River level predictions

Aim: to predict whether a river will be above its minimum level based off its current level, past behaviour, and weather forecast

* Determine behaviours of different rivers.
  + They can probably all be modelled by the same curve with different coefficients dependent on their size and catchment. I think it will be best expressed as h=f(h,t) inmplicity.
    - Overlay rainfall data on height data to observe trends
  + Determine coefficients based off previous behaviour to rainfall
    - <http://www.bom.gov.au/climate/current/month/nsw/sydney.shtml> - recent rainfall data around Sydney.
    - <http://www.bom.gov.au/climate/current/month/act/summary.shtml> - around canberra
      * Match up river gauges with rain locations.
      * find times when it rained and see how quickly it went up
      * find times when it stopped raining from how, see how quickly it goes down
  + If all that is too tricky could just look at trend over past few days and continue it.
* Based off models, predict level in 3 days time.
  + Ideally the model will just be an equation of level V time. Just punch in t=3days

Note all the trips one each river, and list the trips at an appropriate level