

Introduction

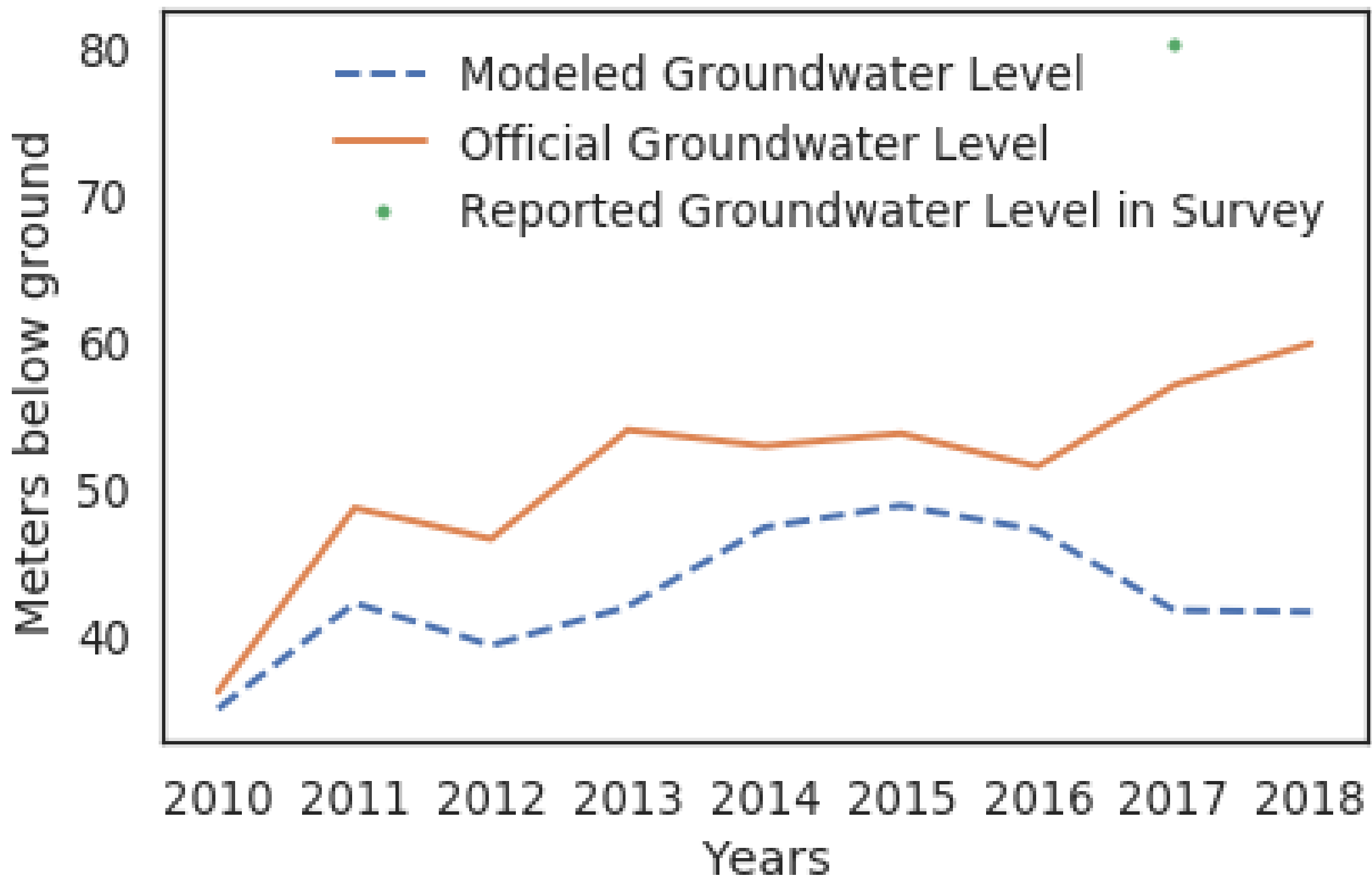
- Water resources under stress due to climate change, population growth, changing consumption patterns
- User behavior key driver of stressed water resources
- User behavior often neglected in water resources model
- Incorporation of actual user behavior into models can improve management

Data

- Official groundwater levels at district level (pre-monsoon) 2011-2018
- Reported groundwater level 2018 (pre-monsoon)
- Rainfall and temperature at district level for 2011 – 2017
- Soil characteristics for 6 sites in two districts
- Daily meteorological data for 6 sites
- Socio-economic characteristics of 412 farmers in two districts
- Groundwater user behavior of a common pool resources experiment

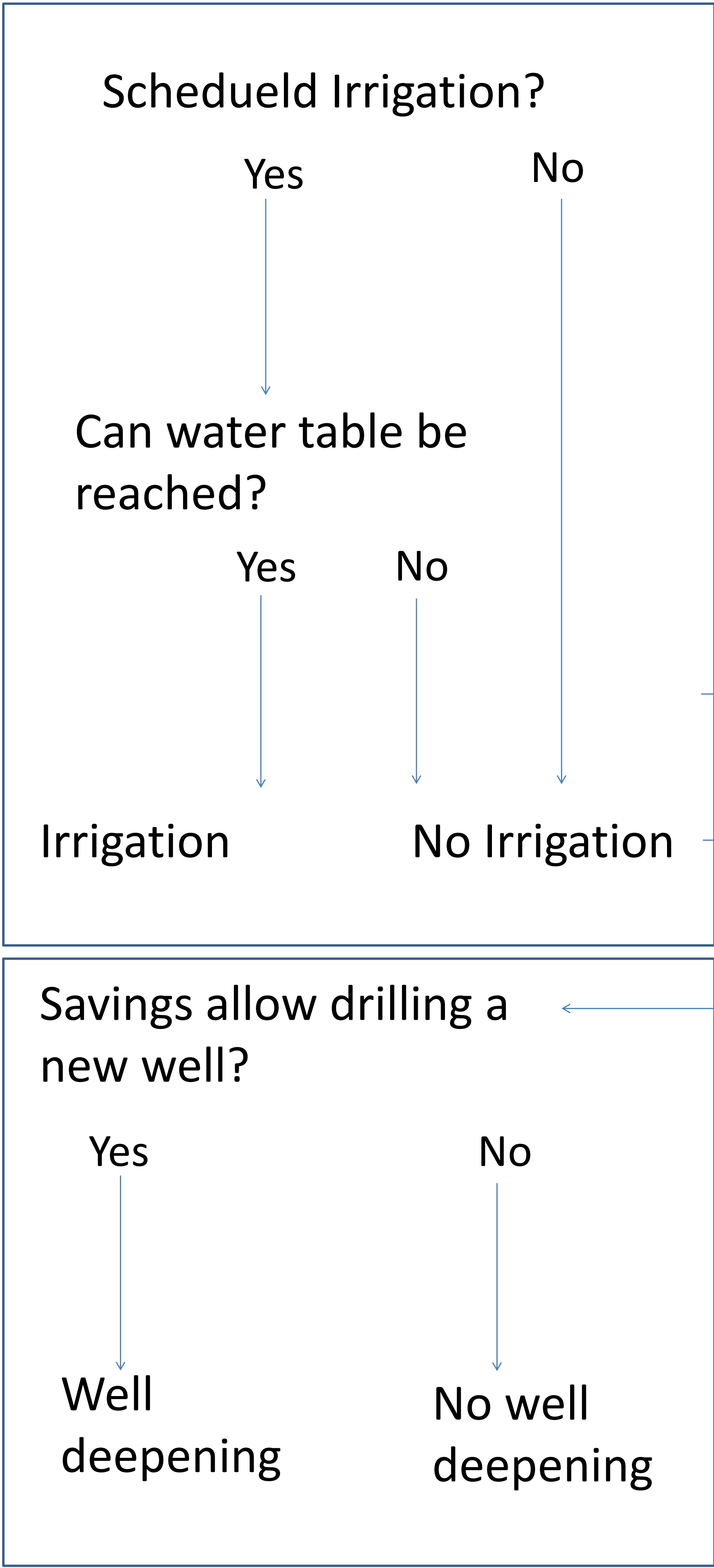
Preliminary results

- Large discrepancy btw. official and reported data
- Modeled groundwater level has a clear upwards trend
- Irrigation driven by increased revenues

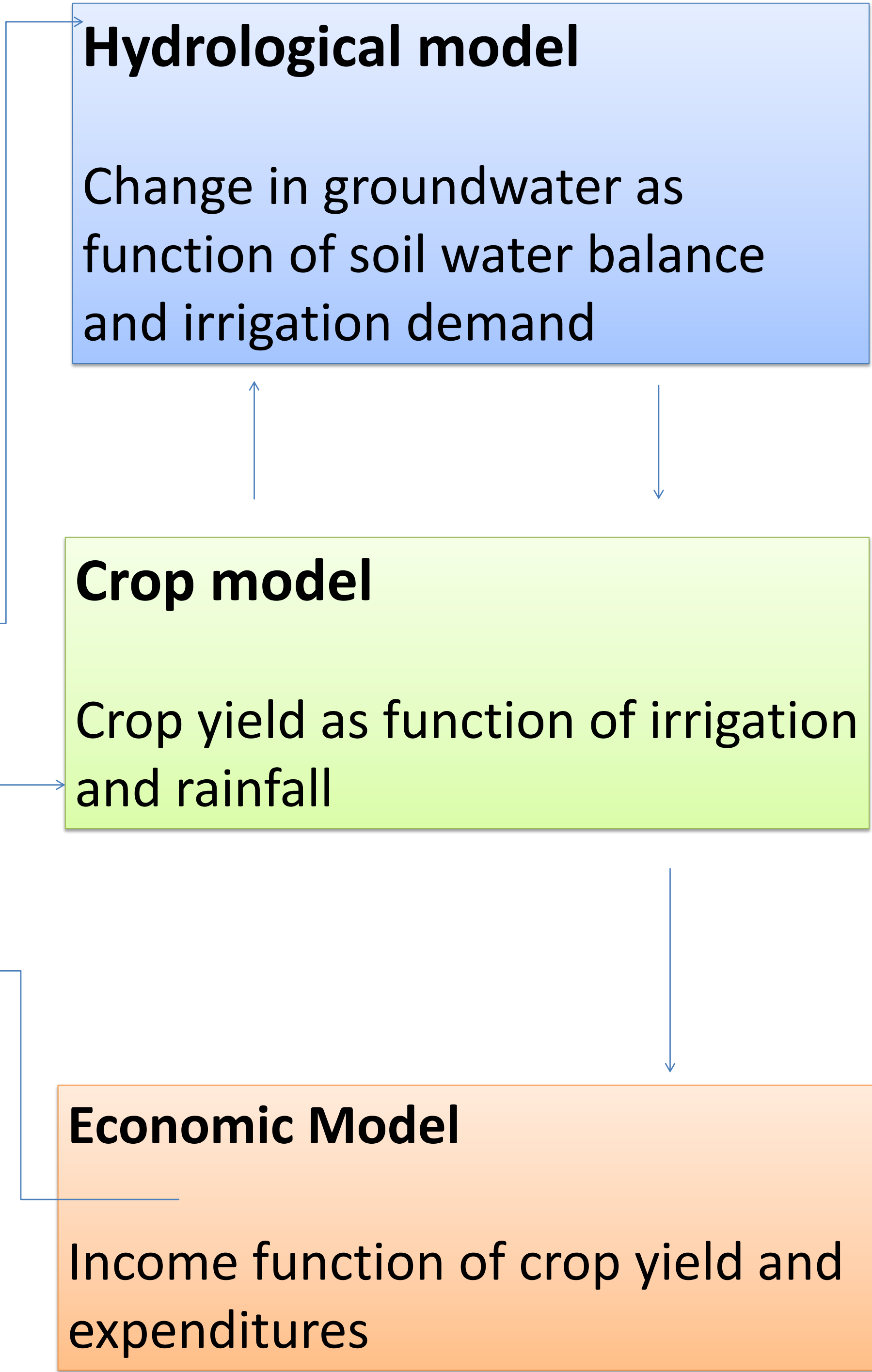


The model

Decision making processes



Model Components



Outlook

- Refine economic model by including behavioral factors
 - Risk attitudes
 - Time preferences
 - Strategic behavior
- Policy scenario analysis
 - Quotas
 - Monitoring
 - Water saving technologies
- Evaluate changing climate conditions