

**UPPER VENTURA RIVER GROUNDWATER AGENCY  
MINUTES OF SPECIAL MEETING MARCH 25, 2021**

The Board meeting was held via teleconference, in accordance with California Executive Order N-25-20. Directors present were Bruce Kuebler, Larry Rose, Emily Ayala, Susan Rungren, Pete Kaiser, and Chair Diana Engle. Also present: Executive Director Bryan Bondy, Agency Counsel Keith Lemieux, and Administrative Assistant Maureen Tucker.

**ON-LINE OR TELECONFERENCE:**

**DIAL-IN (US TOLL FREE) 1-669-900-6833**

**Find your local number: <https://zoom.us/j/91607155032?pwd=RIBKQWUrR2o1TzR3S0xlSFZTV1hXUT09>**

**JOIN BY COMPUTER, TABLET OR SMARTPHONE:**

**<https://zoom.us/j/91607155032?pwd=RIBKQWUrR2o1TzR3S0xlSFZTV1hXUT09>**

**Meeting ID: 916 0715 5032**

**Passcode: 823009**

**1) CALL TO ORDER**

Chair Engle called the meeting to order at 1:02 p.m.

**2) PLEDGE OF ALLEGIANCE**

Chair Engle led the Pledge of Allegiance.

**3) ROLL CALL**

Executive Director Bondy introduced Pete Kaiser, Director, Casitas Municipal Water District, who is attending as Casitas's new UVRGA Alternate Director.

Executive Director Bondy called roll.

Directors present: Bruce Kuebler, Larry Rose, Susan Rungren, Pete Kaiser, Emily Ayala, Chair Diana Engle.

Directors absent: Glen Shephard

Public: Burt Handy, Steve Slack, Ben Pitterle, Bert Rapp, Paul Jenkins, and Abhishek Singh

**4) APPROVAL OF AGENDA**

Chair Engle asked if there are any proposed changes to the agenda. Executive Director Bondy said there are no changes recommended by staff.

Director Kuebler moved agenda approval. Director Rungren seconded the motion.

Roll Call Vote:    B. Kuebler – Y            L. Rose – Y    E. Ayala – Y  
                             S. Rungren – Y            P. Kaiser - Y    D. Engle - Y

Absent: G. Shephard

Noes: None.

## **5) PUBLIC COMMENTS ON ITEMS NOT APPEARING ON THE AGENDA**

Chair Engle asked if there are any public comments on items not appearing on the agenda.

No public comments were offered.

## **6) ADMINISTRATIVE ITEMS**

### **a. Comment Letter - California Department of Fish and Wildlife Draft Instream Flow Regime Recommendations for the Lower Ventura River, Ventura County.**

Executive Director Bondy explained that the Board asked him to prepare a brief comment letter addressing the California Department of Fish and Wildlife (CDFW) Draft Instream Flow Regime Recommendations. He offered to review the draft comment letter with the Board, if desired.

Chair Engle asked for Director's questions.

Director Kaiser asked if the second comment is speaking about climate change. Executive Director Bondy said no and explained that the comment is addressing the different flow volumes in wet versus dry versus normal rainfall years.

Public Comments:

Ben Pitterle, Santa Barbara Channelkeepers, said he did not have a strong opinion, but wanted to make two minor points. First, he agrees habitat is important, but feels that the report is focused on flow, thus, he is not sure the first comment in the letter is needed. Second, he agrees that interannual variability in flow exists, but he does not believe flow recommendations need to be made for dry versus wet years.

Paul Jenkins, Surfrider, said he did not have any specific comments. He said CDFW's use of many methods and data sources makes it hard to understand where the recommendations come from and what they mean. He feels his thoughts align with the third comment in the UVRGA draft letter.

Chair Engle thanked Mr. Pitterle and Mr. Jenkins for their comments.

Chair Engle asked for Director edits or comments:

Director Kaiser - Good letter, no problems.

Director Rose – Nothing to add.

Director Kuebler- Good job, captures the essence of his concerns.

Director Ayala – Recommended adding a sentence at the end about being a public agency and finding solutions. Executive Director Bondy suggested “*As a public agency in the watershed, we look forward to working toward a sustainable future that balances the needs of all water users.*” Director Ayala agreed with the proposed sentence.

Director Rungren – Good letter and agreed with Director Ayala’s recommendation.

Director Engle – No comments.

Director Kaiser moved to direct the Executive Director to submit the comment letter as amended. Seconded by Director Ayala.

Roll Call Vote:	B. Kuebler – Y	L. Rose – Y	E. Ayala – Y
	S. Rungren – Y	P. Kaiser - Y	D. Engle - Y

Absent: G. Shephard

Noes: None.

## 7) GSP ITEMS

### a. Groundwater Modeling Results (Grant Category (d); Task 11: GSP Development and Preparation)

Executive Director Bondy gave a presentation addressing the following topics:

- GSP development schedule;
- Sustainable Management Criteria development status and schedule;
- 50-yr future surface water and groundwater budgets, including projected climate change effects;
- 50-year streamflow and groundwater level projections, including projected climate change effects;
- Pumping effects on groundwater levels; and
- Overview of the Chronic Lowering of Groundwater Levels & Groundwater Storage sustainability indicators.

The presentation slides are attached to these minutes for the record.

The Directors asked clarifying questions and offered comments on the charts during the presentation.

Executive Director Bondy explained that the Water Code language concerning the Chronic Lowering of Groundwater Levels sustainability indicator conflicts with how DWR is applying the concept of undesirable results in their GSP reviews. He cited language from the OBGMA's alternative GSP review as an example. His conclusion is that the GSP will need to address any undesirable results (URs) caused by pumping, even during a drought. He added that potential URs would be related to groundwater dependent ecosystems (GDEs) in the Casitas Springs and/or Kennedy Areas. Rincon Consultants is analyzing potential significant and unreasonable effects on GDEs. He said the Board should provide feedback on this issue because it is a threshold question.

The Board discussed the Chronic Lowering of Groundwater Levels sustainability indicator.

During the discussion, Chair Engle asked for public comments.

Public comments:

Burt Handy asked a clarifying question that Executive Director Bondy responded to.

Paul Jenkins commented that GDEs are important for habitat, including providing shade for the stream.

After further discussion, the Board decided to continue the discussion, pending presentation of the GDE analysis. Executive Director Bondy said that he hopes to present the GDE information during the April 8 Regular Board Meeting.

## **8) FUTURE AGENDA ITEMS**

None

## **9) ADJOURNMENT** – The meeting was adjourned at 4:05p.m.

Action: \_\_\_\_\_

Motion: \_\_\_\_\_ Second: \_\_\_\_\_

B.Kuebler\_\_\_\_ D.Engle\_\_\_\_ R. Hajas\_\_\_\_ S.Rungren\_\_\_\_ G.Shephard\_\_\_\_ E.Ayala\_\_\_\_ L.Rose\_\_\_\_



**Upper Ventura River  
GROUNDWATER AGENCY**  
SUSTAINABLE MANAGEMENT

***UVRGA BOARD MEETING  
MARCH 25, 2021***

***ITEM 7A  
MODEL RESULTS  
&  
SMC IMPLICATIONS***

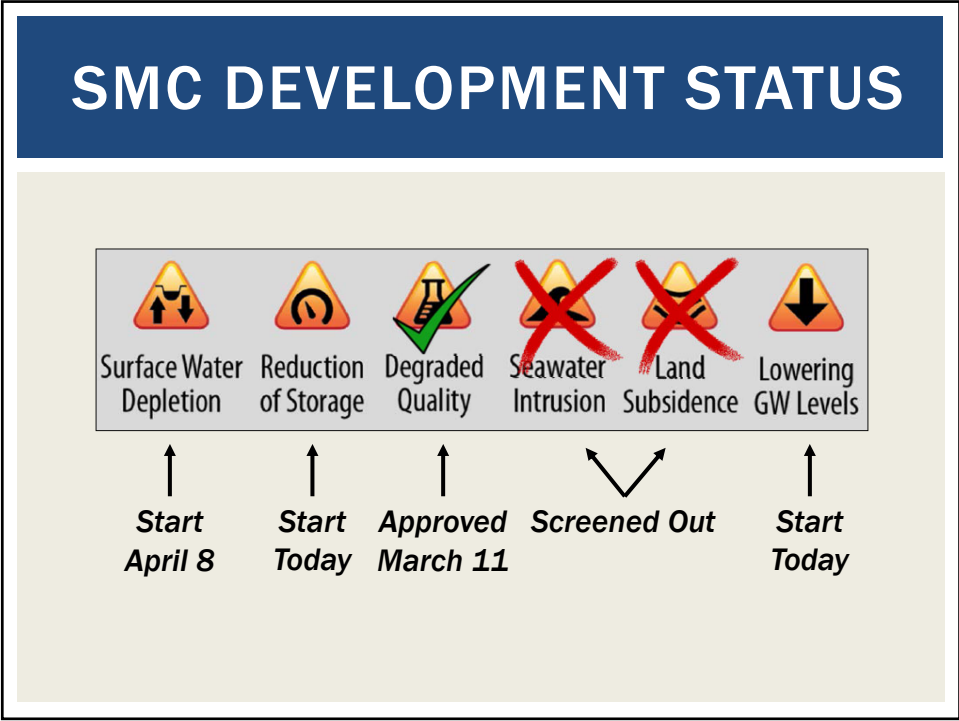


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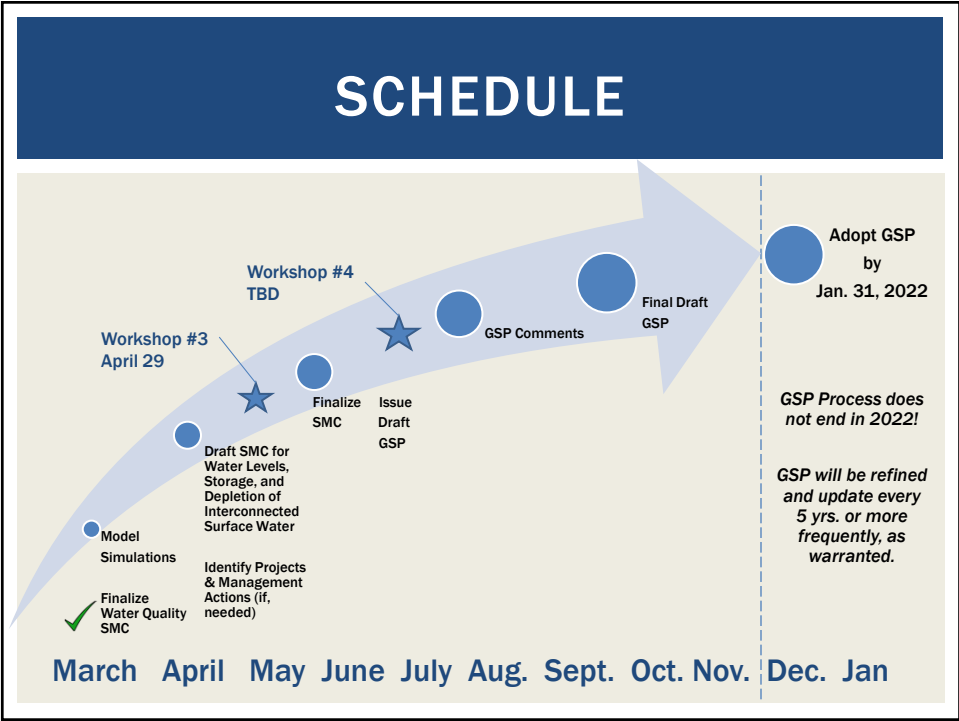
## GOALS FOR TODAY

1. SMC Status Review
2. Review Water Budget Results
3. Review Projected Groundwater Levels and Streamflows
4. Initial Review of Chronic Groundwater Level Decline & Groundwater Storage Sustainability Indicators

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## NEXT STEPS FOR SMC

- **Today**
  - Discuss results of future simulations
  - Begin Chronic GW Level Decline & GW Storage SMC
- **April 8 Regular Board Meeting**
  - Discuss additional model results
  - Begin Depletion of Interconnected Surface Water SMC
- **April 22 Special Board Meeting**
  - Continue SMC discussions
  - Agree Workshop #3 content for SMC
- **April 29 Workshop #3**
  - Obtain feedback on remaining SCM
- **May 6 or 20 Board Meetings – finalize SMC for draft GSP**

5



## MODEL RESULTS



6

## SGMA PROJECTED WATER BUDGET REQUIREMENTS

- SGMA requires 50-yr future projections of groundwater conditions, including water budget for the basin
- Must use  $\geq$  50 yrs. of *historical* hydrology
- Must use most recent conditions for baseline estimate of future water demands
- Must evaluate potential effects on water demand due to:
  - Land Use Change
  - Population Change
  - Climate Change

7

## FUTURE CONDITIONS KEY ASSUMPTIONS

- Discussed with Board on 12/10/2020
- Hydrology
  - 1970 – 2019 is proxy for future conditions
    - Several wet-dry cycles
    - Precipitation average similar to long-term average
    - Includes 1985 Wheeler and 2017 Thomas Fires

8



## FUTURE CONDITIONS KEY ASSUMPTIONS

### ■ Groundwater Pumping:

#### ■ Domestic:

- Assumed 2 AF/yr per well and 184 AF/yr all wells

#### ■ Mutual Water Companies:

- Assumed same as historical pumping: 31 AF/yr

#### ■ Agricultural: 1,079 AF/yr (average)

- Ad Hoc committee and Exec. Dir. estimated pumping based on available data and outreach to pumpers
- Baseline pumping adjusted annually by precipitation/ET
- Pumping distributed throughout given year based on ET

*Note :*

*Pumping amounts used in model simulations are for planning purposes only.  
The pumping amounts are not water rights or allocations.*

9

## FUTURE CONDITIONS KEY ASSUMPTIONS

### ■ Groundwater Pumping (con't):

#### ■ Water Districts – per District feedback on Dec. 10, 2020

- Two pumping rates: dry years and normal-wet years:

District	Dry Year (AF/yr)	Wet-Normal Year (AF/yr)
CMWD	45	188
MOWD	487	924
VRWD	863	950

- Pumping distributed throughout given year based on available data

*Note :*

*Pumping amounts used in model simulations are for planning purposes only.  
The pumping amounts are not water rights or allocations.*

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10

## FUTURE CONDITIONS KEY ASSUMPTIONS

### ■ Groundwater Pumping (con't):

- Updated per additional discussions with City:
- City of Ventura: per 2020 CWRR:
  - Wet/Normal Year 4,200 AF/yr
  - One-Two consecutive dry years 1,573 AF/yr
  - Third+ consecutive dry years 1,298 AF/yr
  - Distribute throughout year based on available data and

Wet & normal years:

January	February	March	April	May	June	July	August	Sept.	Oct.	Nov.	Dec.	Sum
3.84%	6.63%	9.17%	9.47%	10.21%	9.91%	9.77%	9.85%	9.25%	9.03%	7.45%	5.43%	100.00%

Dry years:

January	February	March	April	May	June	July	August	Sept.	Oct.	Nov.	Dec.	Sum
0%	16.67%	16.67%	16.67%	16.67%	16.67%	16.67%	0%	0%	0%	0%	0%	100.00%

**Note :**

*Pumping amounts used in model simulations are for planning purposes only.  
The pumping amounts are not water rights or allocations.*

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11

## SGMA REQUIRED ANALYSIS

### ■ Land Use Impact

- Significant land use change not expected due to SOAR voter initiatives approved through 2050.

### ■ Population Change

- Same as above.

### ■ Climate Change

- Evaluated climate change using DWR change factors for 2030 and 2070 climate change conditions

12

## MODEL SCENARIOS

- Historical: 2005-2019 (calibration model)
- Baseline: This simulation employs the future assumptions described above.
- 2030 Climate Change: Baseline inputs modified using DWR 2030 “climate change factors”
- 2070 Climate Change: Baseline inputs modified using DWR 2070 “climate change factors”

Simulations Required for Water Budget ↑  
Add'l Simulations To Support SMCs ↓

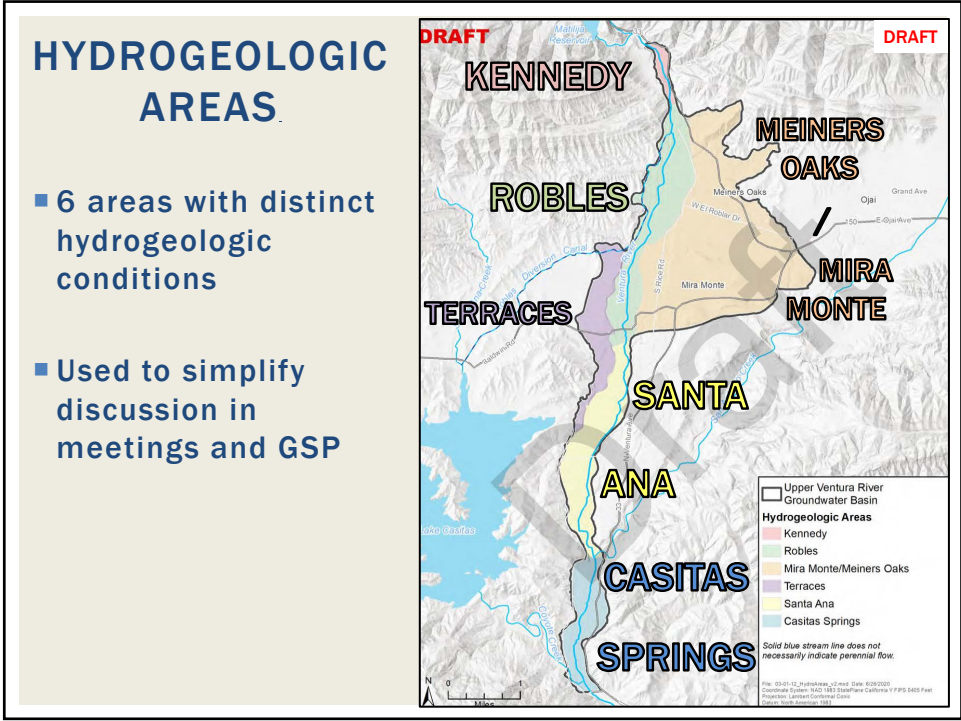
- Baseline No Pumping: Baseline w/o GW pumping

13


## MODEL RESULTS

- **Today**
  - **Climate Change Effects:**
    - Water Budget
    - Groundwater Levels
    - Stream flow
  - **Pumping Effects on Groundwater Levels**
- **April 8**
  - **Additional results relevant to SMCs**


14





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**Upper Ventura River**  
**GROUNDWATER AGENCY**  
SUSTAINABLE MANAGEMENT

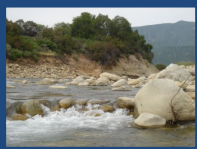
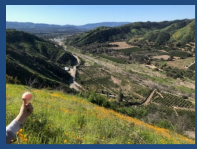
**WATER BUDGET  
&  
CLIMATE CHANGE  
EFFECTS**

  
**CASITAS**  
Municipal Water District

  
**We Serve**  
**Water**

  
**MEINERS OAKS WATER DISTRICT**  
VENTURA COUNTY SINCE 1949

  
**VENTURA**  
**WATER**

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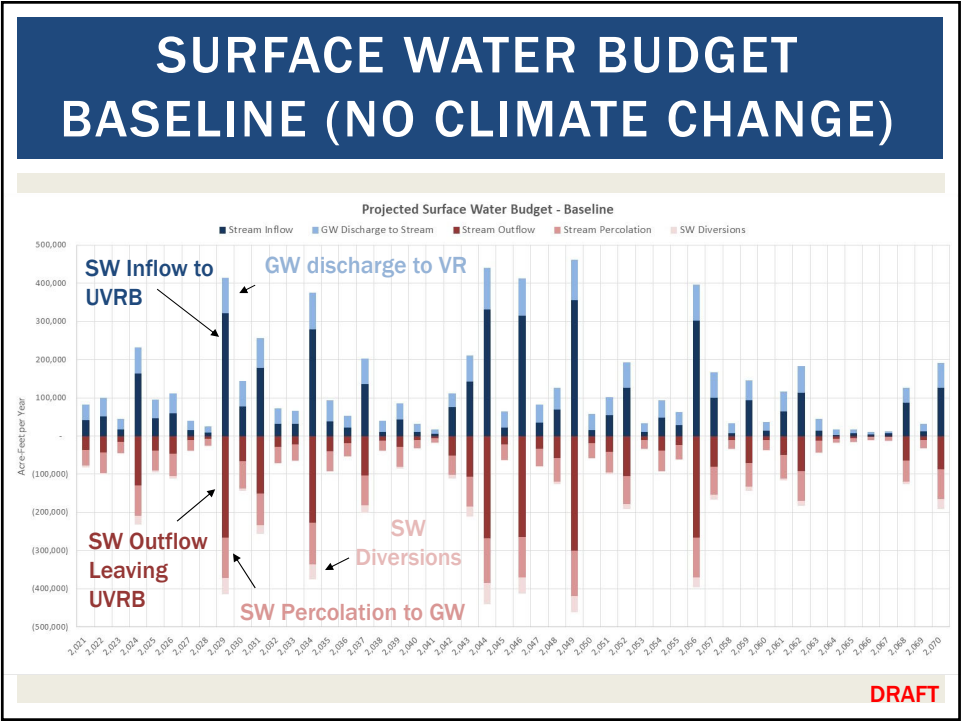
# CLIMATE CHANGE EFFECTS ON WATER BUDGETS

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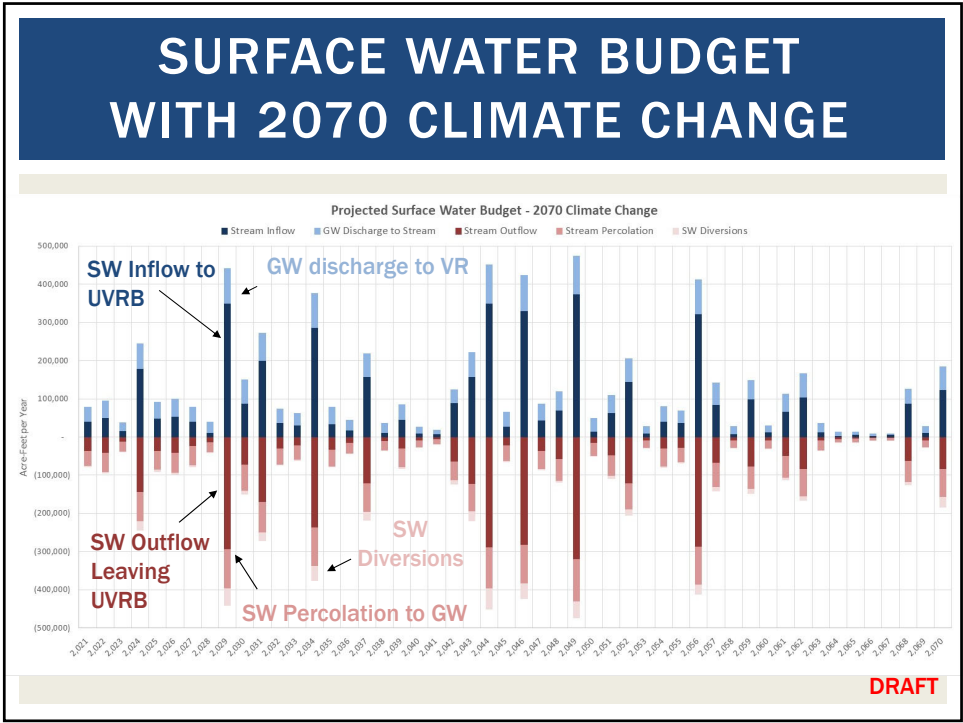
■ Compare baseline simulation with simulations incorporating 2030 and 2070 climate change factors

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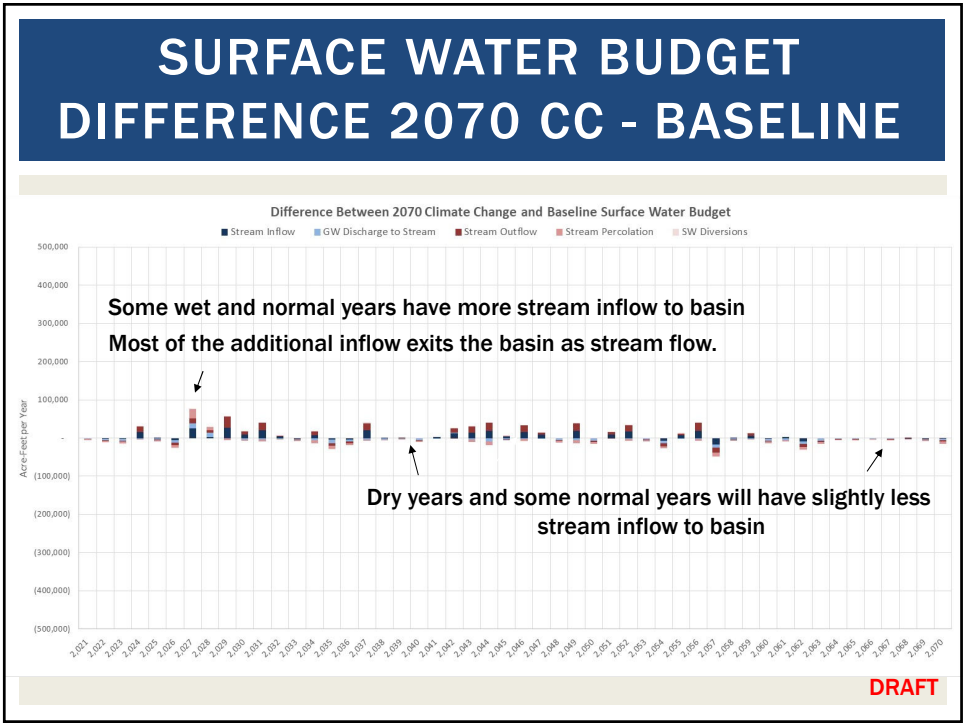
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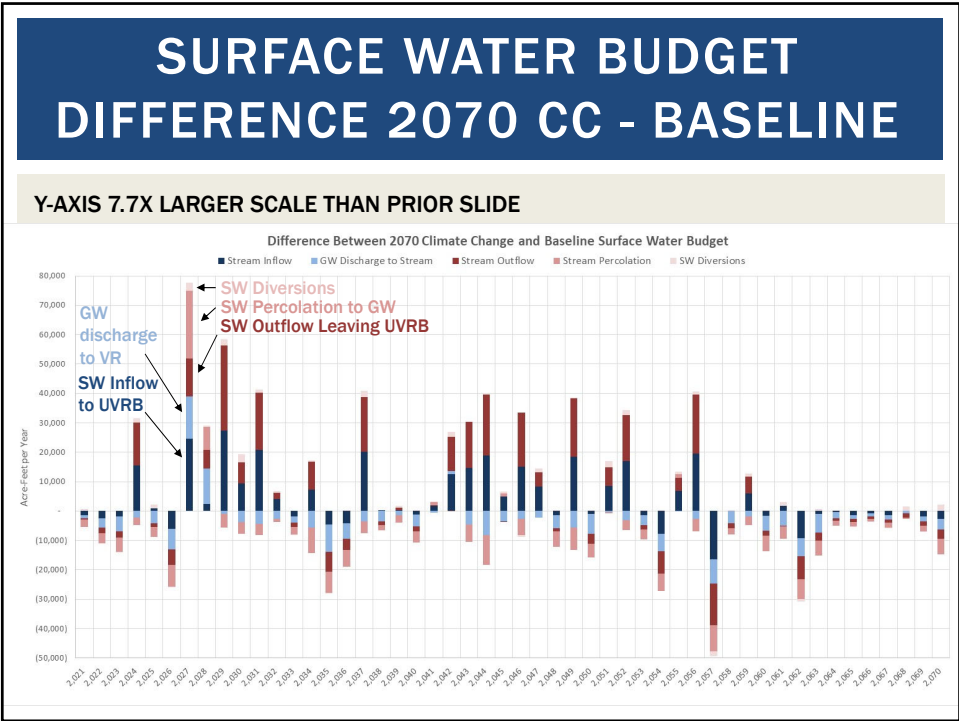
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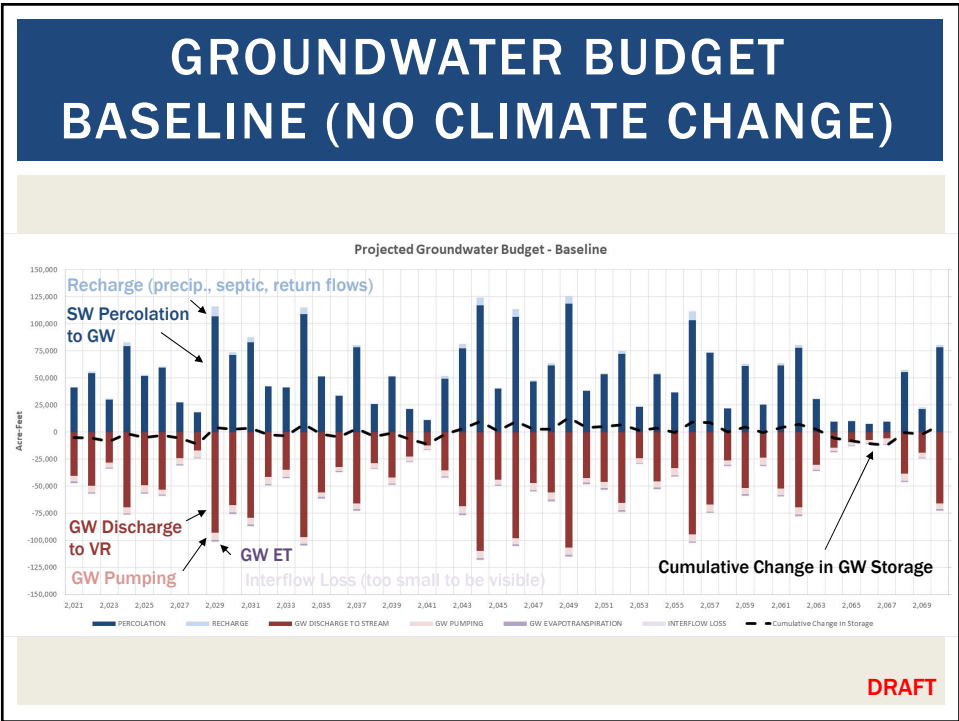
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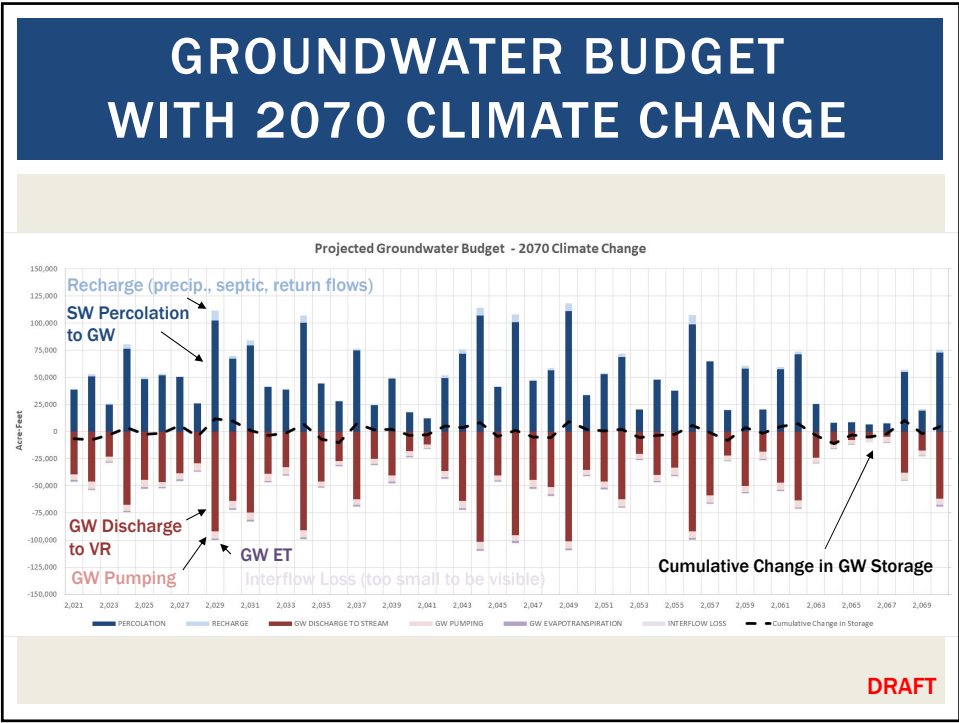
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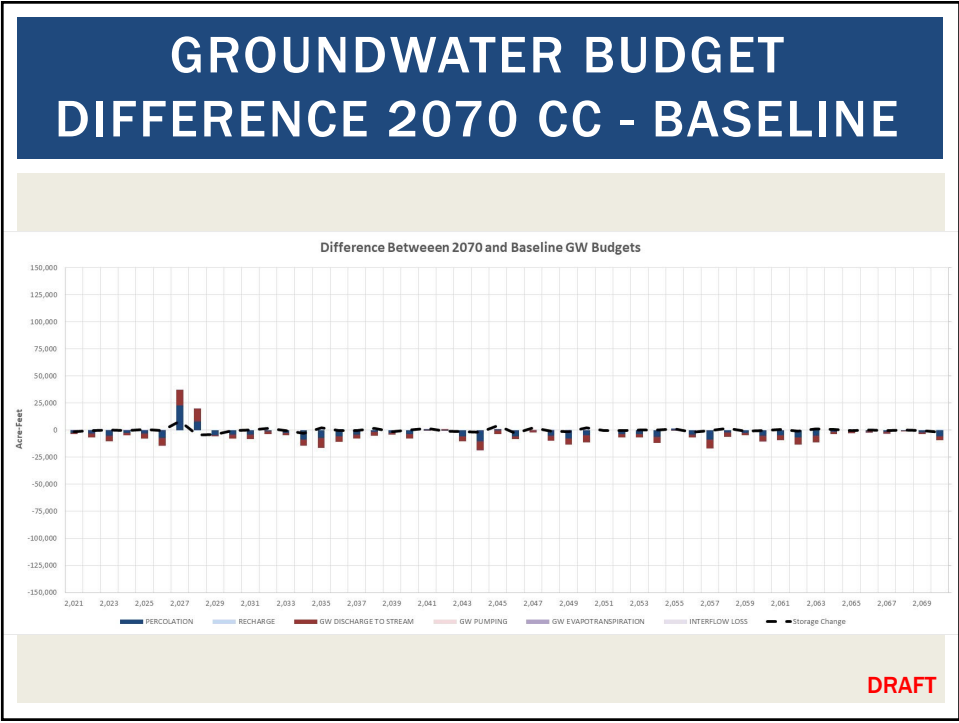
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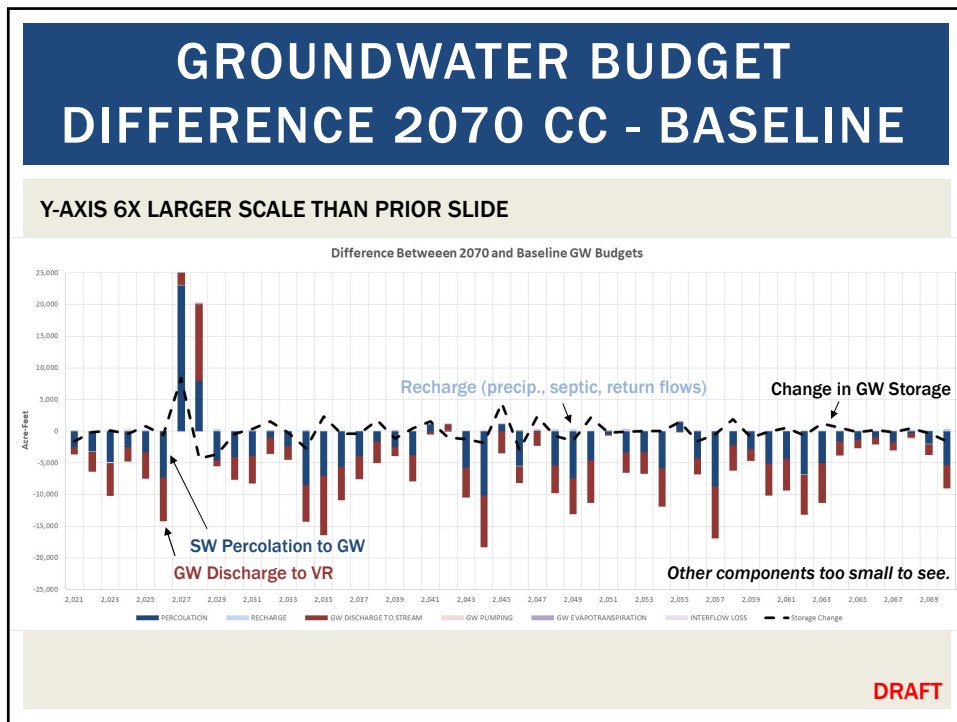


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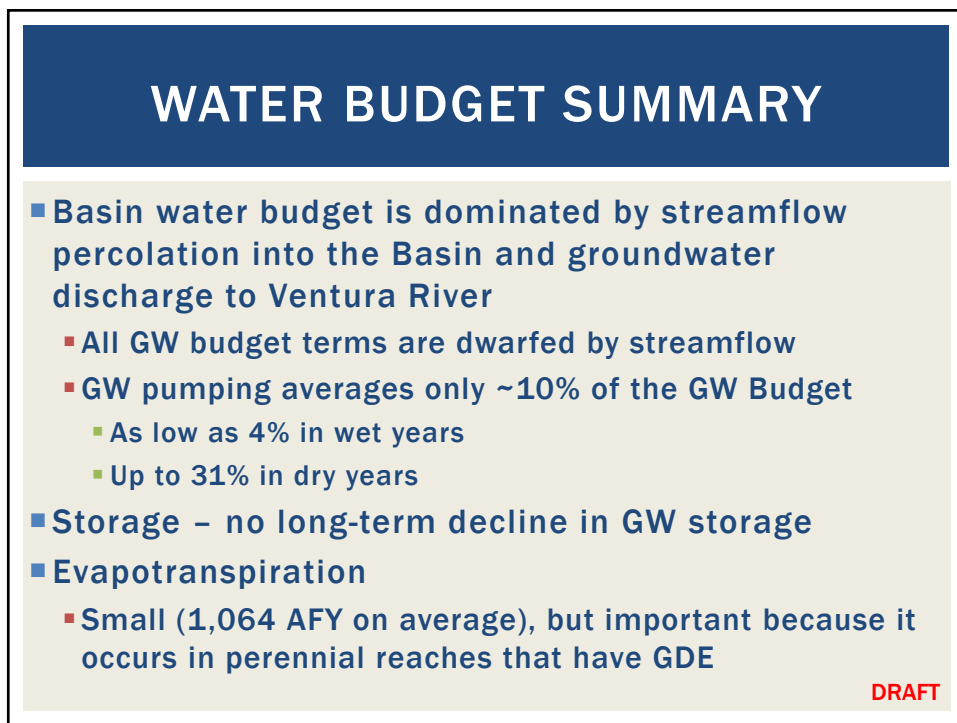


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## SUMMARY OF CLIMATE CHANGE EFFECTS ON WATER BUDGET

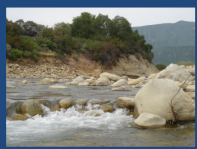





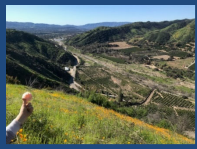
- Some wet and normal years have more stream inflow to basin, but most of increased inflow simply flows out the Basin during storms.
- Some normal year and most dry years will have less inflow resulting in less percolation and less surface water outflow
- Groundwater storage will have larger swings
  - Basin GW levels will be lower in dry seasons, but Basin will still re-fill in normal to wet years

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# GW LEVELS & CLIMATE CHANGE EFFECTS

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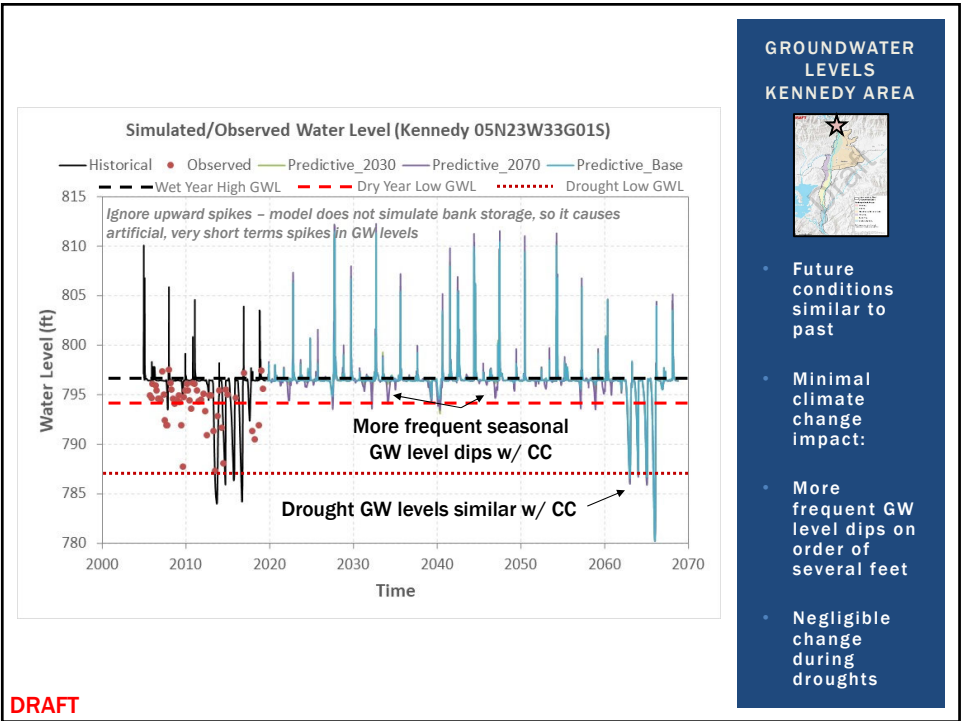
# CLIMATE CHANGE EFFECTS ON GW LEVELS

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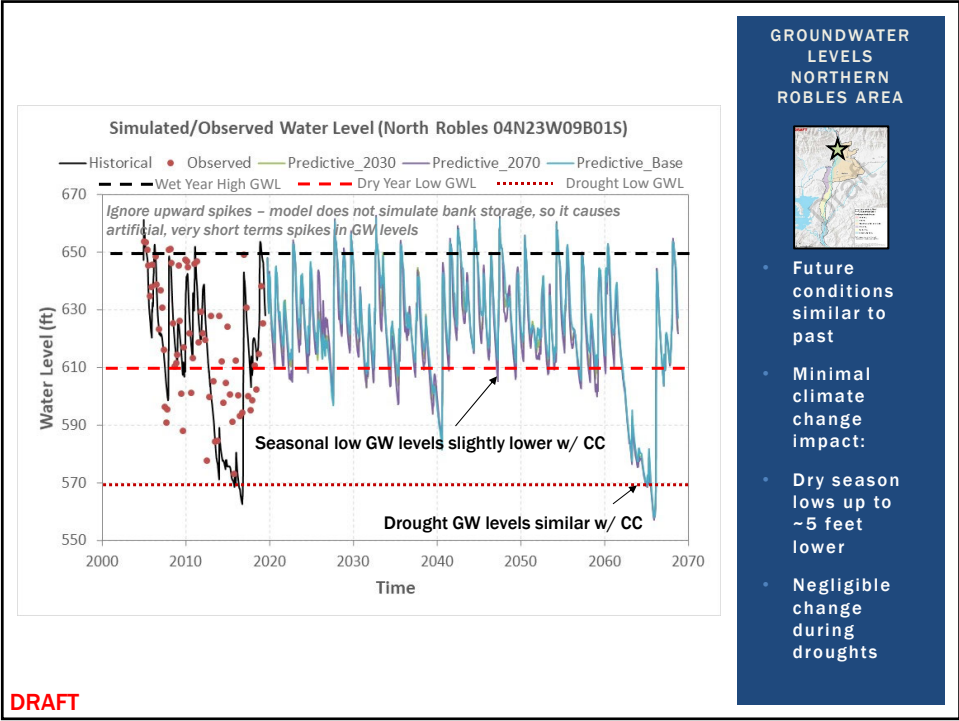
■ Compare baseline simulation with simulations incorporating 2030 and 2070 climate change factors

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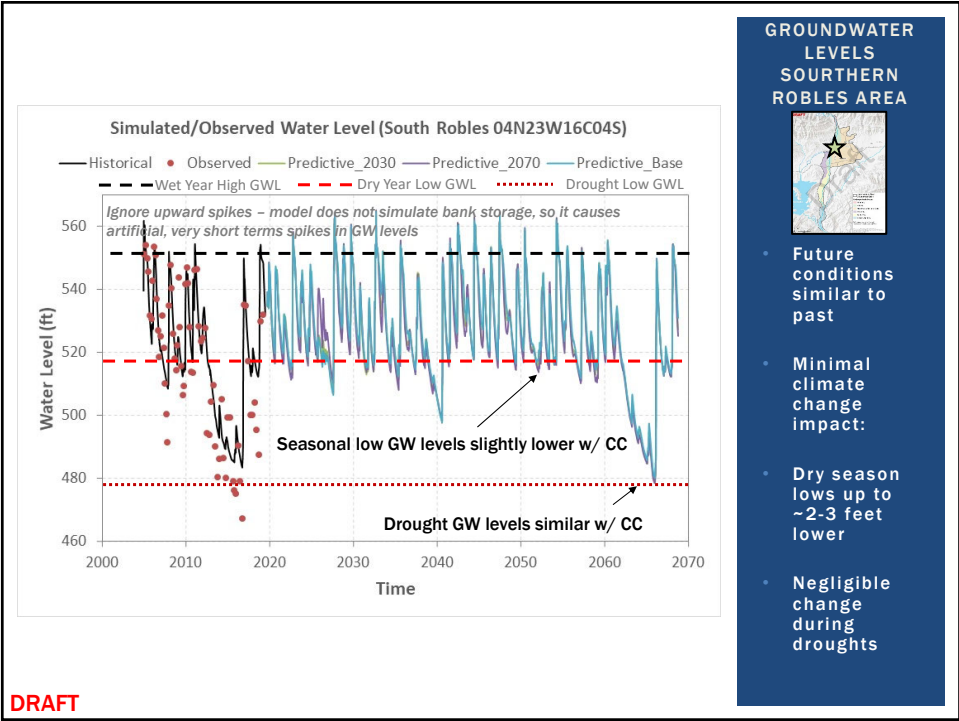
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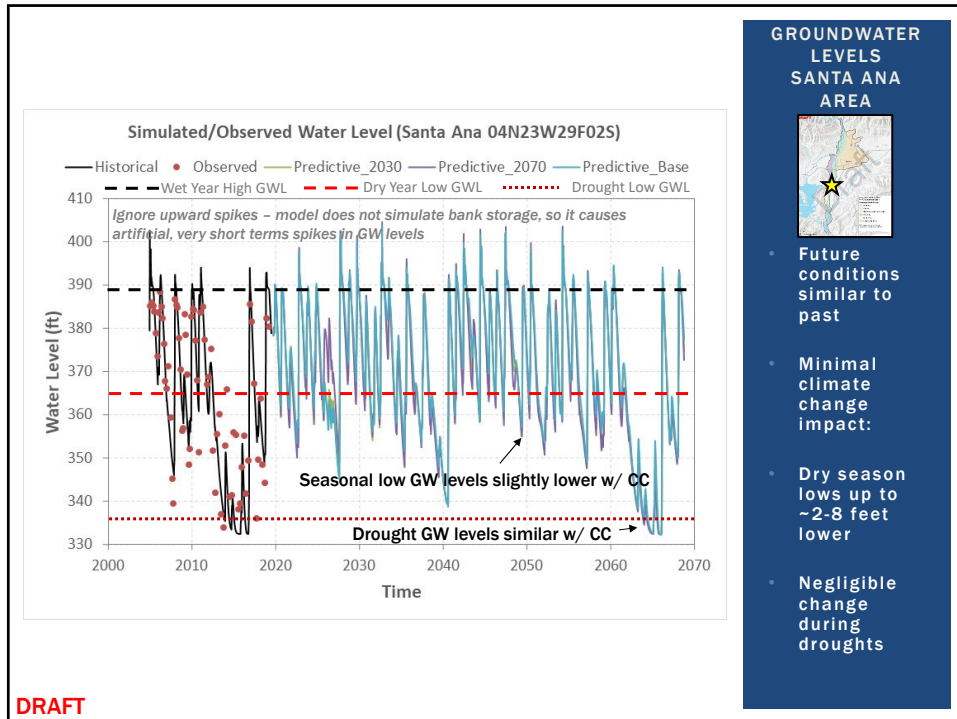
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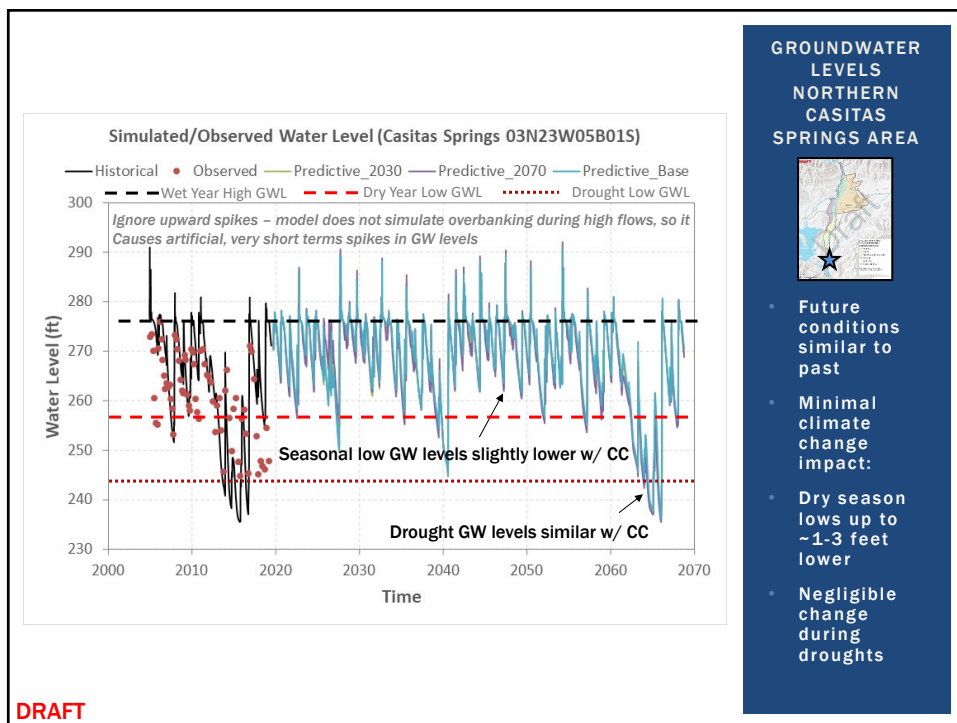


#### GROUNDWATER LEVELS SANTA ANA AREA



- Future conditions similar to past
- Minimal climate change impact:
- Dry season lows up to ~2-8 feet lower
- Negligible change during droughts

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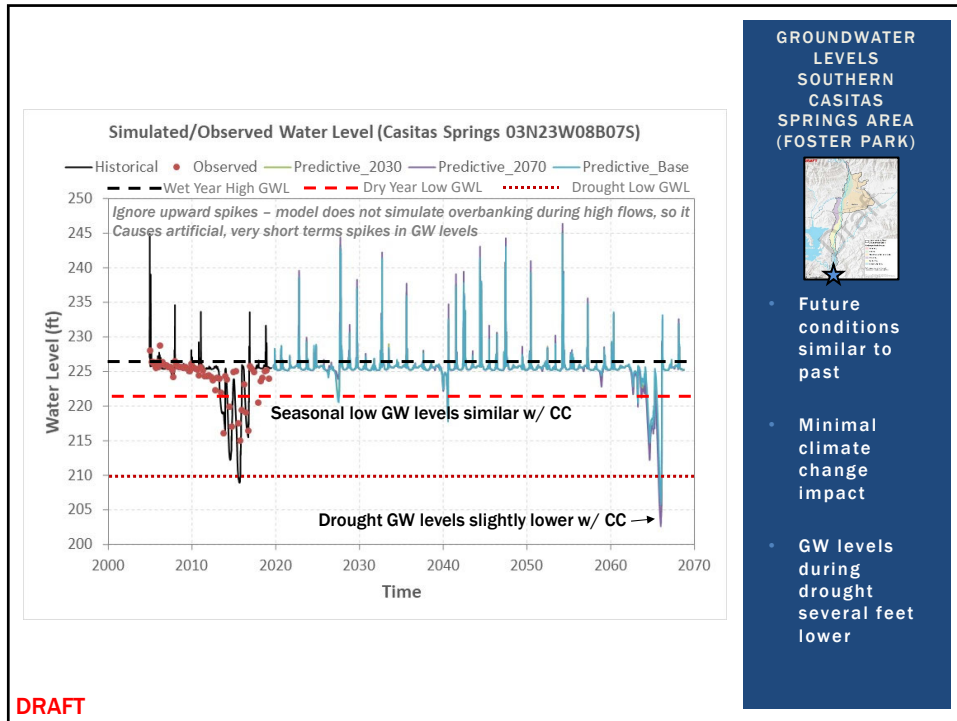


#### GROUNDWATER LEVELS NORTHERN CASITAS SPRINGS AREA



- Future conditions similar to past
- Minimal climate change impact:
- Dry season lows up to ~1-3 feet lower
- Negligible change during droughts

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## SUMMARY OF CLIMATE CHANGE EFFECTS ON GW LEVELS

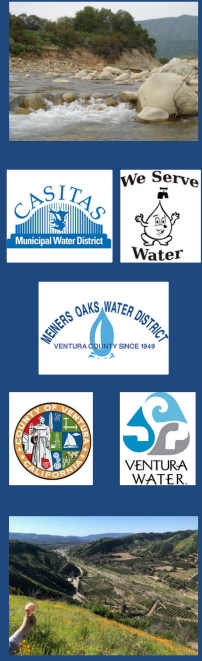
- Climate change effects on GW levels are minimal
  - Basin will continue to drain and refill as it has historically
  - Wet season GW levels are the same
  - Dry season GW levels may be slightly lower
    - Kennedy Area: more frequent dips in GW levels in on the order of several feet
    - Robles and Santa Ana Areas: Seasonal low GW levels may be several feet lower
  - Drought GW levels only impacted in Foster Park (maybe several feet lower)

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36



# STREAM FLOW & CLIMATE CHANGE EFFECTS



37

## CLIMATE CHANGE EFFECTS ON STREAM FLOW

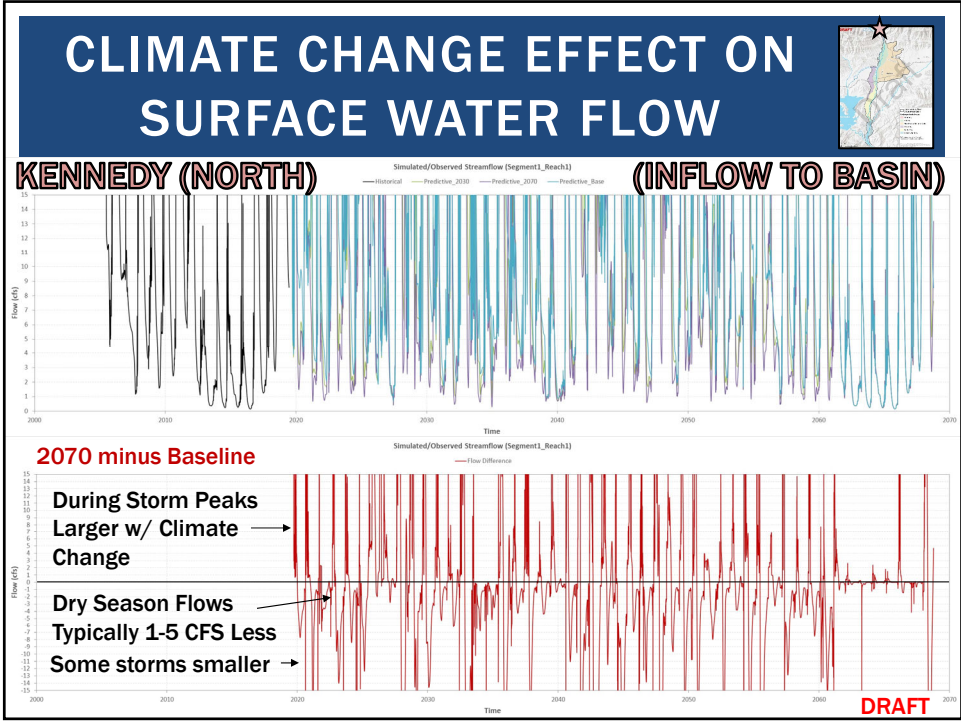
■ Evaluation Method:

■ Compare baseline simulation with simulations incorporating 2030 and 2070 climate change factors

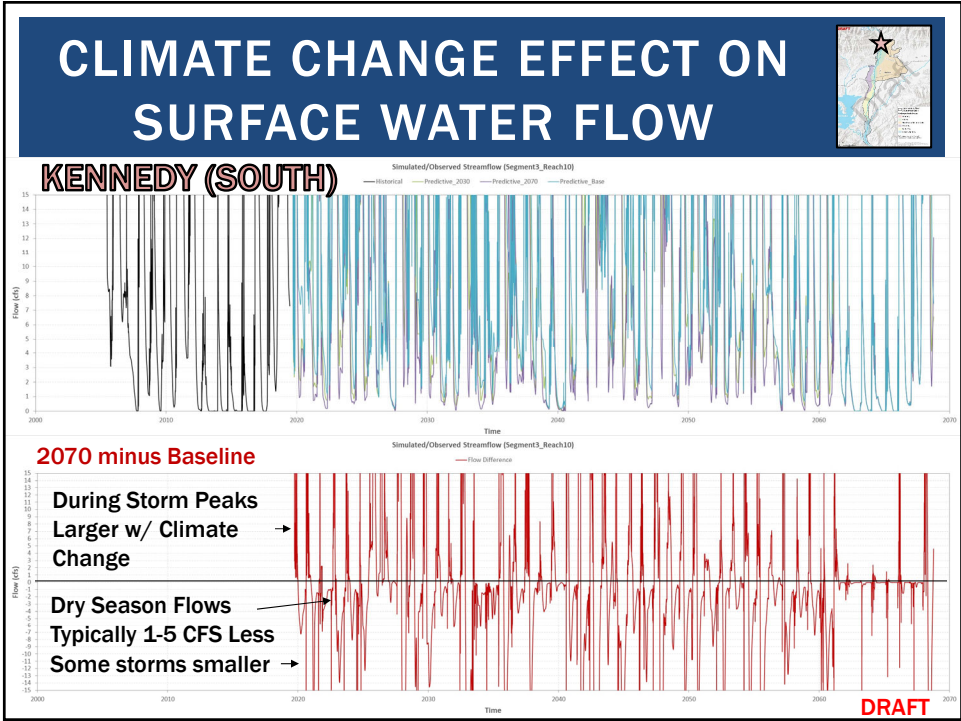
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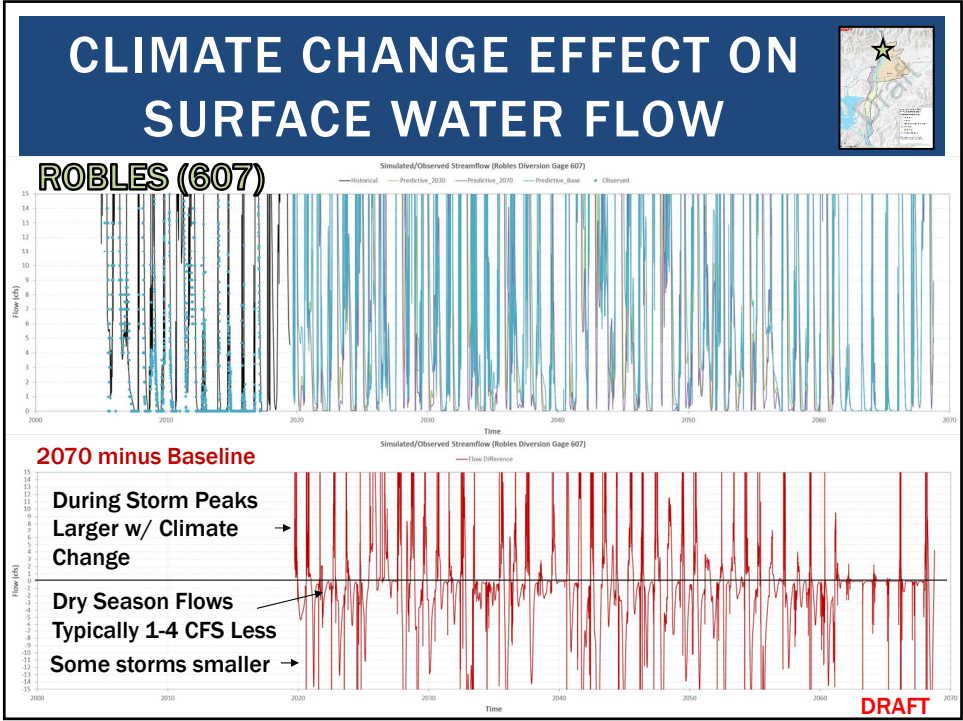


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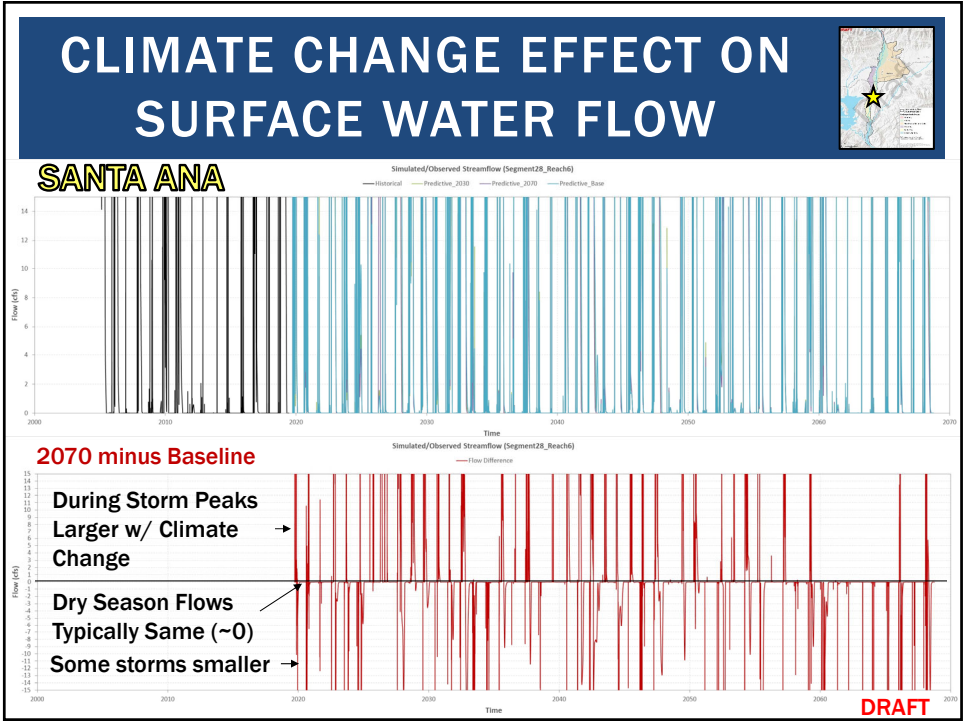


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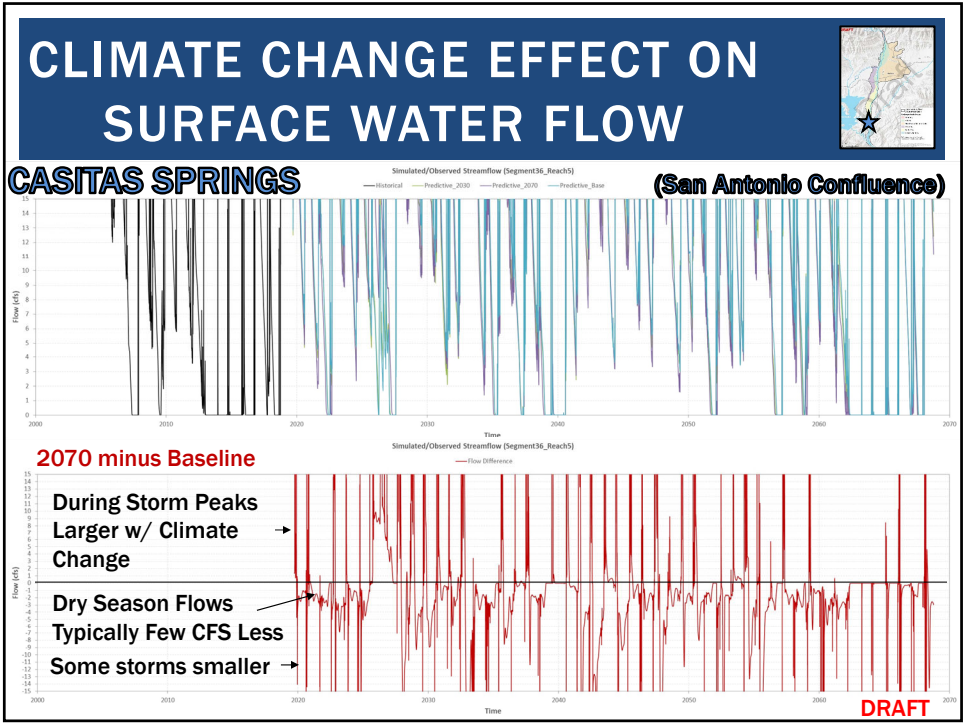




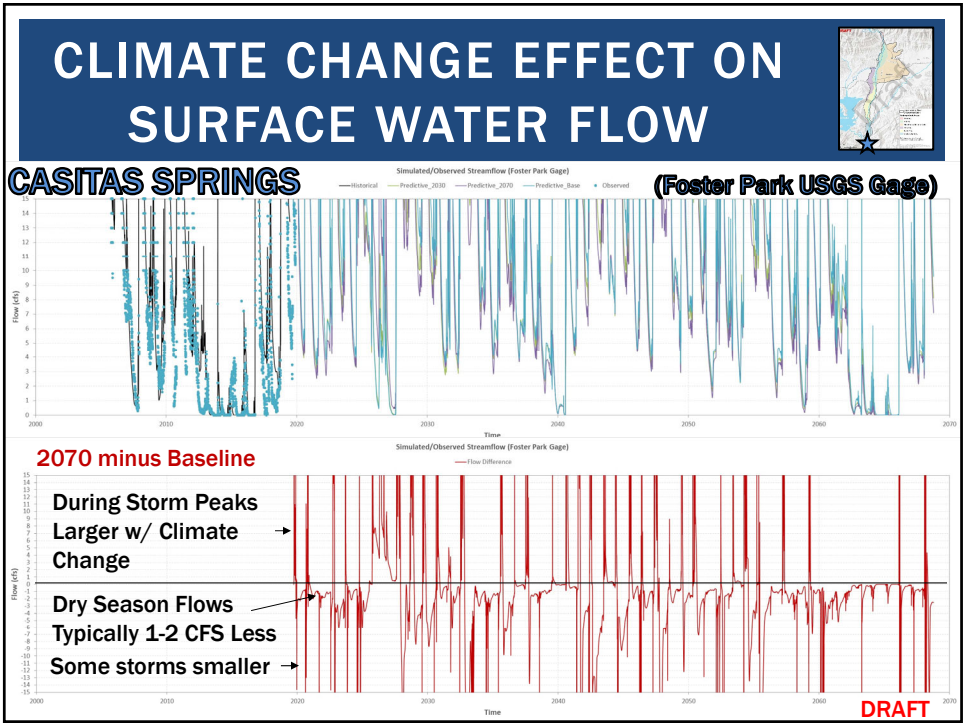
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SUMMARY OF CLIMATE CHANGE  
EFFECTS ON STREAM FLOW

- Many storm flows larger – increased inflow to the basin
- Some storm flows lower
- Dry season baseflow slightly lower (up to several CFS)








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45



Upper Ventura River  
**GROUNDWATER AGENCY**  
SUSTAINABLE MANAGEMENT

PUMPING  
EFFECTS  
ON  
GW LEVELS



46

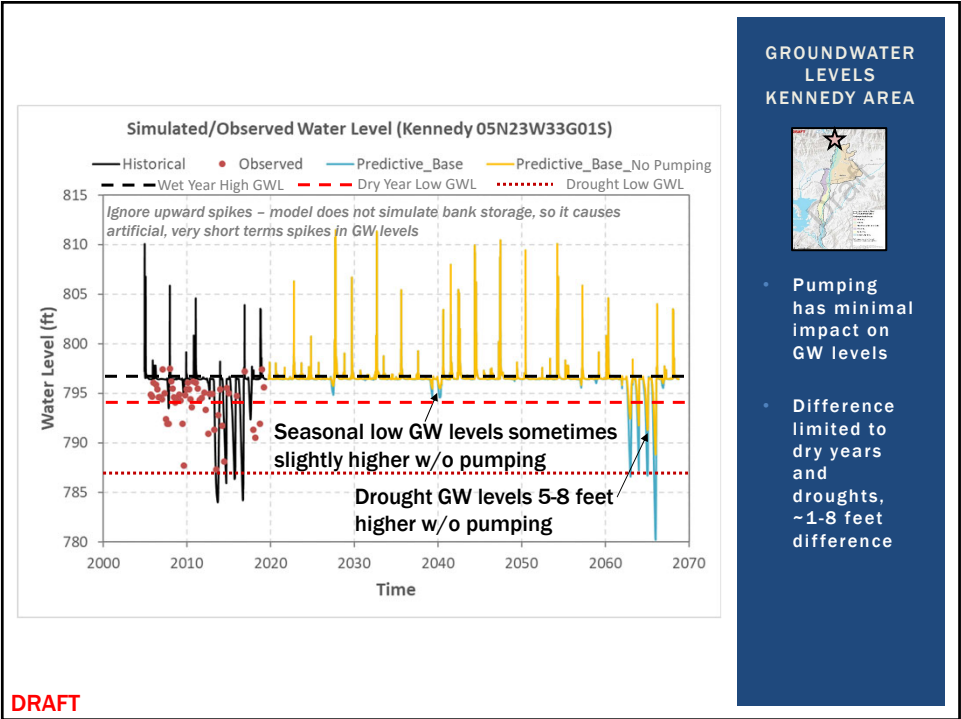
# PUMPING EFFECTS ON GW LEVELS

■ Evaluation Method:

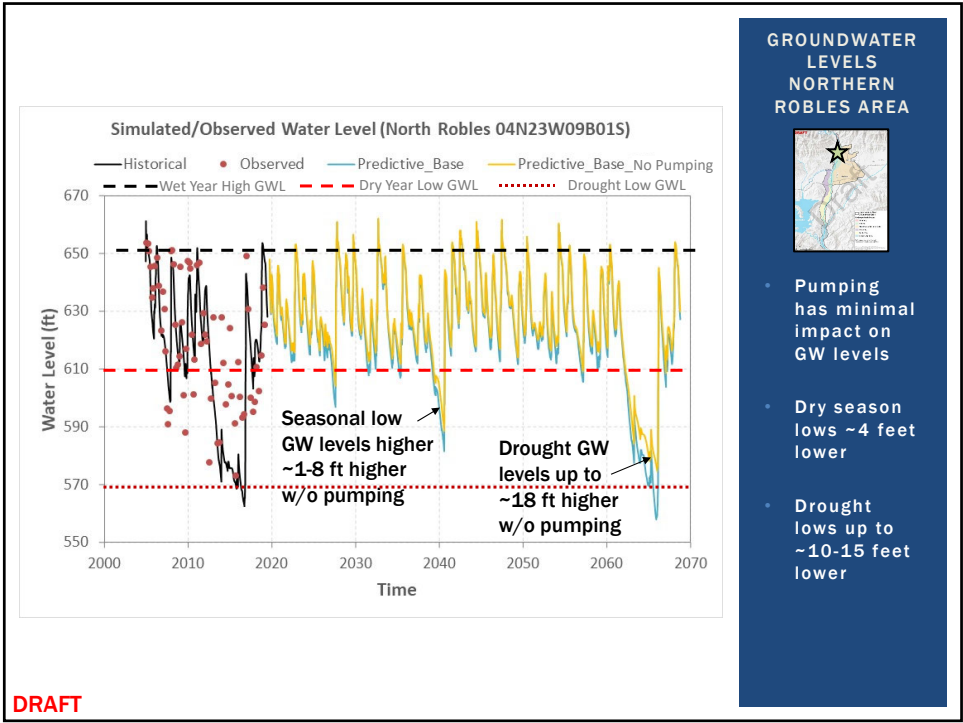
■ Compare baseline simulation with no pumping simulations

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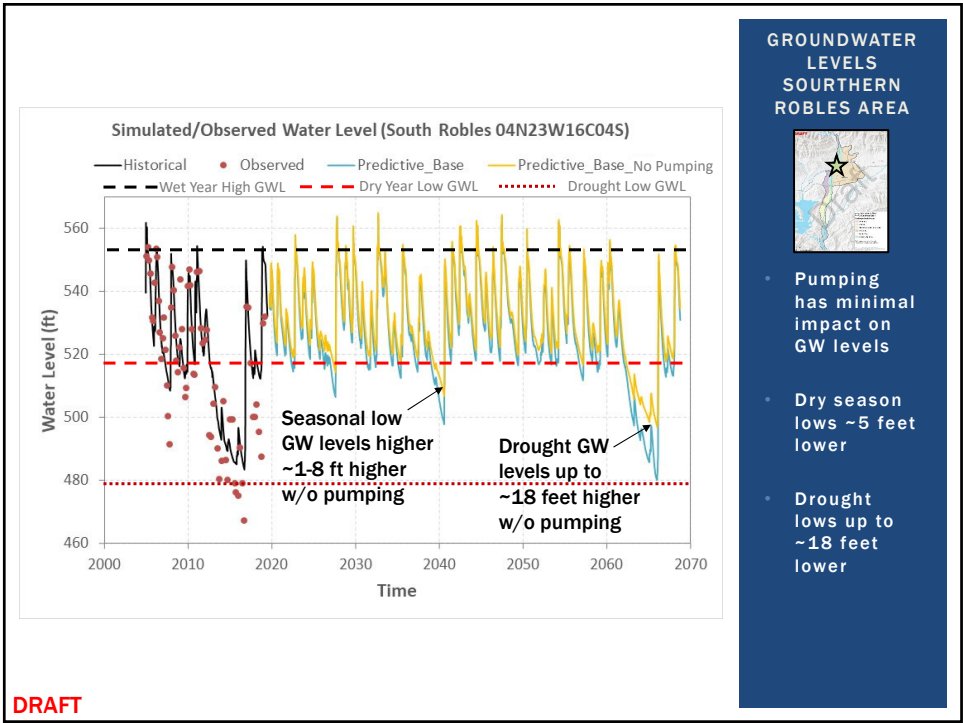
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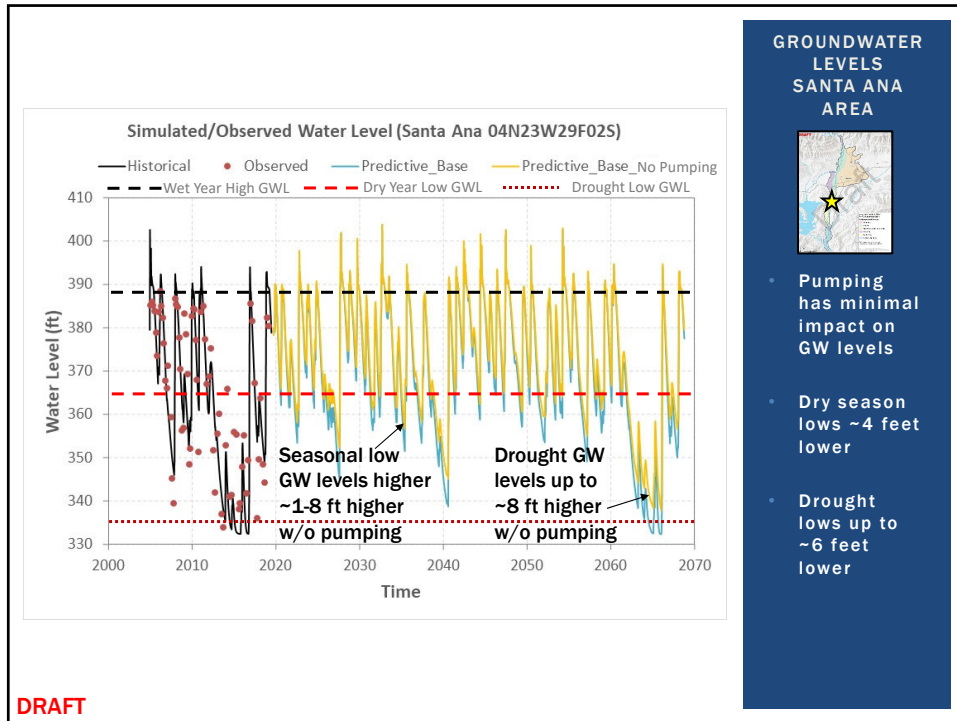
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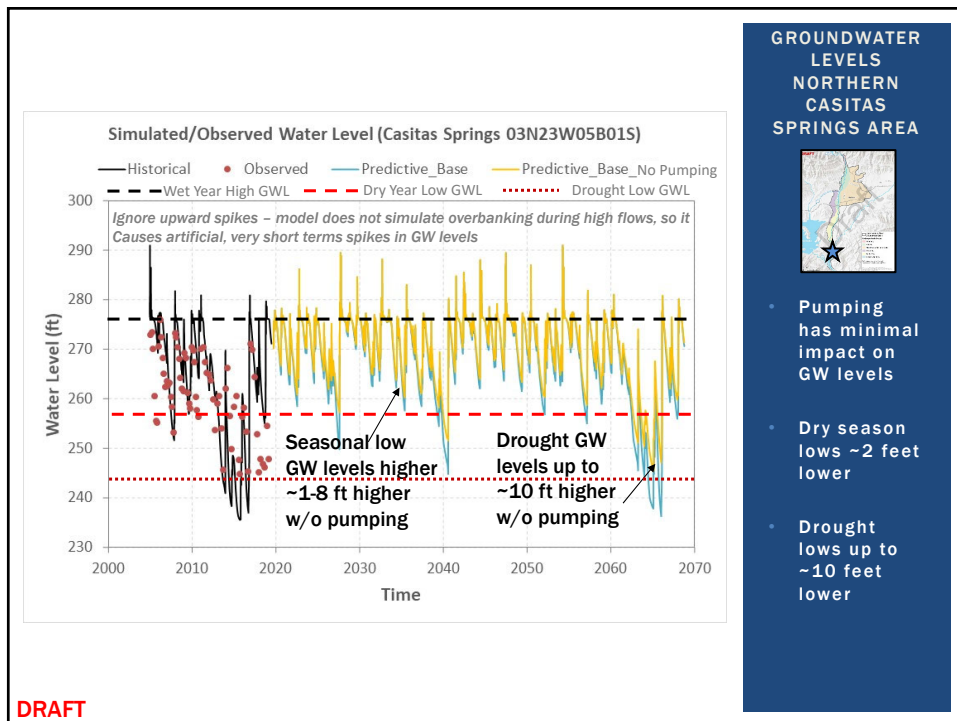
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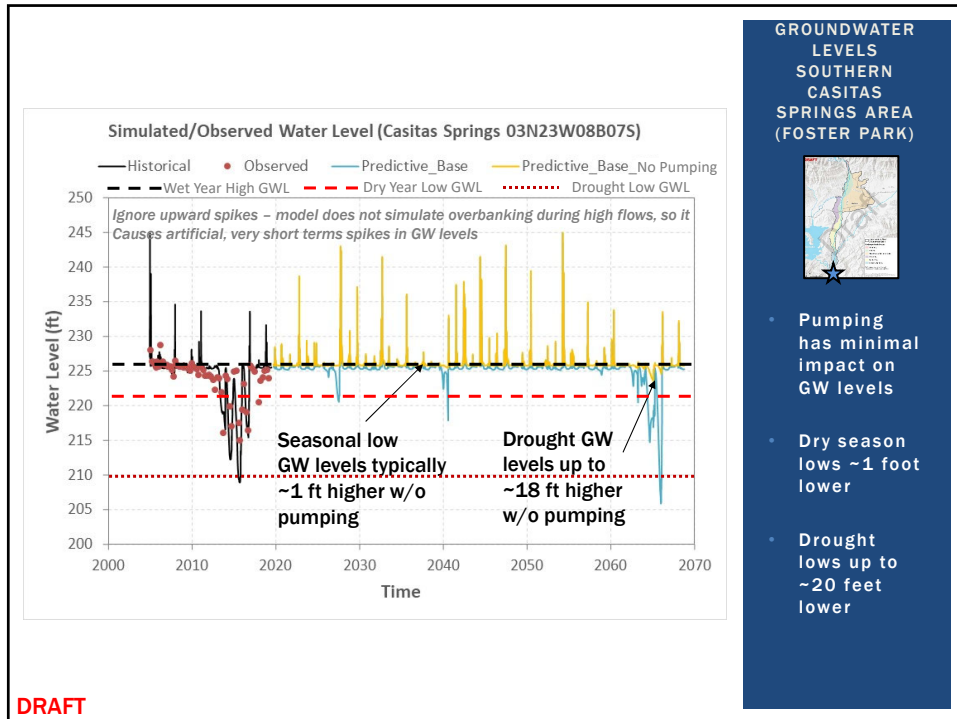


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53

## SUMMARY OF PUMPING EFFECTS ON GW LEVELS

- Basin GW levels are dominated by streamflow patterns
- Pumping is a secondary signal in the GW levels
- Wet season GW levels are the same
- Dry season GW levels
  - Kennedy Area typically the same
  - Robles and Santa Ana Areas ~1-8 ft higher
  - Foster Park typically ~1 ft higher
- Drought GW levels differences
  - Up to ~18 feet higher without pumping
  - Largest pumping effects in areas with GDEs

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54



# SUSTAINABLE MANAGEMENT CRITERIA IMPLICATIONS







55

## CHRONIC LOWERING OF GROUNDWATER LEVELS

- Undesirable Result (Water Code §10721):  
*Chronic* lowering of groundwater levels indicating a significant and unreasonable depletion of supply if continued over the planning and implementation horizon. Overdraft during a period of drought is not sufficient to establish a *chronic* lowering of groundwater levels if extractions and groundwater recharge are managed as necessary to ensure that reductions in groundwater levels or storage during a period of drought are offset by increases in groundwater levels or storage during other periods.

56



## CHRONIC LOWERING OF GROUNDWATER LEVELS

- Basin fills and drains in sync with rainfall patterns
- No chronic lowering of groundwater levels is indicated in the historical record of projections of future groundwater conditions.
- Over pumping occurs temporarily during drought when inflows are almost entirely eliminated
- Basin has very limited storage to buffer pumping drawdown during drought, resulting in GW level declines, esp. in Kennedy & FP Areas which have GDEs
- However, GW levels recover fully & quickly post-drought and temporary GW level declines during drought alone are not an indicator or chronic lowering.

57

## CHRONIC LOWERING OF GROUNDWATER LEVELS

- Based on the foregoing, one possible conclusion is that Chronic Lowering of GW Levels is not applicable to the Basin.
- However, review of DWR's OBGMA alternative review findings indicates that GSAs must evaluate whether URs occur during temporary periods of low GW levels:
  - *“Even assuming that groundwater levels and storage recover during wetter periods...that notion is not a substitute for a determination by the Agency to demonstrate that undesirable results have been avoided during times when groundwater levels and the associated groundwater in storage have declined without adequate evidence.”*

58

## CHRONIC LOWERING OF GROUNDWATER LEVELS

- **Staff Conclusion:**
  - UVRGA will need to develop SMC to address any undesirable results caused by pumping-induced groundwater level declines during droughts.
- **More information at next meeting**
  - Impacts to GDEs at low water levels. Significant and unreasonable?
  - Potential minimum thresholds and measurable objectives.

59

## REDUCTION OF GROUNDWATER STORAGE

- **Minimum Threshold (GSP Emerg. Regs §354.28):**

The total volume of groundwater that can be withdrawn from the basin without causing conditions that may lead to undesirable results.
- **Directly correlated with groundwater levels**
- **Will develop based on SMC for Chronic Decline of Groundwater Levels**

60



Upper Ventura River  
**GROUNDWATER AGENCY**  
SUSTAINABLE MANAGEMENT

QUESTIONS?

