California Department of Water Resources
Climate Change Technical Advisory Subgroup Meeting

May 16, 2014
10:00 am-12:00 pm
DWR Fishbowl Conf Room, 2nd floor, Bonderson

https://resources.webex.com/resources/j.php?ED=229264172&UID=491358787&RT=MiM0

Provide your phone number when you join the meeting to receive a call back. Alternatively, you can call:
Call-in toll-free number (Verizon): 1-877-923-1522 (US)
Host access code: 679 474 0
Attendee access code: 295 056 7

AGENDA:
Update on Model Screening/Culling
    Cayan
Recommendations paper and outline
    Lynn
General Guidance for use on Specific Projects: Characterization of Scenarios
    Schwarz
Discussion: Stress test scenarios continued
    Schwarz
Draft Outline

Recommendations for the use of Climate Change Modeling in California Water Planning

I. Background, Purpose, and Need
   a) Past activities and modeling approaches
   b) DWR planning applications
   c) Other planning applications (IRWM, UWMP, AWMP, RFMP)
   d) Exclusion of flooding from this analysis

II. Model Selection
   a) General approach
   b) Global filter
   c) Regional filter
   d) Water Management filter/Water Management metrics
   e) Water management and operations modeling limitations

III. Stress-test/Drought Scenario Development
   a) Description of different potential drought conditions and the stresses they put on the system
   b) Potential uses of drought scenarios
   c) Analysis of climate scenarios to identify drought stresses
   d) Development of drought scenarios not found in the climate scenarios

IV. Downscaling
   a) Previous approaches to downscaling
   b) Recommendations on future downscaling approaches
      i) Statistical
      ii) Dynamic

V. Projection sampling and selection (for projects that cannot use entire suite)
   a) Characterizing the projections
   b) Using an ensemble average
   c) Sampling from the ensemble

VI. Recommendations for future investigations and improvements
Characterizing or Classifying the Projections

This is a hot and dry projection... VS. Each of these projections shows something a little different...

Characterization doesn’t necessarily have to be hot/warm, wet/dry but some way of batching, characterizing, or grouping them would be helpful.
Other Characterizations?
- Variance and Variability?
- Seasonal shifts?
<table>
<thead>
<tr>
<th>Duration</th>
<th>Severity</th>
<th>Extent</th>
<th>Recurrence</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-3 years</td>
<td>Paleo/extreme</td>
<td>Statewide</td>
<td>3-7 years</td>
</tr>
<tr>
<td>3-7 years</td>
<td>Paleo-Historic</td>
<td>Statewide-Westwide</td>
<td>5-10 years</td>
</tr>
<tr>
<td>10-20 years</td>
<td>Paleo-Historic</td>
<td>Statewide-Westwide</td>
<td>50 years</td>
</tr>
<tr>
<td>Paleo drought</td>
<td>Paleo</td>
<td>Westwide</td>
<td>-</td>
</tr>
<tr>
<td>Variability of precipitation beyond historical levels (inter and intra annual)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- How will we define these drought periods?
  - Annual precipitation X% below historical average?
  - X number of months/year X% below average?

- How would we construct synthetic drought scenarios?
  - Use historical precipitation as base?
  - Use a climate projection?
  - What does temperature do during these synthetic drought scenarios?
THANK YOU!

Next Subgroup TBD