

HYD/ESB 243

Introduction to Water Resources Planning and Management

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Outline

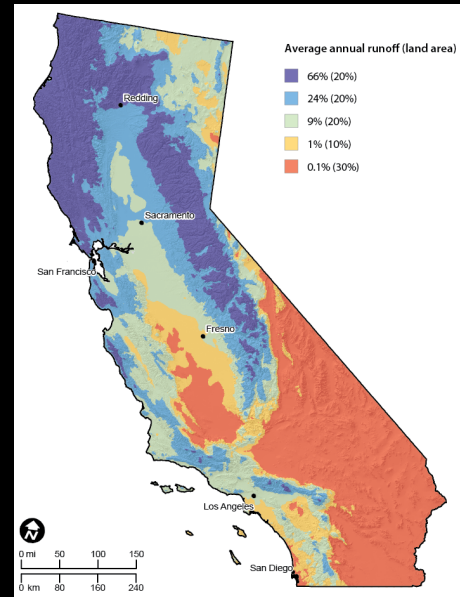
- Definition
- Why Planning and Management?
- Scales
- Approaches
- Aspects
- Characteristics
- Challenges



W.R. Planning and Management

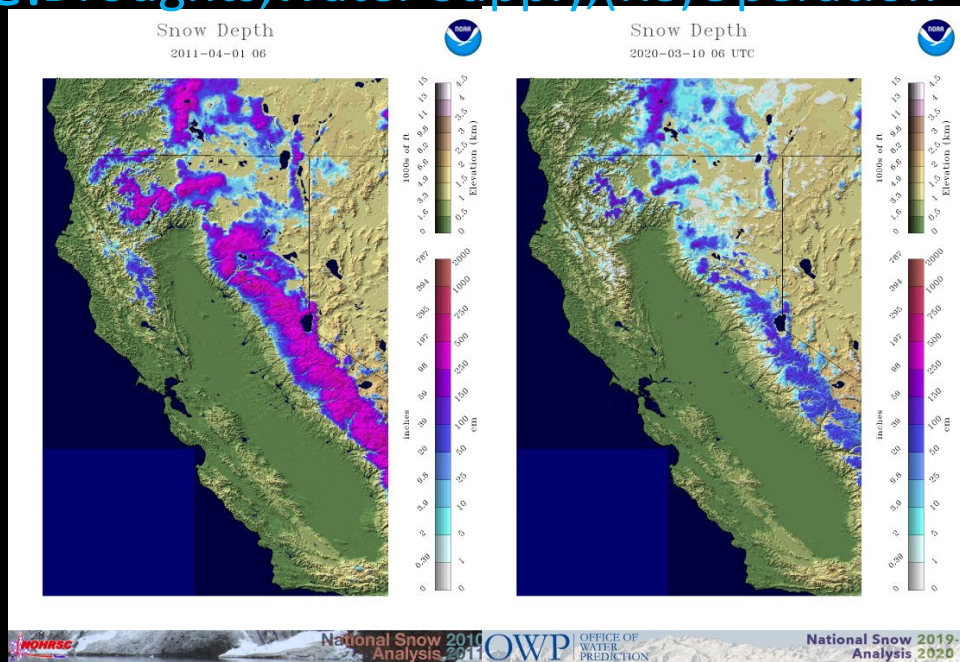
Because water is not equitably distributed in time and place, in the right quantity with the adequate quality, **a discipline called water resources planning and management** is used to redistribute the resource in a way that satisfies the needs of water users, including the environment, today and in the future”

Discipline: Systematic instruction, series of techniques and methods

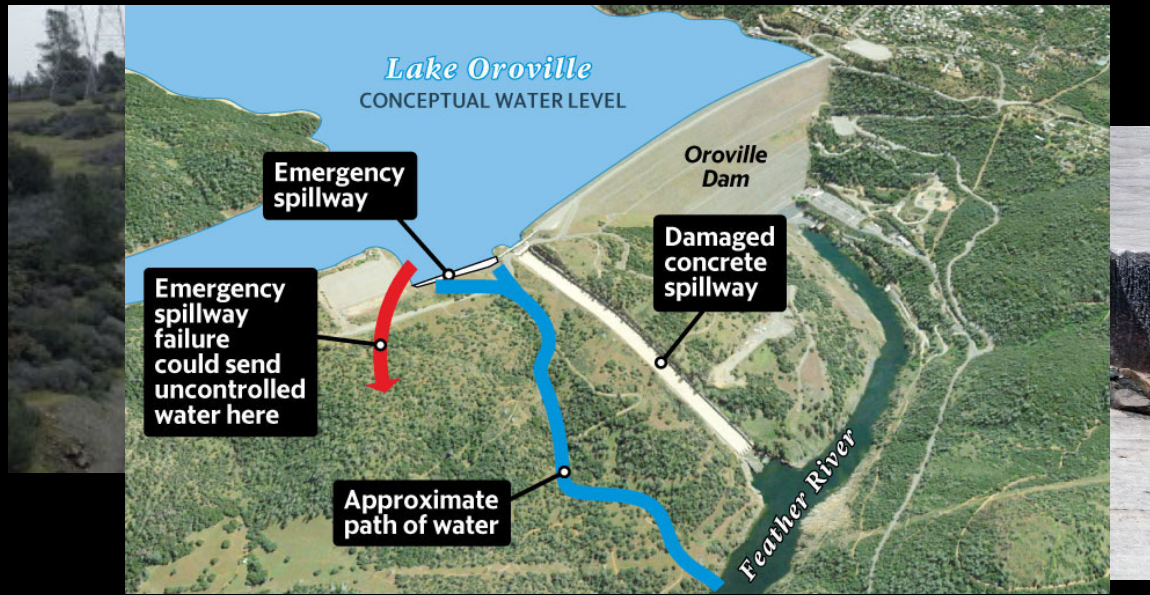


Too little: Droughts, Water Supply, (Re)Operation

APRIL: 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020



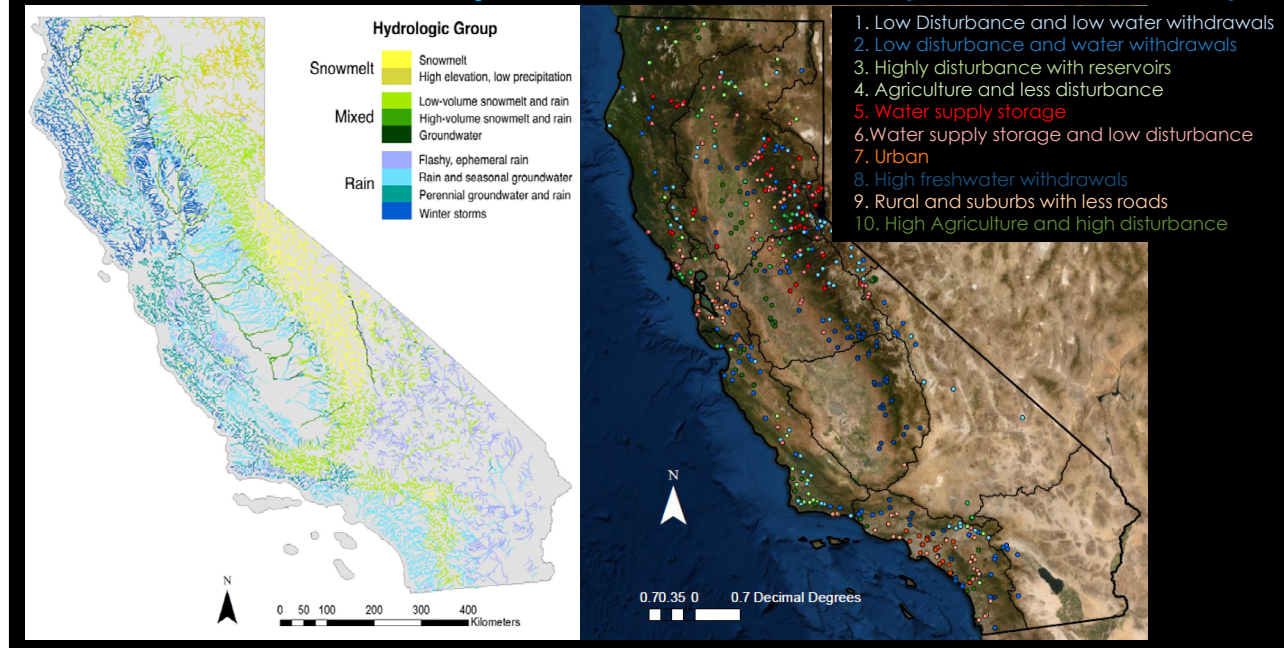
Too much: Floods, Risk, Economics



Too polluted: Water quality, Everyone, Everything

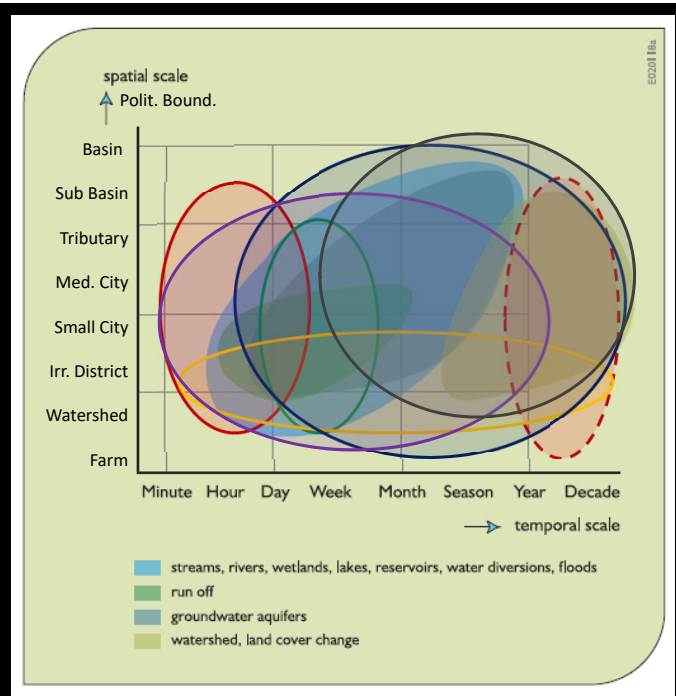


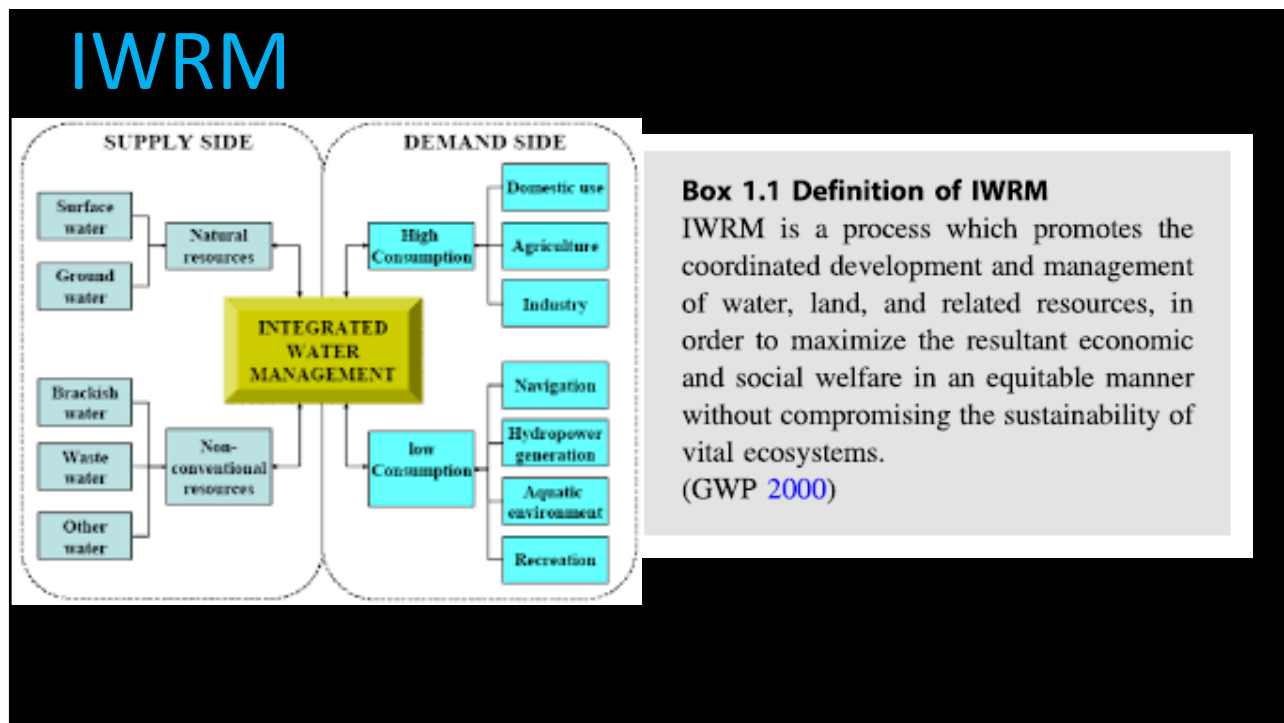
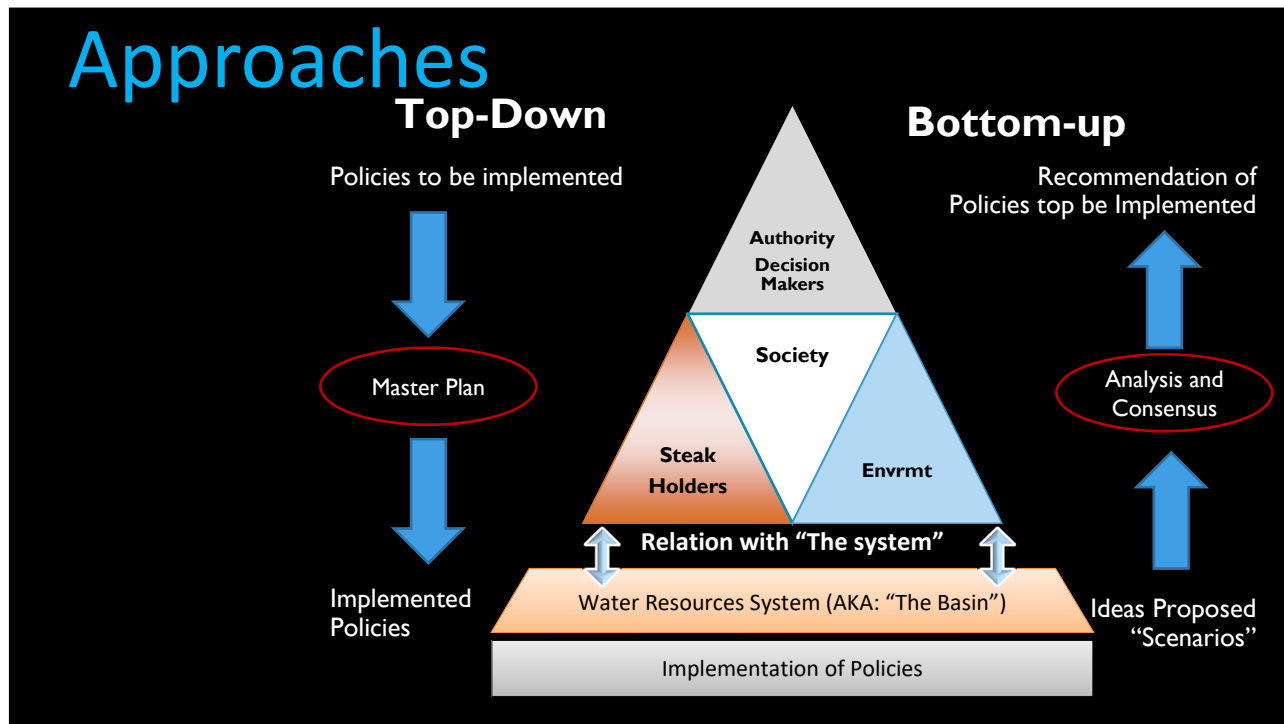
Too much ecosystem lost: Everywhere, costly



Scales

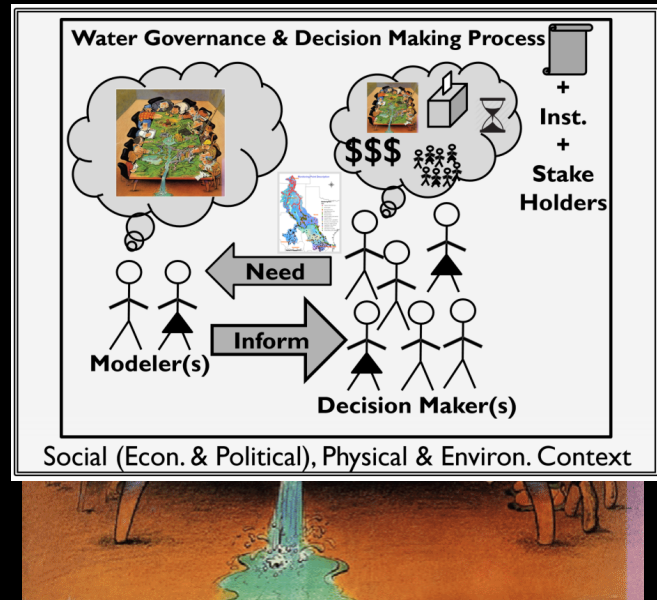
- Flood (Minutes & decades)
- Operation (days, weeks)
- Water Supply (months decades)
- Agriculture (Days, season years)
- Environment (Days, season, decade)
- Energy (hour, seasons)





Aspects

Technical
 Financial and Economic
 Institutional and
 Governance
 Prediction and Evaluation
 Shared vision
 Adaptive management



Characteristics

Integrated policies and
 development plans
 Sustainability

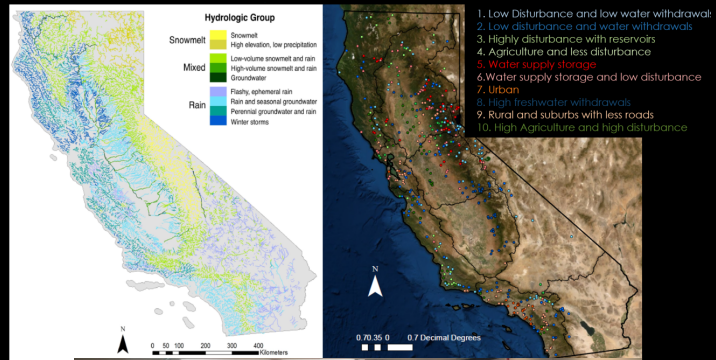


“those systems designed and managed to contribute fully to the objectives of society, now and in the future, while maintaining their ecological, environmental and hydrological integrity.”

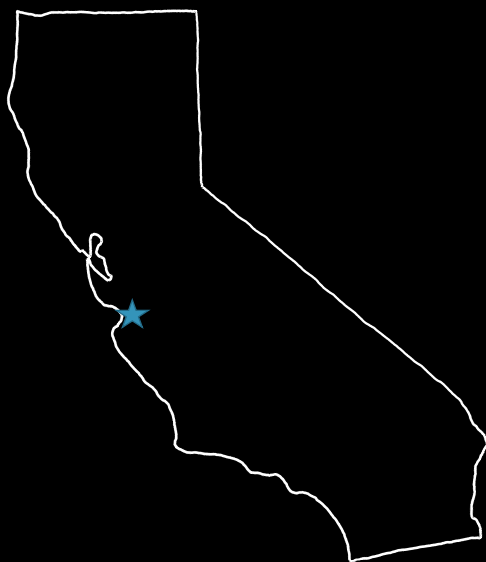
“are those designed to best serve people living in the future as well as those living today”

Challenges

- Thinking of water as water
- Env. & Social justice
- Transdisciplinarity
 - Climate Change
 - Environmental Flows
- Water Governance
- Supply – Flood –
Water Quality –
Environmental



Too little – Too Much – Too polluted – Too much ecosystem lost



Thank you
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