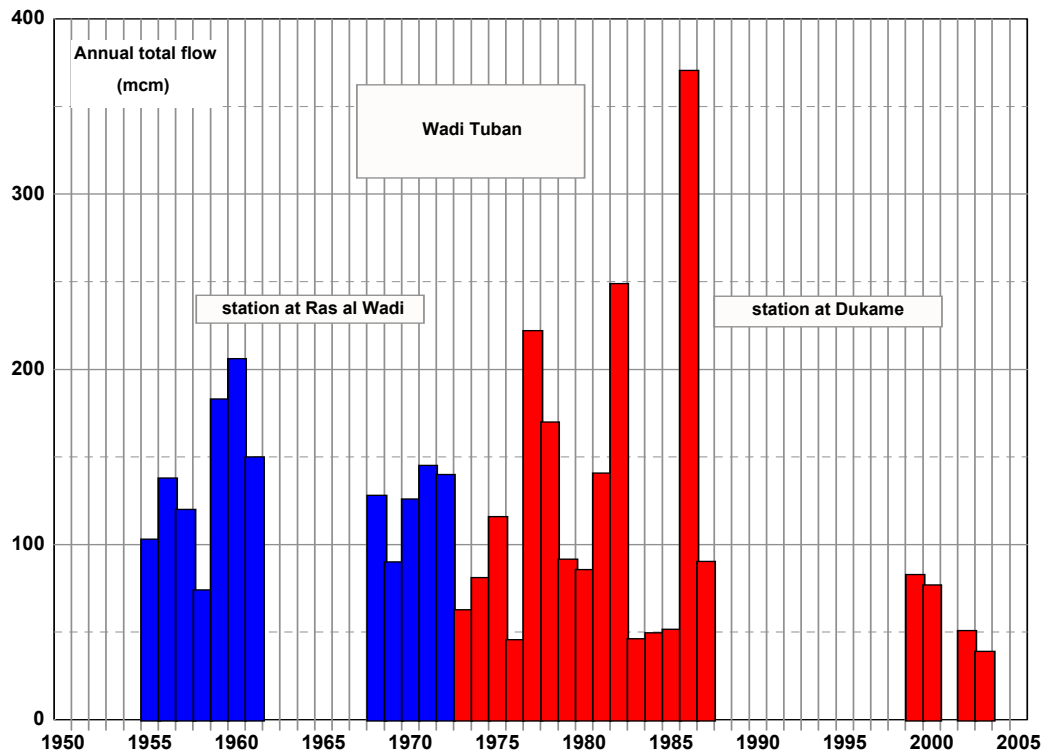
**Figure 4.14 Years and time intervals that limiting discharge is exceeded**



**Figure 5.1 Comparative rating curves for Wadi Tuban at Dukame**

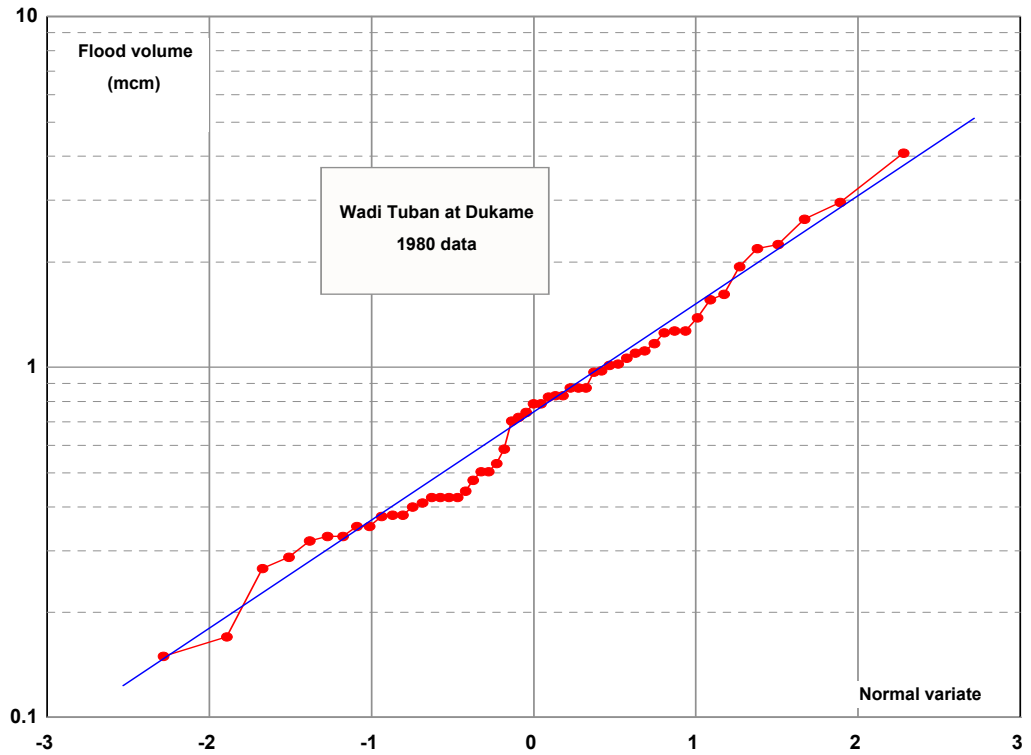


**Figure 5.2 Time series of annual total flows for Wadi Tuban at Dukame**

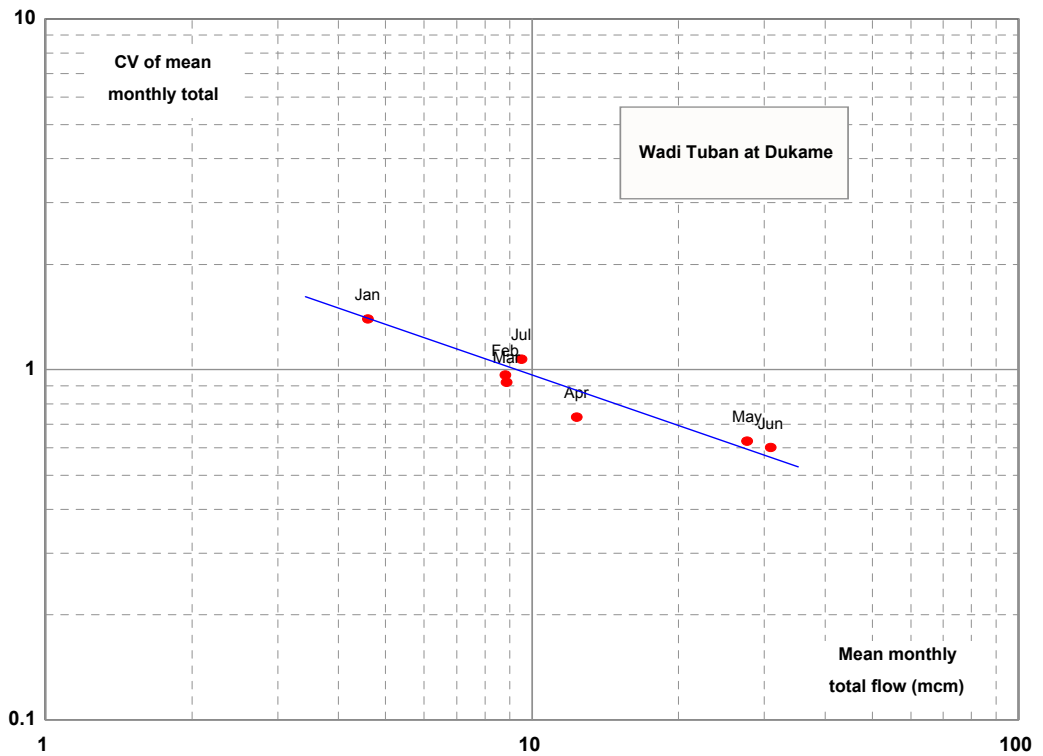




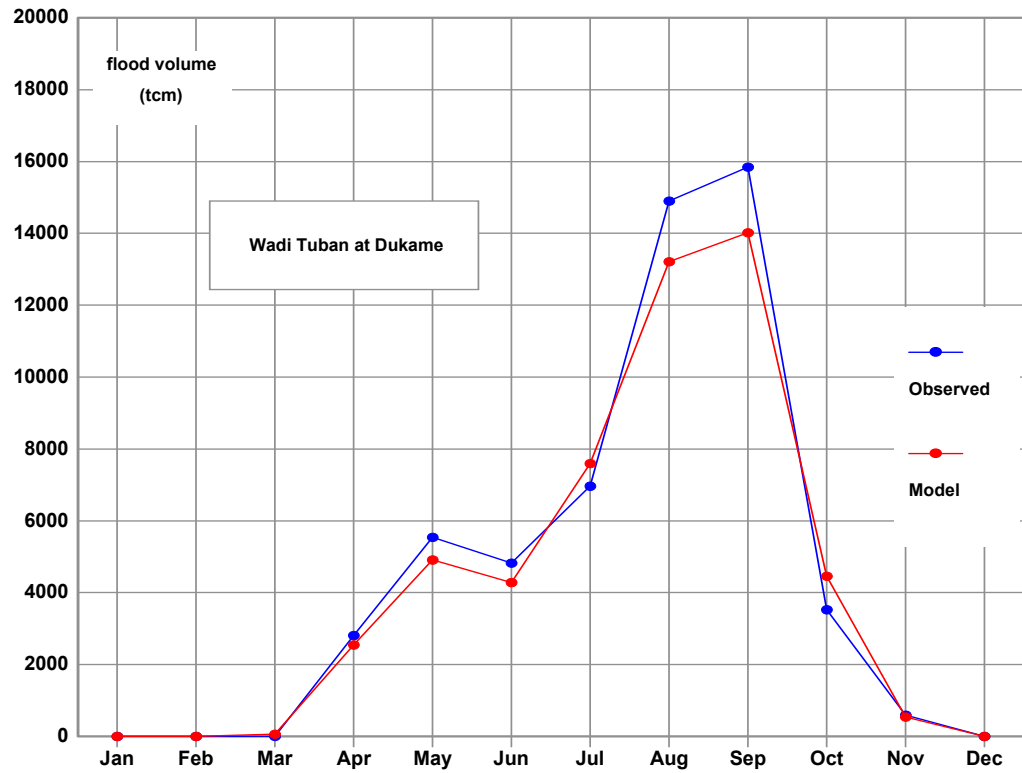
**Figure 5.3** Probability distribution of flood event volume for Wadi Tuban



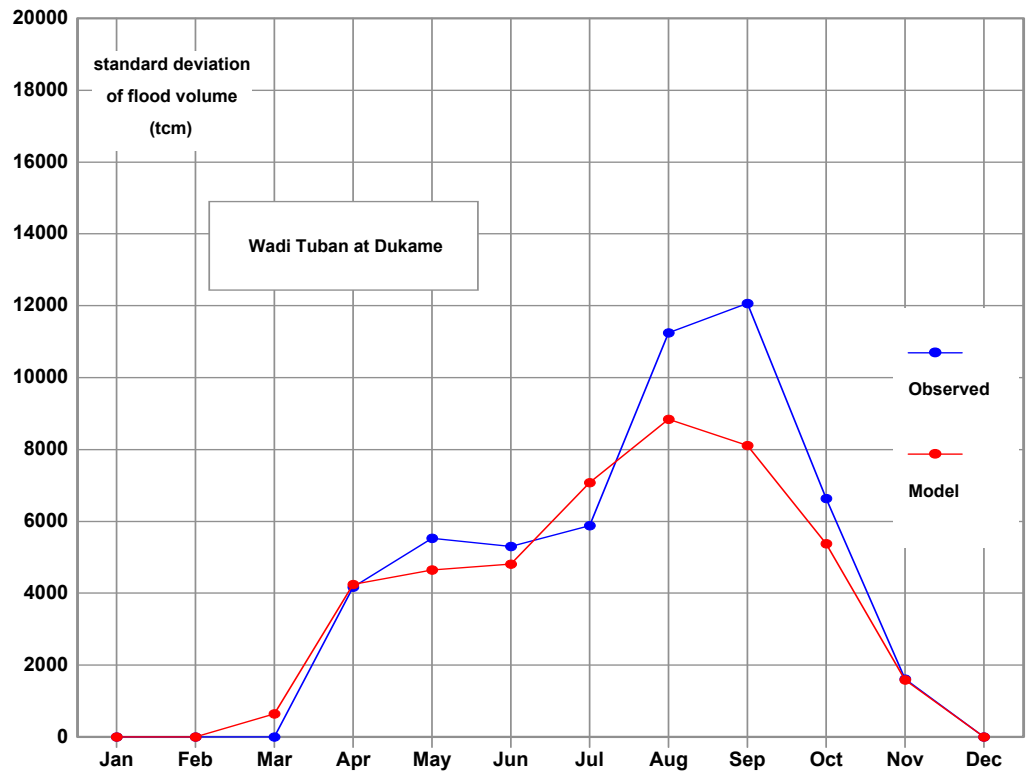
**Figure 5.4** Relationship between the CV and the mean of monthly volumes



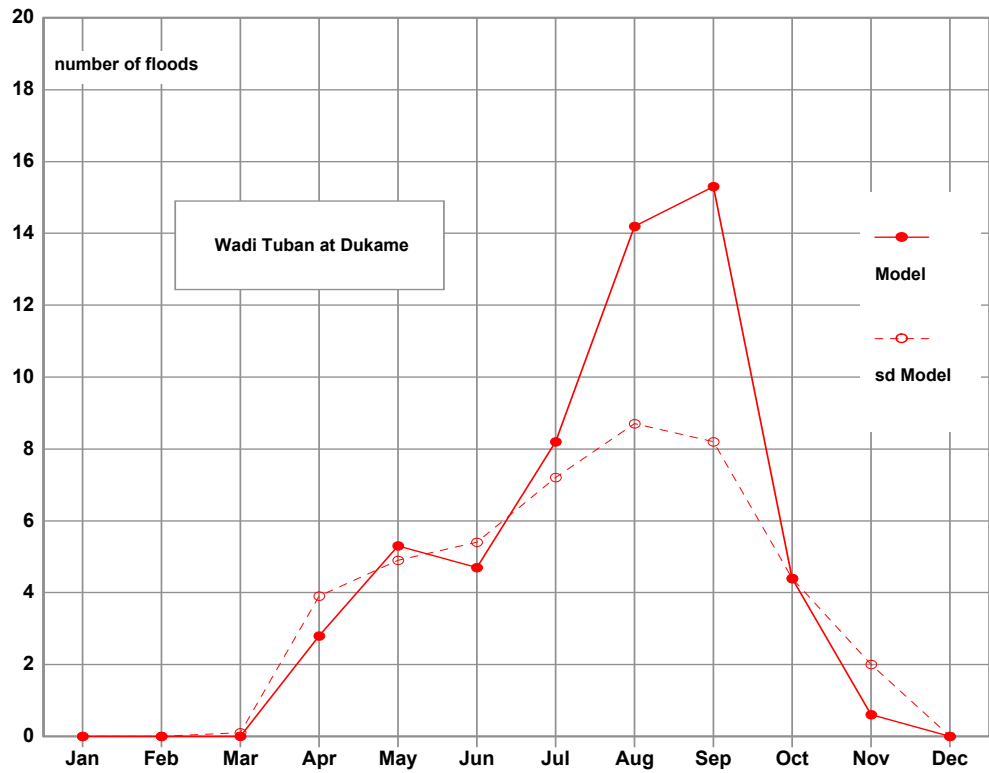
**Figure 5.5 Observed and simulated monthly volume for Wadi Tuban**



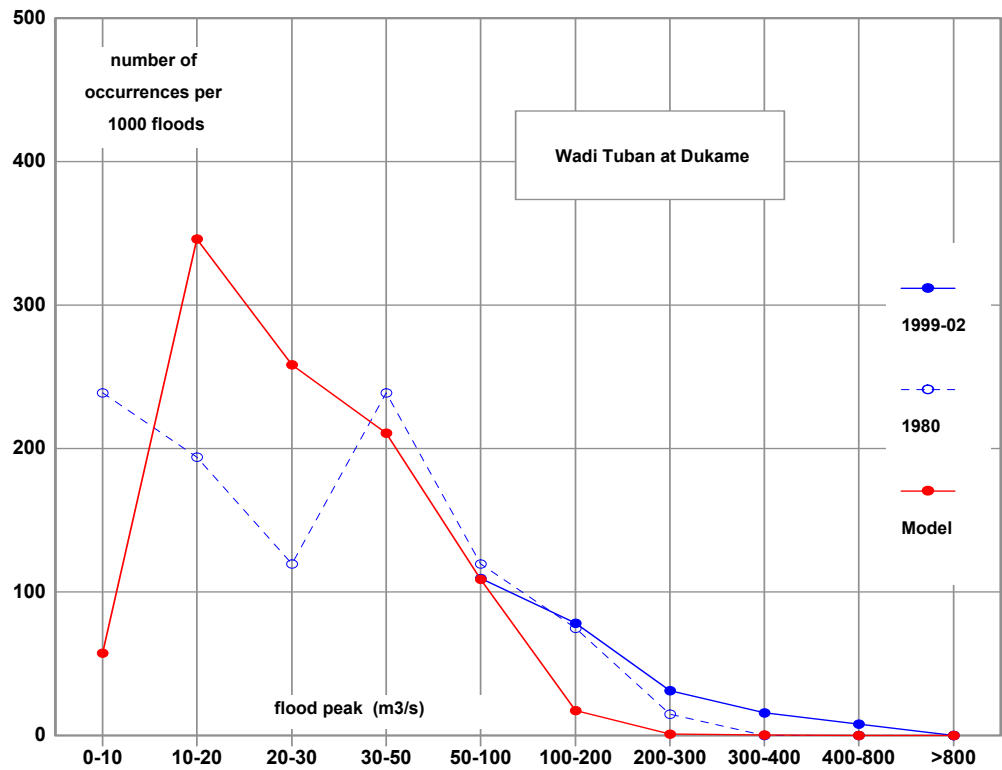
**Figure 5.6 Observed and simulated variability of monthly volume for Wadi Tuban**



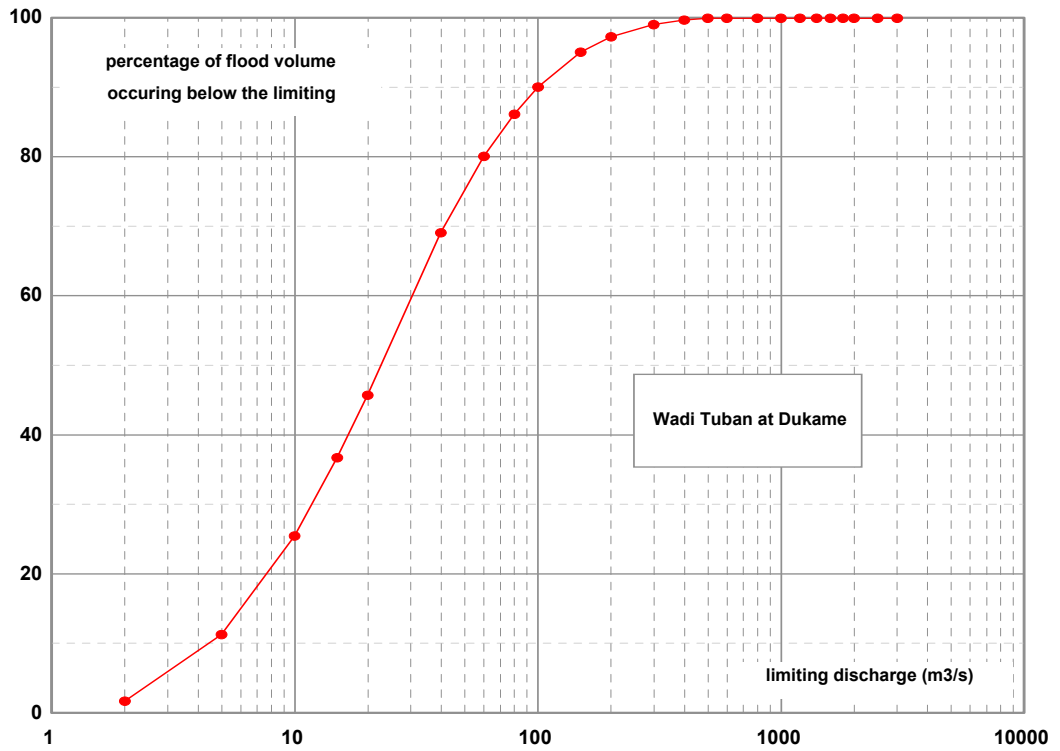
**Figure 5.7 Simulated number of floods for Wadi Tuban**



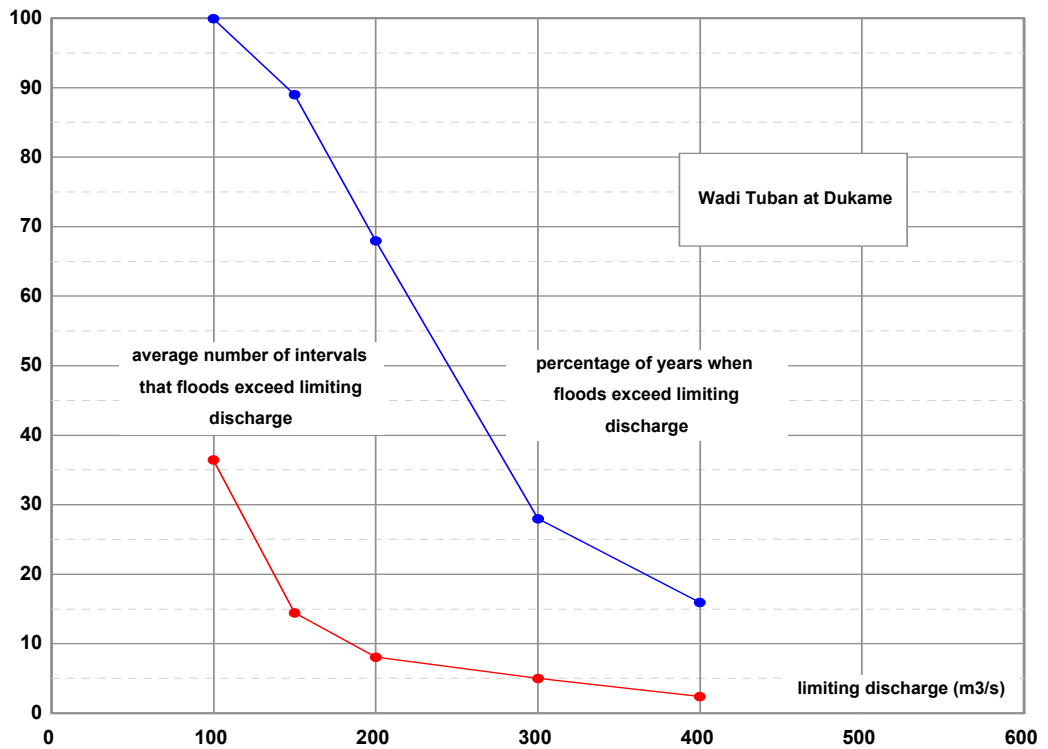
**Figure 5.8 Observed and simulated peak discharges for Wadi Tuban**



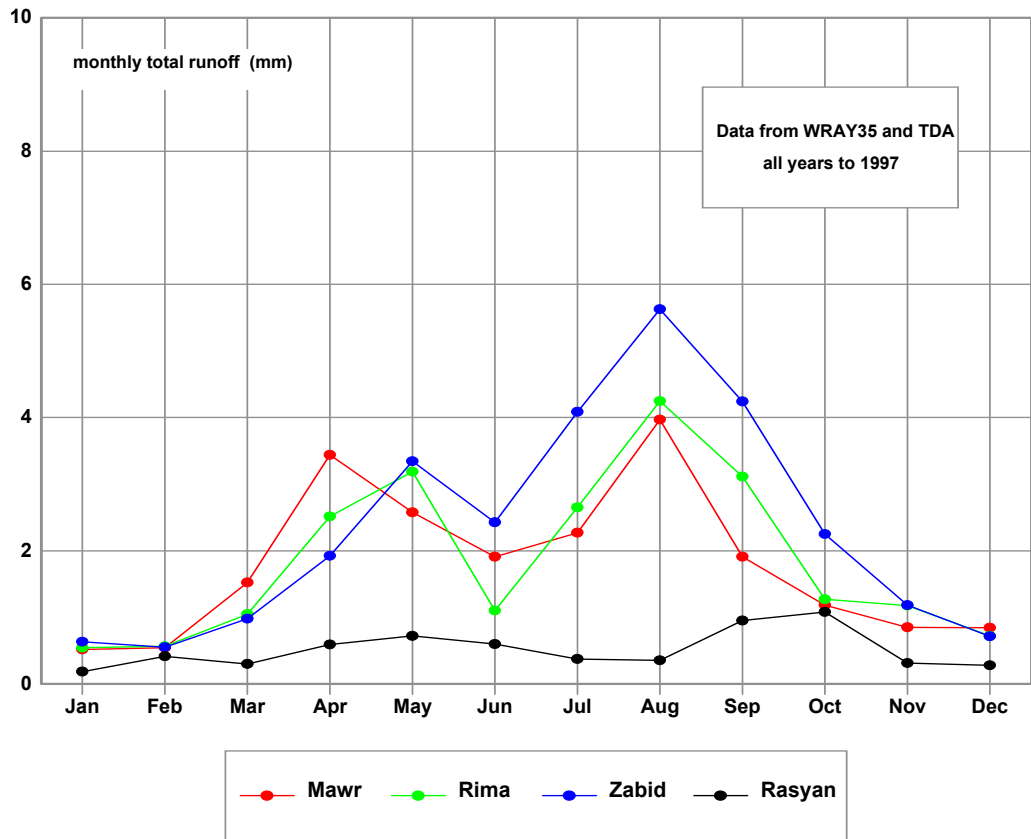
**Figure 5.9 Percentage of flood volume below a limiting discharge**



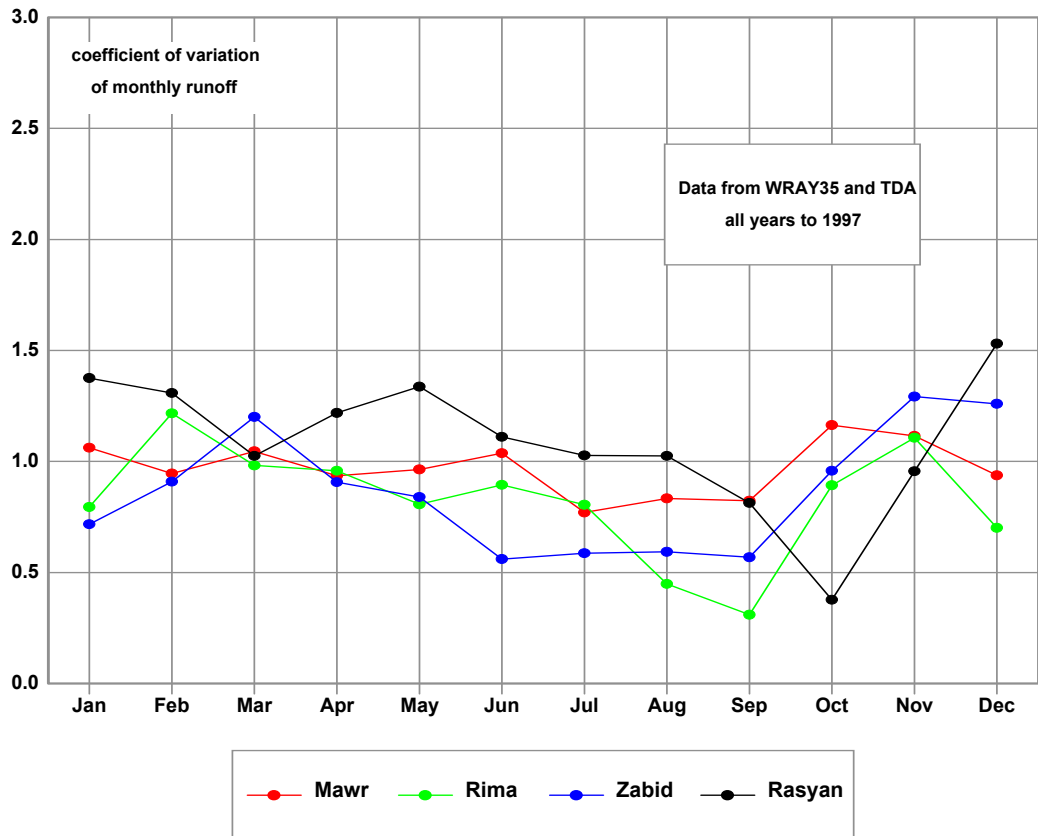
**Figure 5.10 Years and time intervals that limiting discharge is exceeded**



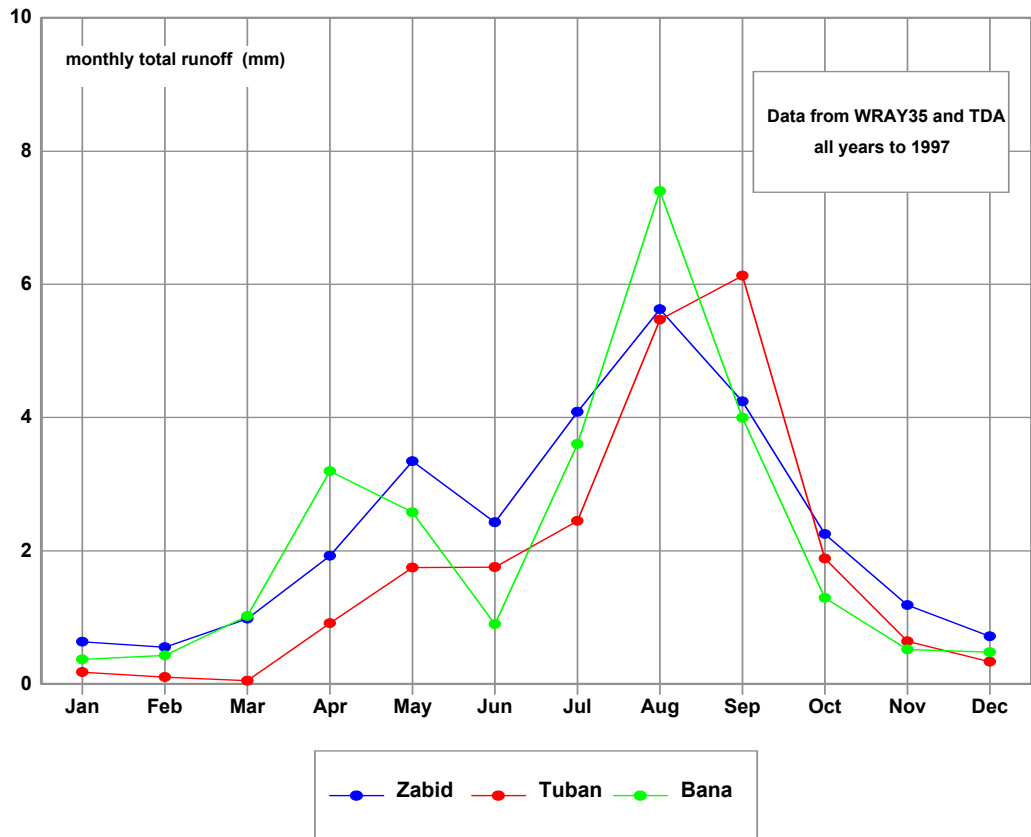
**Figure 6.1 Monthly total runoff - the Tihama wadis**



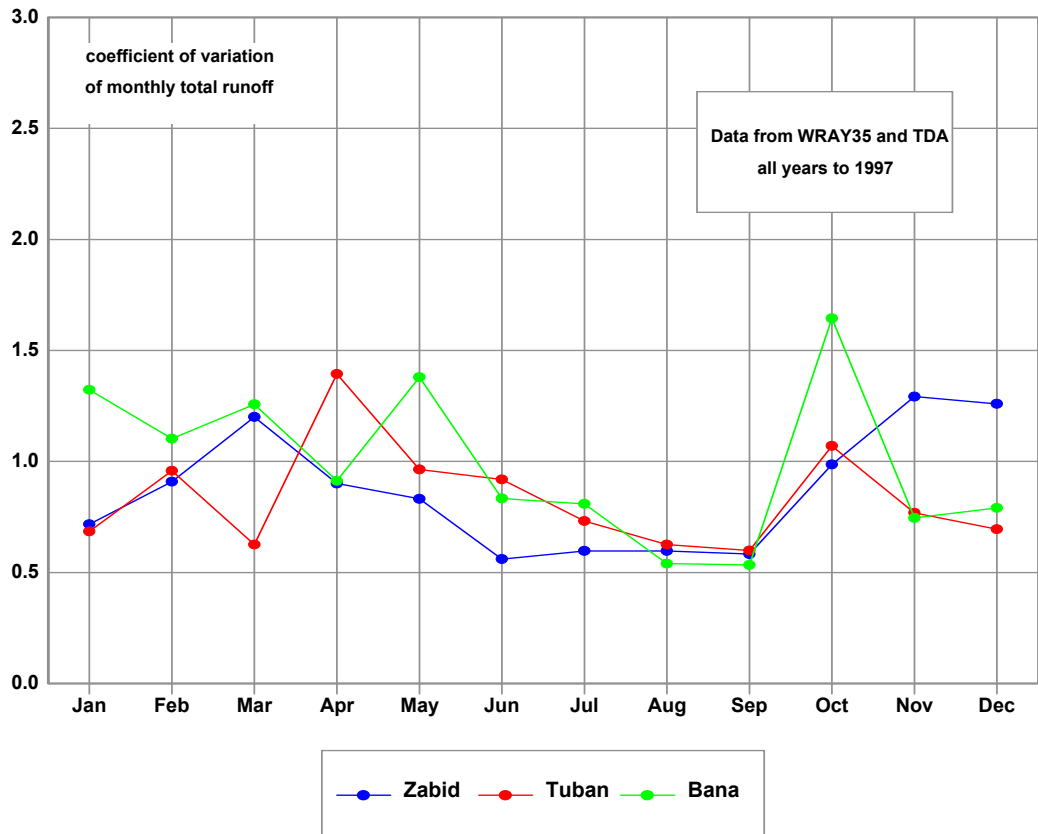
**Figure 6.2 Variability of runoff - the Tihama wadis**



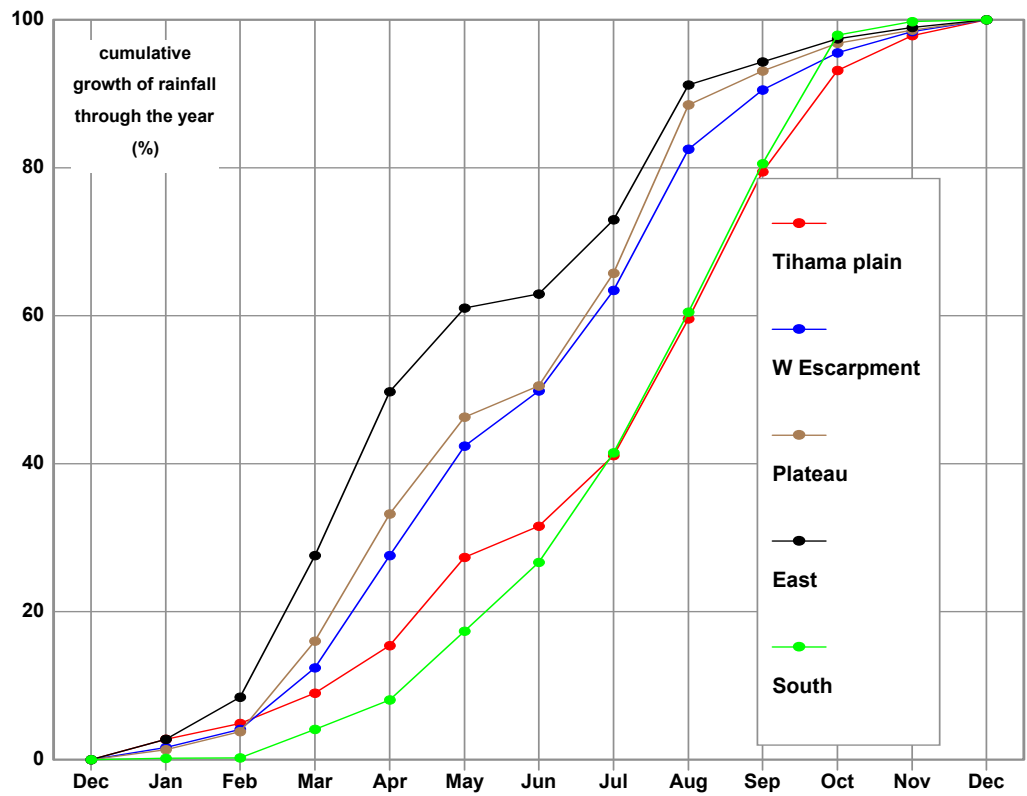
**Figure 6.3 Monthly total runoff - Wadi Zabid and the southern wadis**



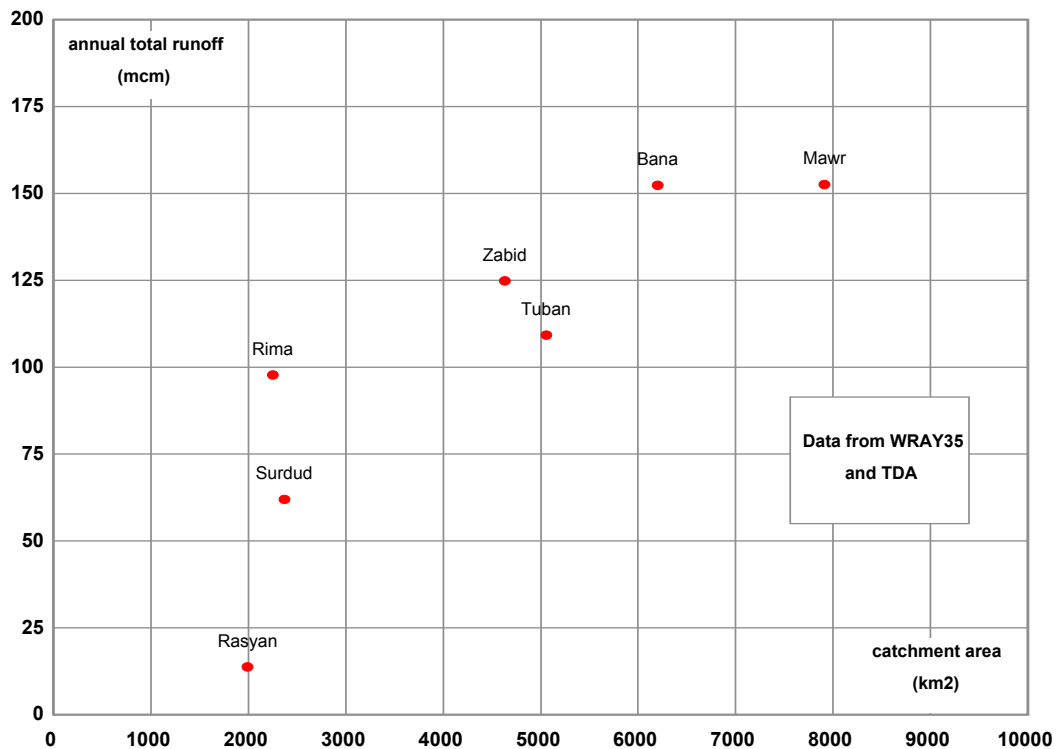
**Figure 6.4 Variability of runoff - Wadi Zabid and the southern wadis**



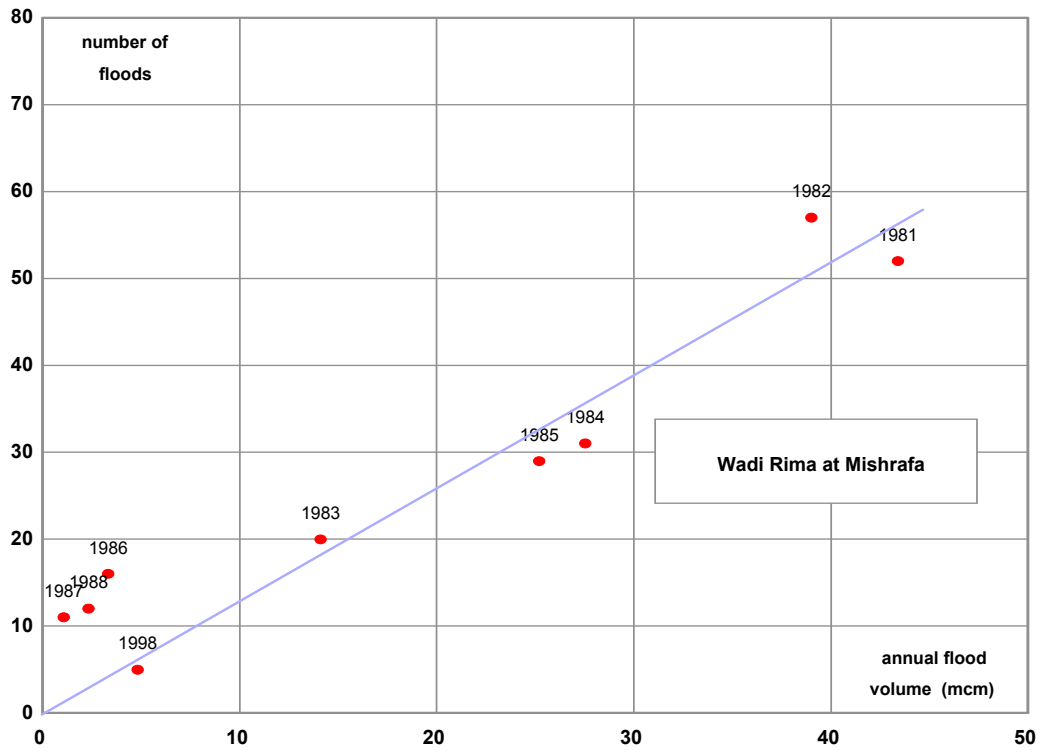
**Figure 6.5** Seasonal growth of rainfall by sub-region



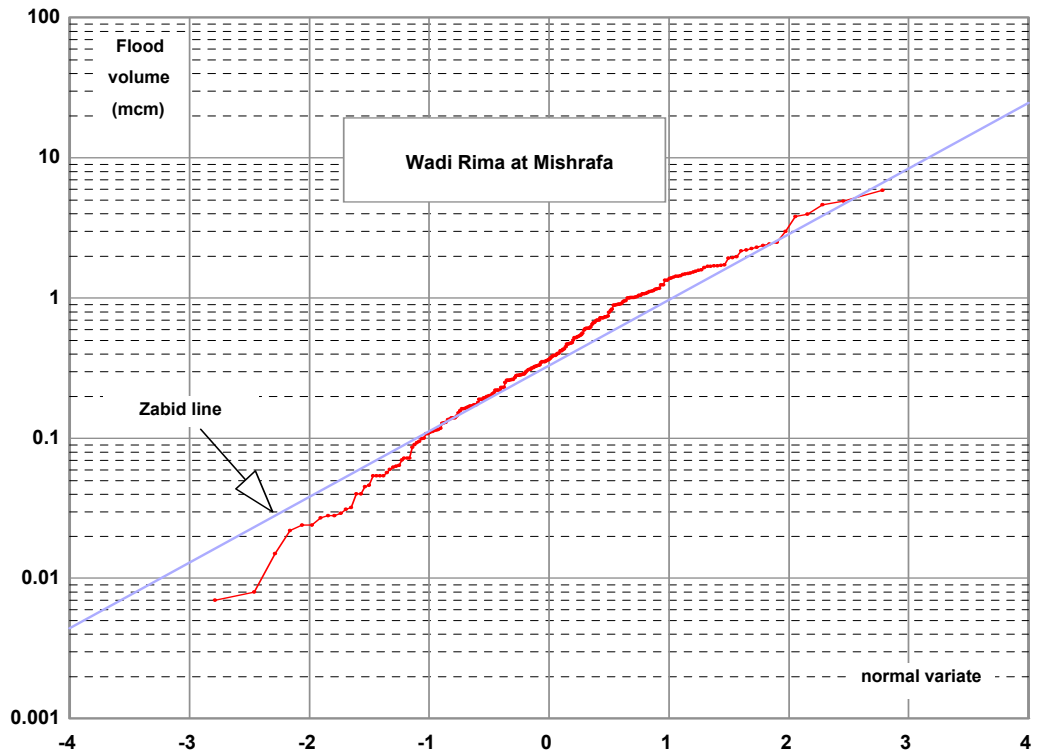
**Figure 6.6** Total runoff related to catchment area



**Figure 6.7 Wadi Rima - number of floods**

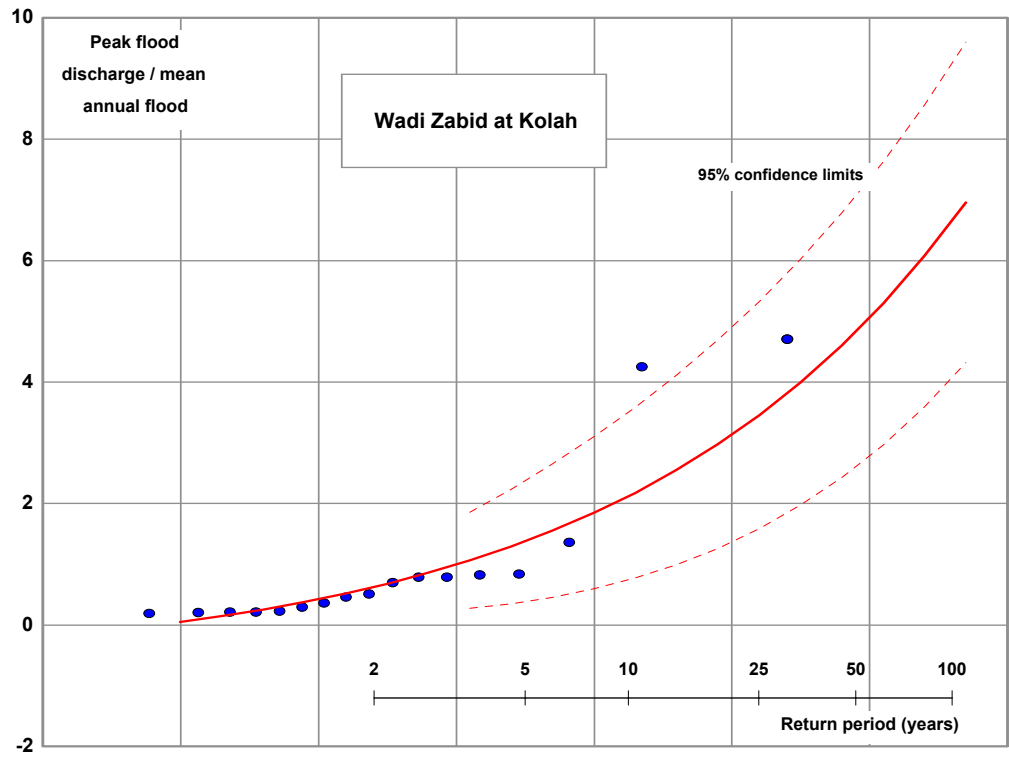


**Figure 6.8 Wadi Rima - probability distribution of flood volumes**





**Figure 7.1 Wadi Zabid - flood frequency curve**



**Figure 7.2 Wadi Tuban - flood frequency curve**

