Prediction of Water Resources in Mountain and Northern Canada:
An IP3 Users / Stakeholders Community Workshop

Northwest Territories Power Corporation Needs as an IP3 User

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IP3
Improved Processes & Parameterization for Prediction in Cold Regions

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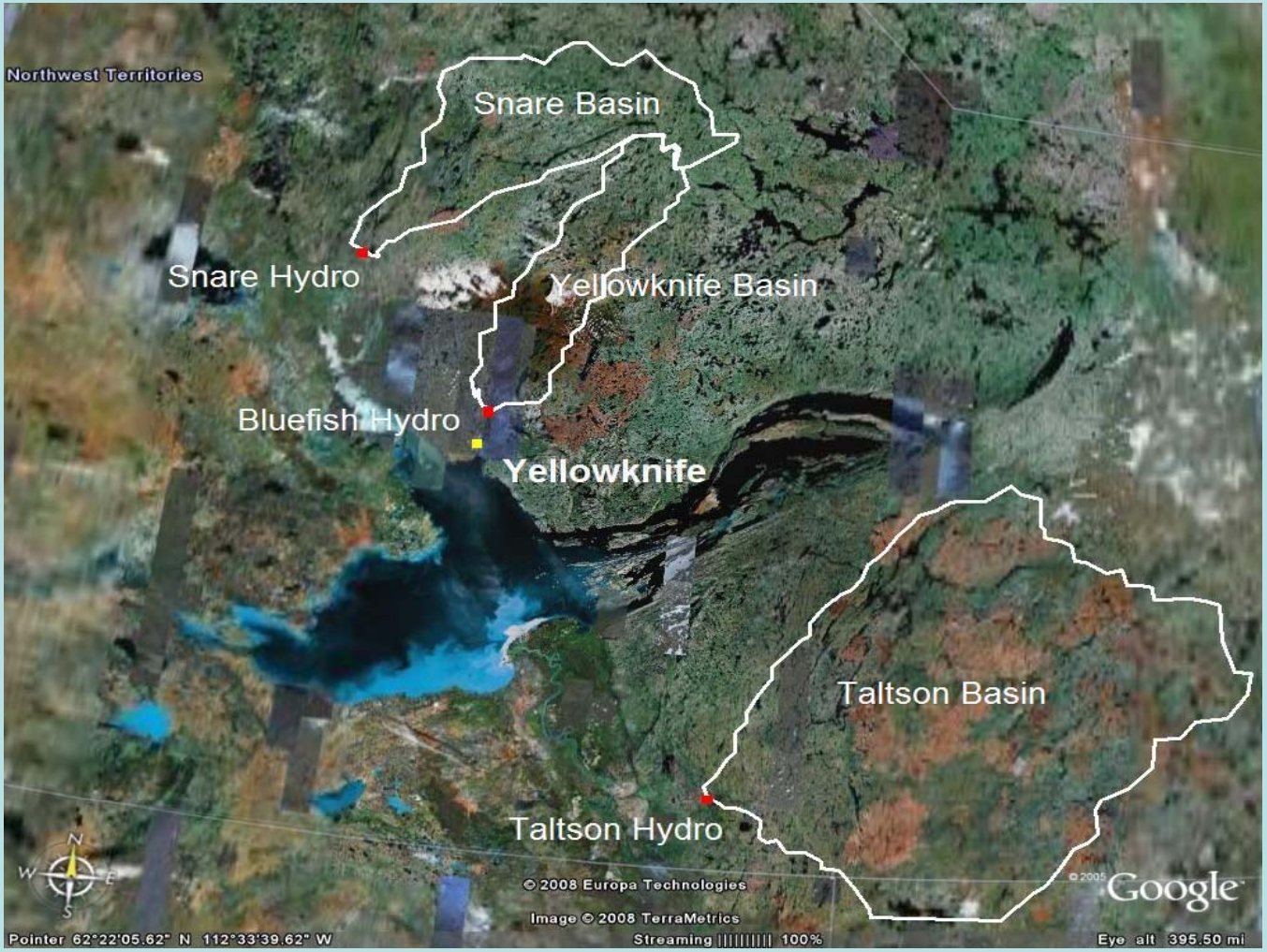

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- **Accurate Snow Water Equivalents from Snow Pack**
- **Rate of Loss to Sublimation**
- **Accurate Evaporation rates on Major Lakes**
- **Rate of Loss to Ground Rehydration**

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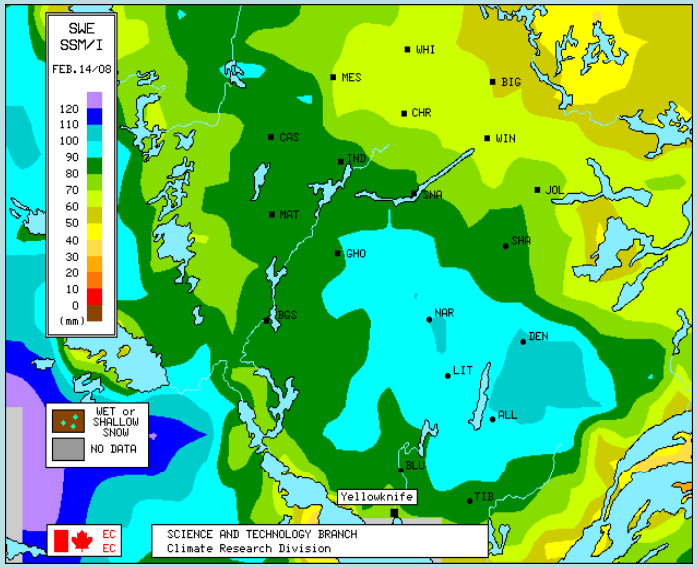
- **Snow Water Equivalents from Snow Pack**

The first step in forecasting is to determine what the Snow Water Equivalent is in the basin



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Each River Basin has a numbers of Snow Survey Stations

- **Taltson River Basin has 11 sites**
- **Yellowknife River Basin has 7 sites**
- **Snare River Basin has 12 sites**

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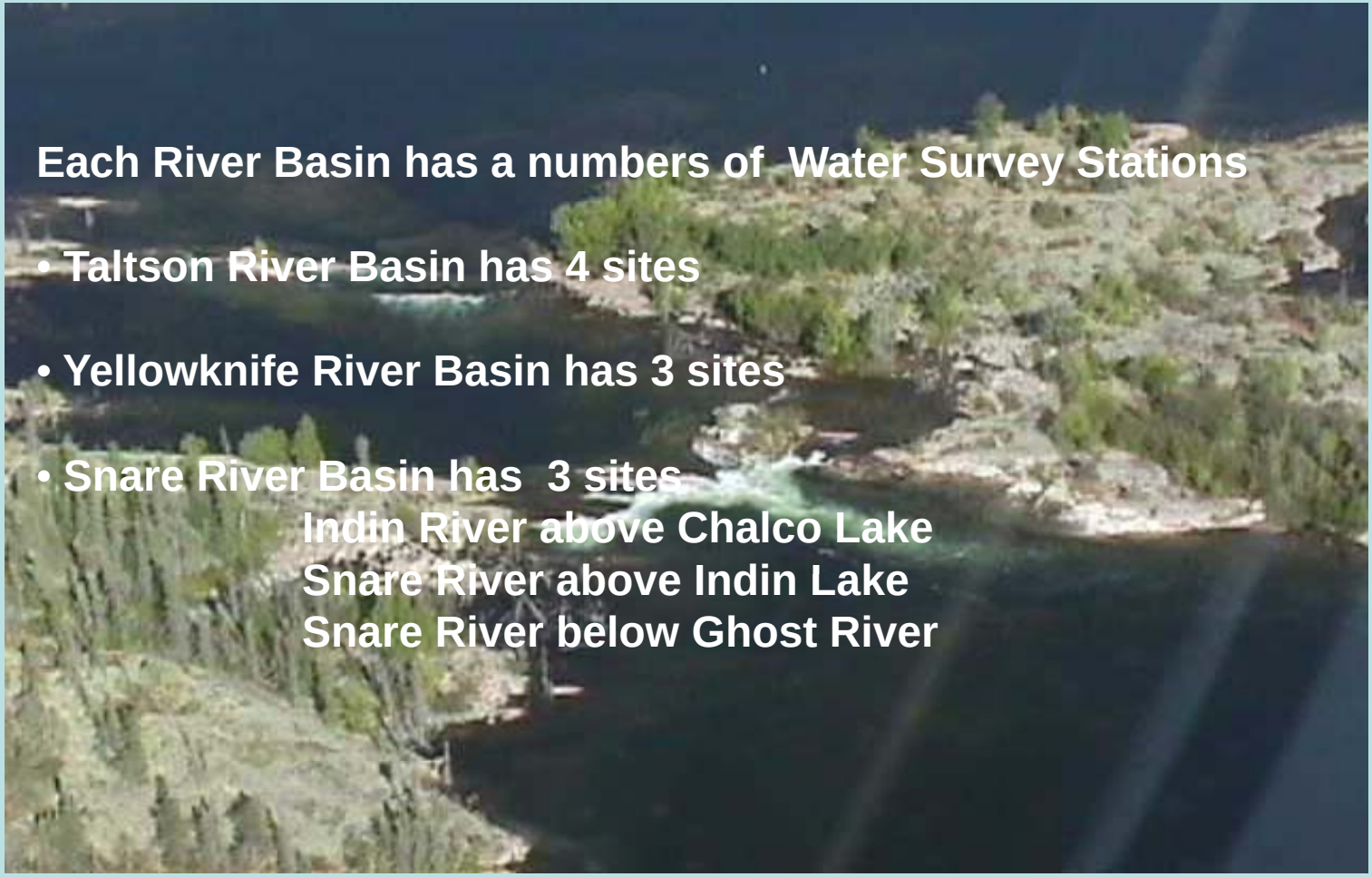

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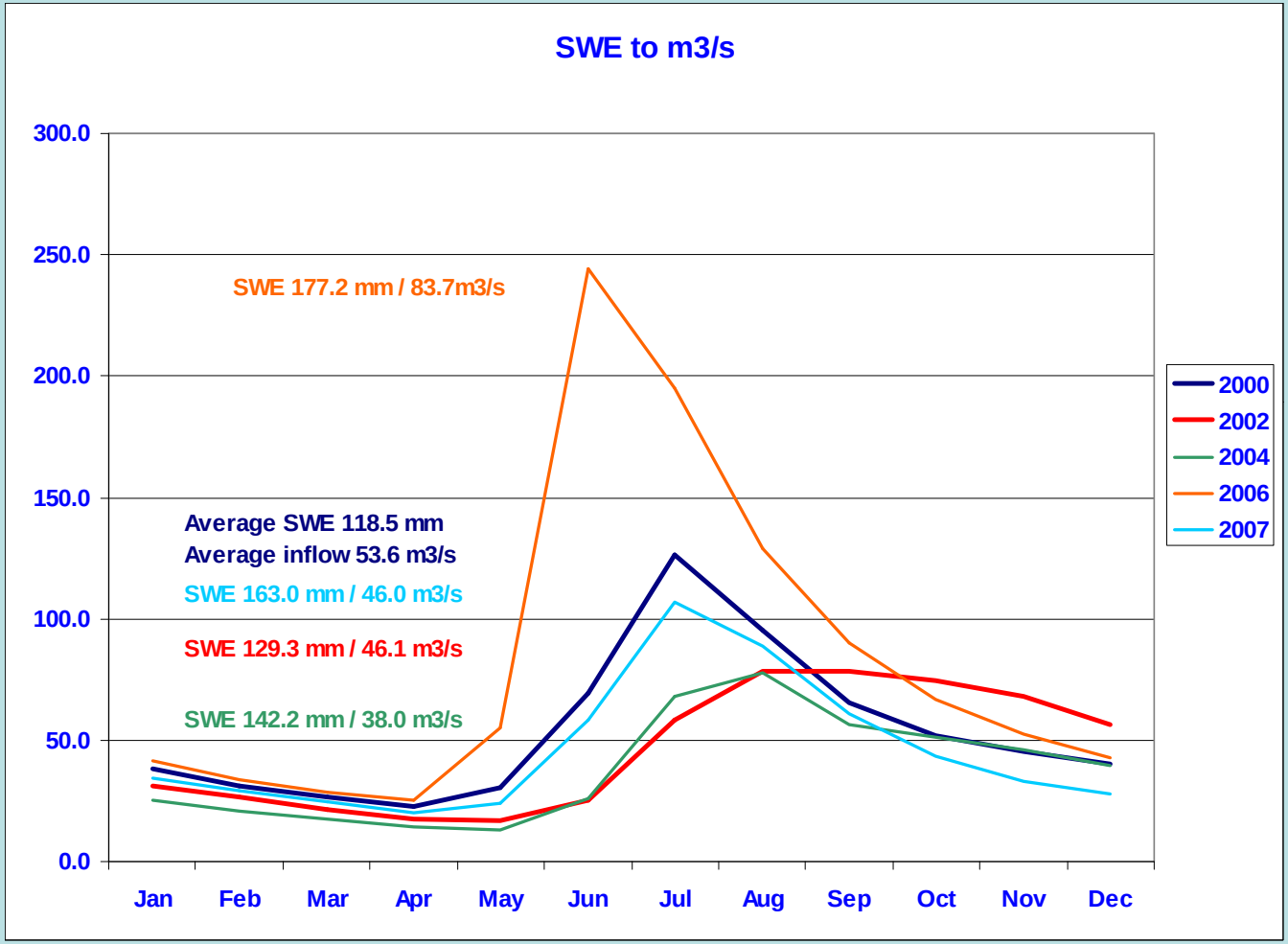

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- **Rate of Loss to Sublimation**

NTPC knows we are loosing water to sublimation during warm springs, as in 2007 when expected water from the tundra did not arrive.

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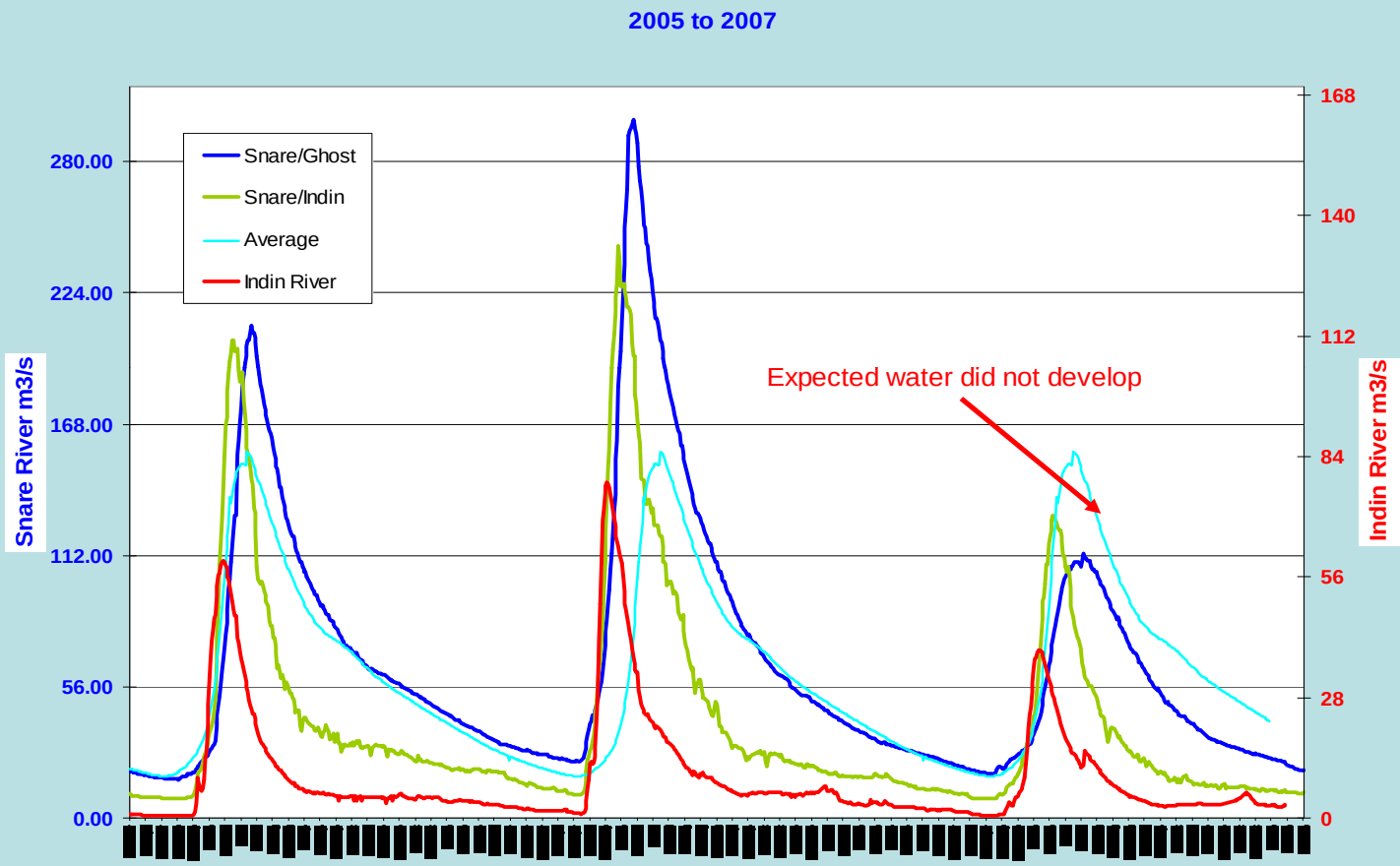

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- **Evaporation Rates on Major Lakes**

Evaporation rate for Big Spruce, Kwejinne, Ghost and Snare Lakes on the Snare River are assumed to be 9 to 12%.

History tells us it may be as high as 20% at times.

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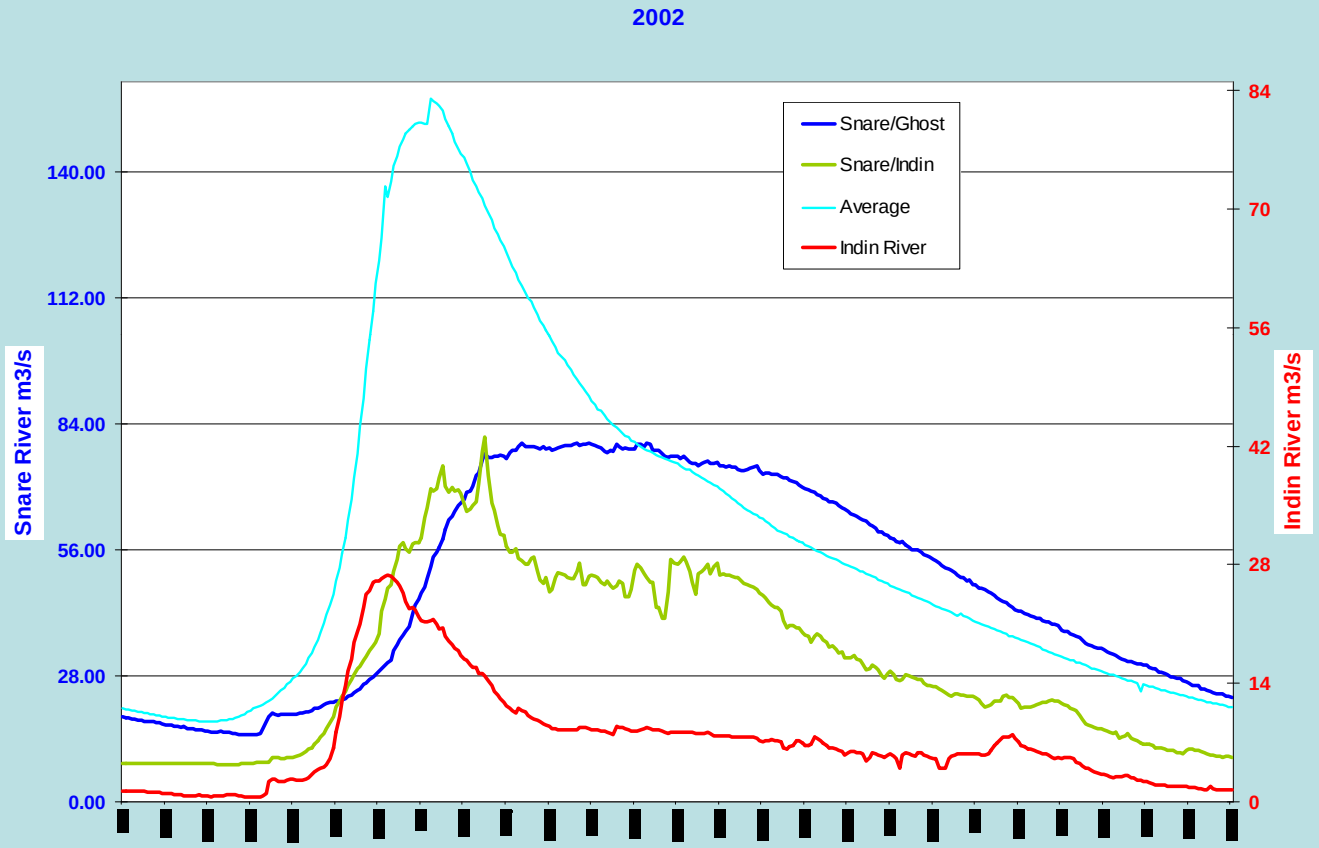

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- **Rate of Loss to Ground Rehydration**

NTPC again knows this is happening, we have an idea of what to look for, but do not have a value to put to the lost water.

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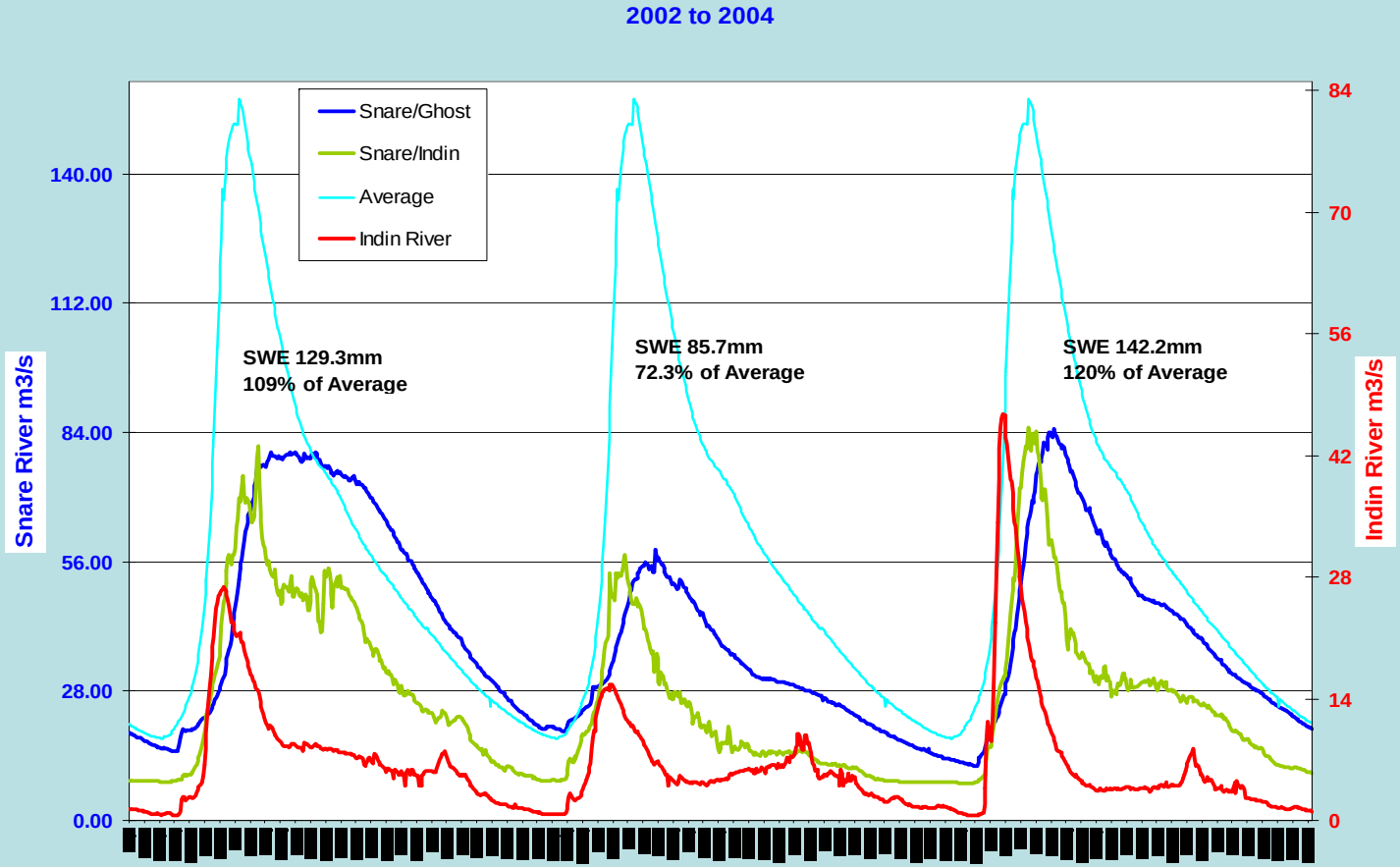

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What is the Snow Water Equivalent?
How much will Sublimate?
How much will Evaporate?
How much will go to ground rehydration?

What is left for NTPC to utilize?

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Thank you for your time and listening to NTPC's needs

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