

### Satellite Data:

- Crop mix
- Land allocation
- Crop yield
- Evapotranspiration



### Hydrometric Data:

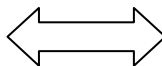
- Precipitation
- Air temperature
- Observed streamflow
- Observed swe



## Data assimilation framework

### Economic Model

- Programming approach
- Seasonal time-scale
- District-scale aggregation
- Stochastic



### Hydrologic Model

- Conceptual approach
- Daily time-scale
- Semidistributed
- Deterministic

### Additional Data:

- Crop prices
- Crop calendar
- Irrigation technology
- Costs
- Institutional constraints

### Spatially explicit predictions of:

- |                          |                     |
|--------------------------|---------------------|
| - Land allocation        | - Streamflows       |
| - Water application      | - Water available   |
| - Yields                 | - Diversion points  |
| - Opportunity cost water | - Irrigation inputs |