

Happy Birthday CWEMF!!! 30 Years Old!!!



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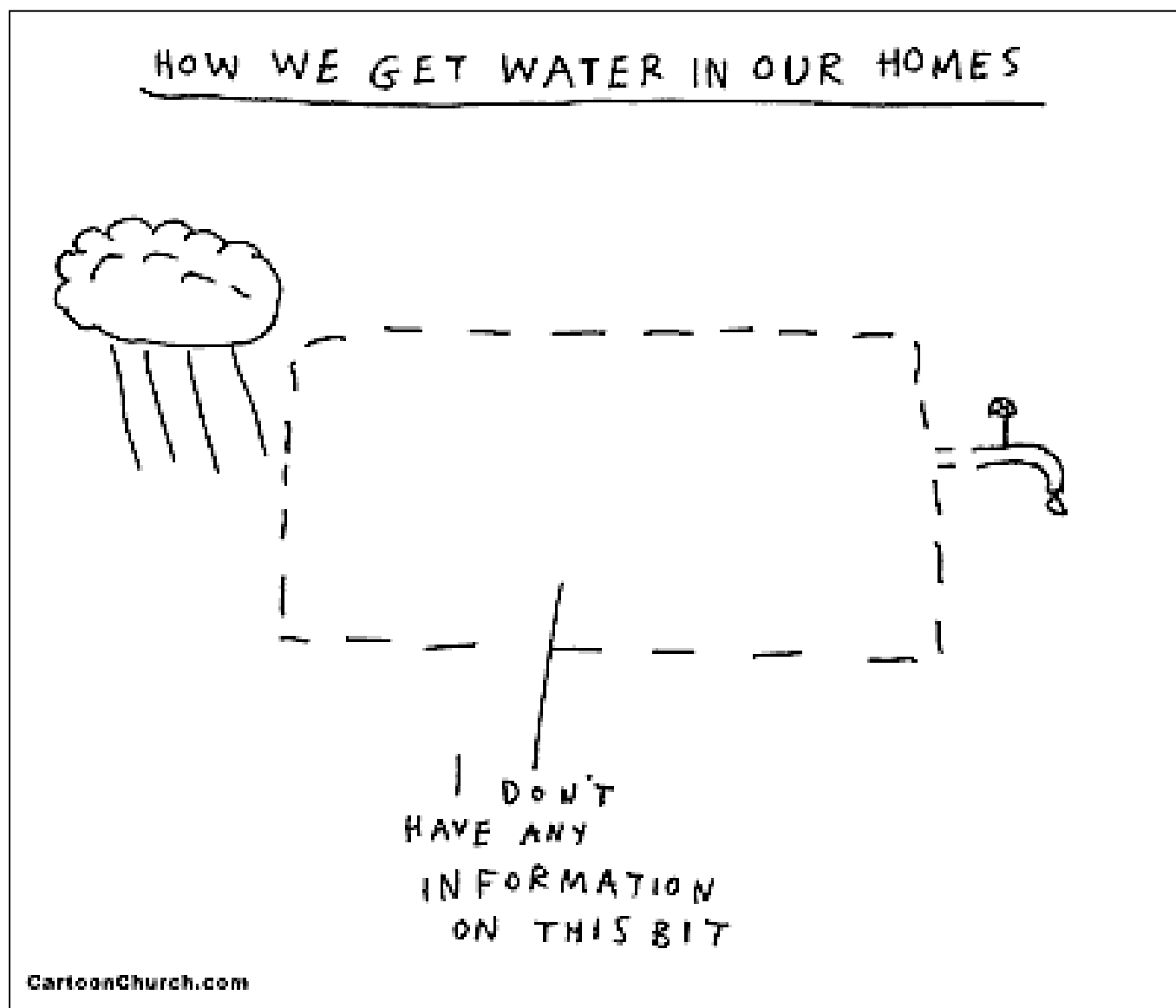


NOBODY LIKES US
"BIG PICTURE"
PEOPLE



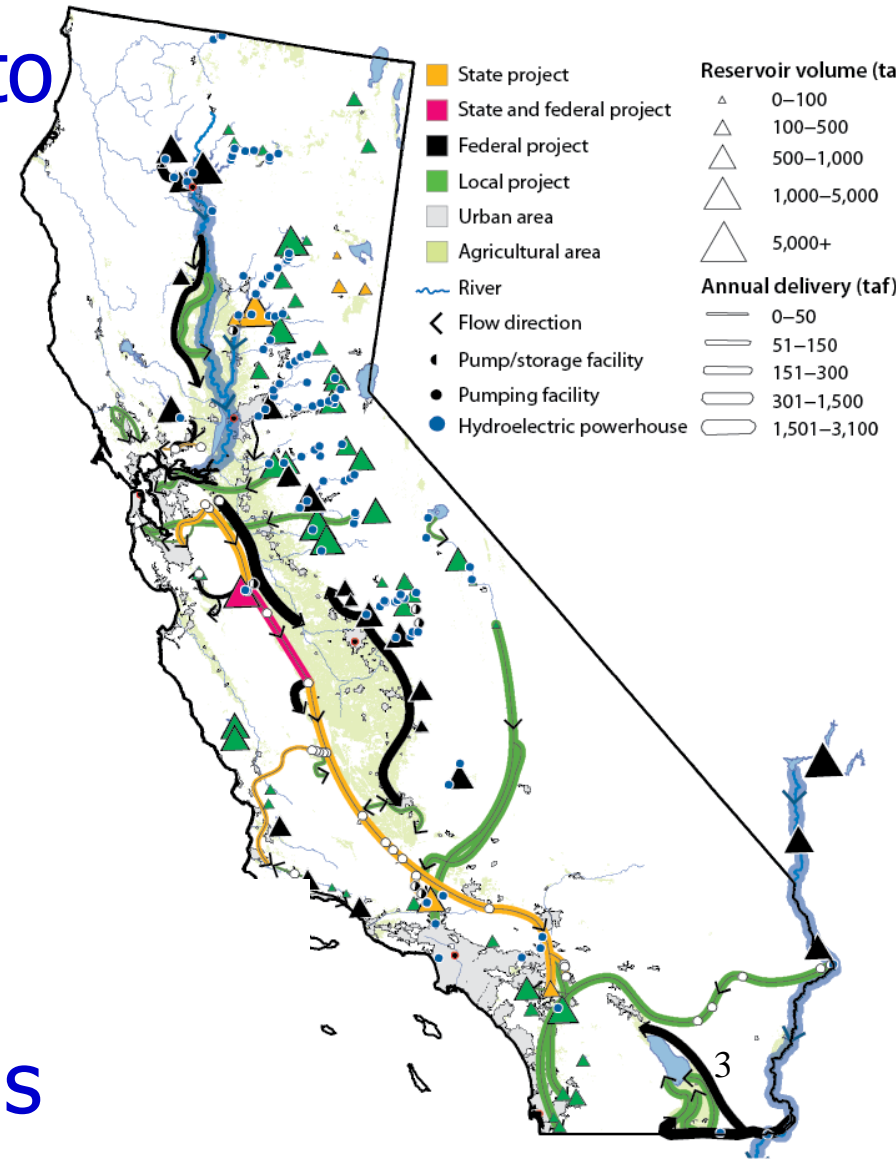
CaliforniaWaterBlog.com

No one knows all about water.



Outline

1. Happy Birthday!!!
2. Personal appreciation to CWEMF
3. CWEMF origins and accomplishments
4. Growing & changing problems for CWEMF
5. Suggestions for future accomplishments
6. Conclusions & Readings



Sociology of modeling

- People are the hardest part of modeling
- Sociology of modeling is important
 - Within a modeling group
 - Modeling group within larger contexts
 - Technical – IT, data providers, software support, etc.
 - Interagency and multi-group contexts, contracts, etc.
 - Policy/management users of results
 - Finance, deadlines, continuity, etc.
 - Communications, norms, information diffusion
- CWEMF's many virtues for improving social aspects of modeling ...

Personal Appreciation of CWEMF

- Me:
 - From my climate-shocked confused start, continuing foundation for my work over 30 years.
 - Professional network and sounding boards
 - Outlet for naïve optimism
- Students - Friendly home and industry contacts
- Modeling community:
 - Overcoming silos, somewhat
 - Fun technical and strategic discussions
- Larger society – All benefit from better modeling, even if they don't know it

Origins and accomplishments

- Policy frustrations with modeling + Modelers' frustration with policy reception of modeling
- Original hopes: Optimism – integrated modeling across agencies and programs
- What actually happened? Long, but limited list
- Some underappreciated accomplishments:
 - More outward transparency and communications about models and modeling
 - Communications across modelers and modeling groups (more still needed)
 - Homes for former students!

Some inadequately-sung heroes:

- Lyle Hoag
- Rich Satkowski
- Greg Gartrell
- Francis Chung
- And quite a few others ...



A volunteer group mostly unpaid to do potentially subversive public-spirited things while having fun.

Growing & changing problems

- Models organize our understanding – now essential!
- Price of success. Modeling grows more comprehensive and detailed faster than our institutions can govern and guide the models.
- Entropy, silos, and poor support for ambitious management slow progress.
- CWEMF is needed more than ever!
- Management of modeling needs more organized attention from model-sponsoring agencies collectively.

Big problems needing models

- Ecosystems and water management (Fran Bellido and Lindsay Murdoch examples)
- Broaden & integrate portfolio of solutions:
 - Balance & integrate diverse portfolios long-term
 - Explore changing Delta geometries
- Big climate, ecosystems, regulation changes
- Needs more exploratory freedom & interaction with policy leaders – a long-term effort

Problems are opportunities for more general improvements.

Future accomplishments 1

- Gather agencies and modelers to discuss/ perhaps plan for strategic modeling and data needs, overall & specific thematic areas.
- Gather agencies to develop expectations for availability, documentation, and testing, perhaps under SWRCB authorities.
- Work with SWRCB to organize conversations across modeling groups for regulatory purposes
- Circulate “Student’s Guide to the California Water and Environment Modeling Forum.”

Future accomplishments 2

- Encourage discussions of joint SWRCB-DWR modeling task forces (jointly funded and led) on:
 - Central Valley groundwater modeling for SGMA
 - Statewide water accounting for SWRCB, DWR, and other purposes
- Encourage agency processes to better organize policy – modeling interactions.



Twisted maxims for modelers?

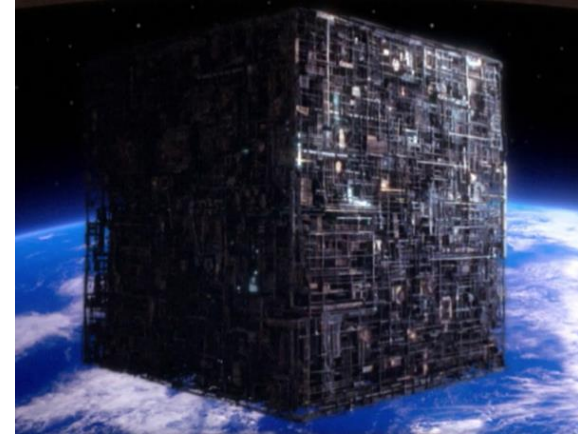
- The best model is the model you know best.
- Try to blame others for data and software.
- Transparency is a vulnerability, reduced by massive but incoherent documentation.
- Collaboration slows work expensively, so it can be relied on to expand and prolong budgets and defer controversies.

Good management and vision, and protecting good managers, makes all the difference – Francis Chung example

Resistance is Futile

- 1) Flooding in parts of the Delta
- 2) Reduced Delta diversions
- 3) Less irrigated land in the southern Central Valley
- 4) Less urban water use, more reuse & storm capture
- 5) Some native species unsustainable in the wild
- 6) Funding solutions mostly local and regional
- 7) State's leverage is mostly regulatory, not funding
- 8) Nitrate groundwater contamination is inevitable
- 9) Groundwater will be managed more tightly
- 10) The Salton Sink will be largely restored

We cannot drought-proof, but we can manage better.



Some readings

- Kelley, R. (1989), *Battling the Inland Sea*, UC Press.
- Pisani, R. (1986), *From Family Farm to Agribusiness: The Irrigation Crusade in California and the West, 1850–1931*, UC Press.
- USBR old film *California Central Valley Project San Joaquin River Canal & Irrigation System* on Youtube

We have “solved” harder problems in the past.

