

Paper Title: Use of rain forecast in hydrological applications

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Abstract: The S-band QPM Doppler Radar (3GHz radar) gave useful information about the rainfall centroid particularly over the areas across boarder. The Doppler effect was used to keep on constant track of movement both of convergence and divergence pattern. The three dimensional cloud image helped in locating the heavy rainfall over a particular sub-basin, which tremendously improve the accuracy of flood forecast during the monsoon season of 2002. During monsoon season (July to October) due to heavy rainfall the Indus basin is vulnerable to flooding and particularly the people living in the otherwise dry river beds are swept away because of flash flows. In Indus river basin the two tributaries i.e. river Sutlej and Ravi receive flood flows during monsoon season and the upper catchments of both the rivers lie across the boarder in India. Under Indus River Treaty the flood flows are received daily. The people living in this region reside with their cattle in the flood plain, which is generally dry during October to June. The flood forecasting division issued significant flood forecasts 48 hours in advance in August 2001 and got the riverbed evacuated through the Relief department and District authorities. Similarly in August 2001 in river Ravi significant flood forecast was issued 24 hours in advance and the people alongwith their cattle were shifted to safer location and as such the amount to be spent on post rehabilitation and the damage to the life, property and cattle of the poor people/farmers was saved. The issuance of early flood forecast and warning and its implementation through effective liaison with district administration authorities had a salutary effect and the confidence with the public improved in flood forecasting authority. Which was appreciated both in press and in the Government.