

River Runoff Forecasting

Brian Bell, Brian Wallace, Du Zhang

California State University, Sacramento

Department of Computer Science Sacramento, California

Email: bryan.w.bell@gmail.com, bwtech@gmail.com, zhangd@ecs.csus.edu

Abstract—How "wet" or "dry" a year is predicted to be has many impacts. Public utilities need to determine what percentage of their electric energy generation will be hydro power. Good water years enable the utilities to use more hydro power and, consequently, save oil. Conversely, in a dry year, the utilities must depend more on steam generation and therefore use more oil, coal, and atomic fuel. Agricultural interest use the information to determine crop planting patterns, ground water pumping needs, and irrigation schedules. Operators of flood control projects determine how much water can safely be stored in a reservoir while reserving space for predicted inflows. Municipalities use the information to evaluate their water supply and determine whether (in a dry year) water rationing may be needed.

REFERENCES

- [1] H. Kopka and P. W. Daly, *A Guide to L^AT_EX*, 3rd ed. Harlow, England: Addison-Wesley, 1999.

I. INTRODUCTION

Water forecasts lead to better planning and management of the State's water resources – which benefit all Californians. The Cooperative Snow Surveys Program is an important part of this effort. Thus, Californians are dependent upon snow . . . and the snow surveyor.

Today in California more than 50 state, national, and private agencies pool their efforts in collecting snow data. Over three hundred snow courses (http://cdec.water.ca.gov/cgi-progs/snowsurvey_p/SNOWTAB6) are sampled each winter.

One of the forecasting products produced by Snow Surveys is the Bulletin 120 (<http://cdec.water.ca.gov/snow/bulletin120/index2.html>). Bulletin 120 is a publication issued four times a year, in the second week of February, March, April, and May by the California Department of Water Resources. It contains forecasts of the volume of seasonal runoff from the state's major watersheds, and summaries of precipitation, snowpack, reservoir storage, and runoff in various regions of the State.

Our project focused on a sub-section of the Bulletin 120, the American River. We forecasted the April July full natural flow runoff of the American River measured at Folsom (http://cdec.water.ca.gov/cgi-progs/staMeta?station_id=AMF).

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II. CONCLUSION

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