

Buja Breakout:

Improving the interface between the water and climate/regional modeling communities

Briefly characterize your role and your stakeholders

Regional/State Water authority, Muni Water providers, Academic Ins't

Large Federal agencies: Int'l DoD support, NOAA (RISA & Mgt)

Stakes: Fed>local, NGOs, customers, public, media, board, fish, rec, moral, instream flows

Where are you getting your data now?

LLNL(many), SCU archive, NCDC, USGS, NRCS, USFS, Reclamation, own gauges, Other water providers, private consultants, Universities and RISAs

Wide response on RISAs: Raving Fans – “We don't have one” -> Awful experience, don't trust them

Do you consider your current practices to be best practices?

If not, what would you like to see changed?

Most said “Yes, we are doing about the best that we think is possible” or “We are the cutting edge”

Improvements: packaging/analysis, assumptions made along the way.. If data providers comply to data/metadata standards (particularly if in traditional Met Obs formats), job is much easier.

Others: Don't know current State of Art/best practices.

Similar analysis procedure in play across different groups: can this be coordinated to avoid dup by new groups?

Are your information requirements different for different decisions: TRUST

Yes, carpet bombing with raw climate data isn't sufficient, need to understand how to use the data

Need to create a climate applications community while still pursuing fundamental research

Watershed decisions vs Wastewater/runoff decisions vs SLR infrastructure decision

Information needs that can be met with climate models **now** that aren't being met? (1/2)

Are you getting the model data you want?

- Probabilistic results:

- Not helpful, difficult to work with/convey to stakeholders,
- Easy to misunderstand, mismanagement by media, not trusted by board

- High resolution vs Down scaling:

- DS is key in highly variable terrain, don't want to push models beyond limits
- High Res very important because it provided key physical features
- Starting to explore the +/- of each, seeing that hi-res precludes large ensembles

- Variables, frequency, averaging/instantaneous:

- Water systems built to manage extreme events, so need data on this. Also more data on paleo
- Need to understand PET – can get false sense of security/certainty
- Need better monitoring/obs data, current data not helpful

- Documentation of model, results and associated uncertainty:

- Need guidance on processing/communicating uncertainties,
- need to have a frank conversation about expectations, language, understanding (climate vs WX)
- Document sensitivities of models for different audiences (technical/non-technical)
- Understanding Error term and cumulative effect during analysis stream

Climate model experiment design: Is current approach appropriate for yours?

If there is a regional consensus on approach, communication gets easier

What is science community doing well, how can we use that? (CMIP approach LB)

What new sources of information might be out there?

ARGO for oceans, decadal prediction, need for monitoring

Daily time sequences – higher time res, CGM data translated to NWS wx station and bias corrected ground water climate change impacts

What are the new extremes? Need info to make decisions to manage extremes

Understanding high elevation (CGM peak at 8K ft: what is impact of CC to high snowmelt in mtn ranges

What can come from the major labs: models/data/obs programs?

- Daily GCM max/min temp for input into hydrology models
- Maintain separability while providing for cooperative infrastructure
- Issues of trust between agencies (or lack of)
- PCMDI – no gov't stamp, fosters more trust. But PCMDI's mission isn't to supply everyone with climate data....

Impact of nonstationarity: What are the legal implications of changing baselines?

- This is a major issue for those tasked with disaster protection
- Stationarity is an engineering assumption to make problems tractable: need more dynamic analysis

Last ½ hour: How to keep this dialog going to coordinate process and address the above?

Identify and fund bridge people. Are there enough of them? How to keep them at state of the art.

Access of stakeholders to science dialogues/planning

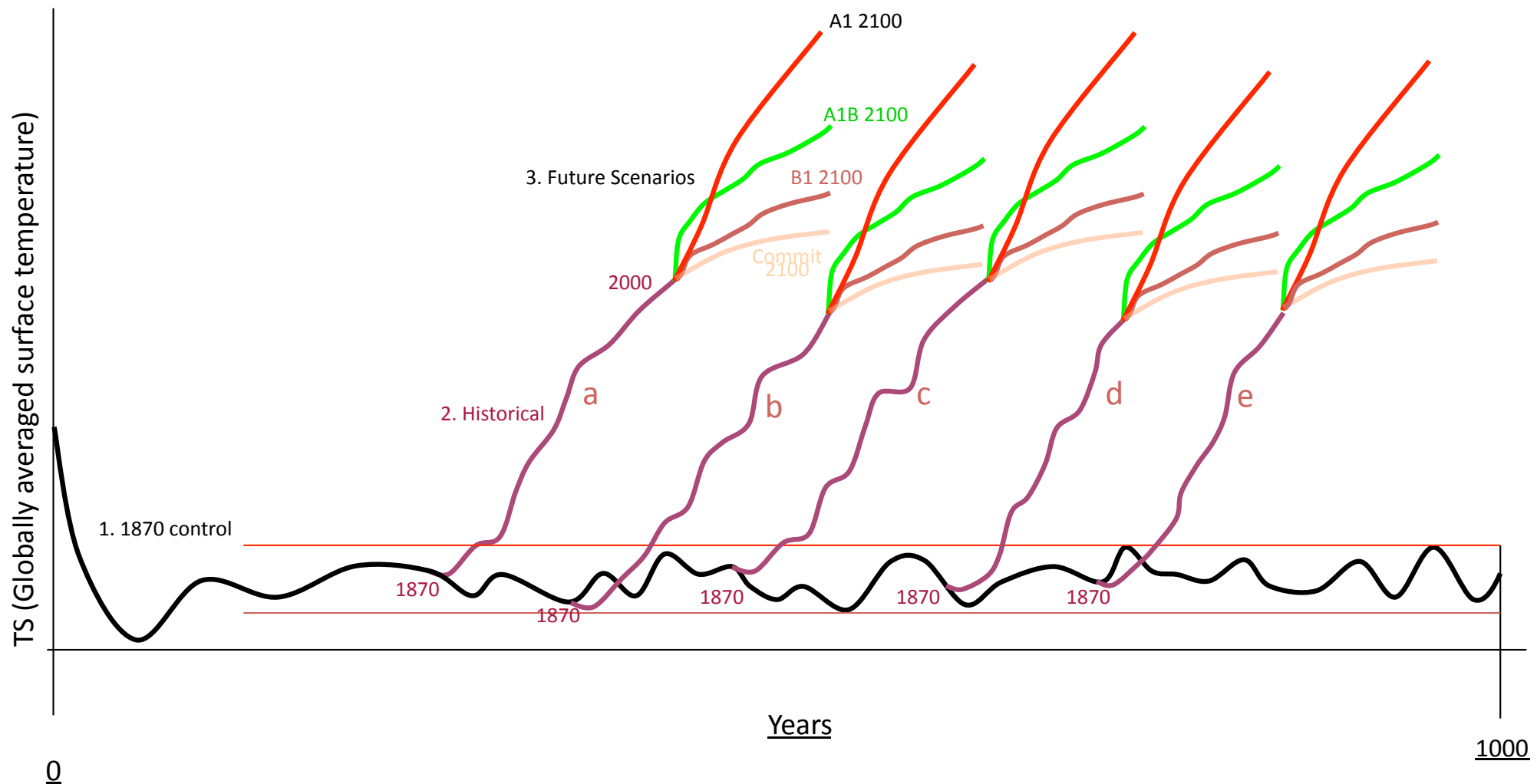
Ensuring that conversation is a genuine two-way dialogue

Probablistic Climate Simulations

Stage 1. 1870 control run: 1000 years with constant 1870 forcing: Solar, GHG, Volcanic Sulfate, O3

Stage 2. Historical: 1870-2000 run using time-evolving, observed, Solar, GHG, Volcanoes, O3

Stage 3. Future Scenarios: 4 2000-2100 IPCC Scenarios from end of historical run



CCSM3 IPCC RUNS

