

Main comments

1. I am a little worried about the low-flow end of the LOC relation. The fit $y = 0.42x - 1.35$ (Fig. B1) is linear with a negative intercept: predicted Scott flow reaches zero at a Salmon flow of about $3.2 \text{ m}^3 \text{ s}^{-1}$, and the line passes below much of the Historic data at Salmon flows under about $6 \text{ m}^3 \text{ s}^{-1}$. If Modern Salmon flows enter this range more often, the climate-only prediction would be biased low and the climatic share inflated, and I could not find in the manuscript how often this happens. A linear fit with intercept also does not match the assumed equal fractional decline (L143), and I wonder whether a constant-ratio model, which builds that assumption in, would give a similar split. I would like to see the time step and sample size of the fit, how negative predictions are handled, the residuals, and the attribution repeated with a constant-ratio model, a log-space fit and fits by month.
2. The climatic component comes only from changes in Salmon flow. The Salmon's tested low-flow metrics (Table 1, L182–184) and its VPD ($p = 0.055$, L166) show no significant change; this does not rule out a climatic volume loss, since they measure different quantities from the day 150–300 volume, but it made the attribution harder for me to follow. Could the authors report the Salmon's summer volume by period, with its uncertainty and effect size, next to the 9.7 and 25.9 Mm^3 attributed to climate? I was also hoping to see the other near-natural catchments (Indian, Illinois, Hyampom, and Trinity Center, where USGS reports no upstream regulation, although its record starts in 1957) used as alternative references. A placebo test between two similar natural catchments would show whether the method produces a spurious "agricultural" component where there should be none. I realise its result depends on how similar the two catchments are (Van Loon et al., 2019), so it would indicate sensitivity to catchment differences more than give an error estimate for the Scott. Factors specific to the Salmon (wildfire, forest change) would bias the climatic component and could be added to L299–303.
3. The intervals (about $\pm 1.5 \text{ Mm}^3$) come only from the LOC parameters. The reported Modern intervals indicate a larger climatic component within that uncertainty, but they omit variability between years and uncertainty in the reference and model; if pooled daily values were used, their serial correlation also needs treatment. Could the authors report an interval for the difference or climatic share from a bootstrap over whole water years, alongside sensitivity to the reference catchment and regression form? Until then, I do not think the claims of an "independently validated difference" and a dominance that "far exceeds the uncertainty" (L307–309) are supported.
4. The trend analysis uses a threshold-based low-flow season (L116–121), while the attribution uses day of year 150–300 (L139), called "late-summer" in Fig. 5 although it spans late May to late October. No significant difference was detected in the tested Scott low-flow metrics between the Intermediate and Modern periods (L190), yet the attributed loss nearly doubles (L205–206). This does not mean the metrics were equal, but it left me wondering where in the window the extra loss lies. In June, flows of $10\text{--}30 \text{ m}^3 \text{ s}^{-1}$ make small relative gaps large in volume, and I found this hard to judge on the log axis of Fig. 5A. Could the authors show the monthly contributions of both components? I think they are needed to support L214–216 and the management argument at L278–280. Even then, a smaller agricultural share of the volume loss does not by itself mean that curtailment brings little ecological benefit: a small volume returned at the critical low-flow time can decide whether tributaries stay connected and fish can pass. I would like the management discussion (L277–288) to state what it assumes about timing, achievable reductions and ecological flow thresholds.
5. The abstract calls 1940–1976 a "pre-development and pre-climate change reference" (L10–11), but diversions and flood irrigation predate it and groundwater sprinklers spread through the 1960s–1970s (L99–105); L124–125 ("almost no groundwater pumping") seems to contradict this. As I read it, the agricultural component measures the change after 1976 and excludes impacts already present in the irrigated baseline, so it does not estimate total present-day agricultural impact. Historical flood irrigation may also have recharged the aquifer and supported late-summer flow, so the sign of that omitted effect is uncertain and needs quantifying. I would state this in the abstract and conclusions (L327–330 hints at it), and I am curious whether calibrating on 1943–1965 alone, or excluding the curtailment years of the Modern period, changes the split.
6. I was hoping to see water-use data, or results from the Scott Valley integrated model (Foglia et al., 2018; Tolley et al., 2019), used as an independent check on the agricultural component. van Kirk and Naman (2008) used the same method and reference, so agreement with them is not independent (L246–252). Their original article (p. 1044) gives $6.5 \text{ Mm}^3 \text{ yr}^{-1}$, about 61 % of the loss, attributed to local factors including water use, against "roughly 10 Mm^3 " at L247. Could the authors state the percentages and the estimate they used, compare them over consistent periods and summer windows, and check them against the published erratum? L250–251 cites Drake et al. (2000) for a water-use cause, while that paper attributed the fall-flow decline to climate. On the climatic side, I am unsure what drives the Intermediate component of 9.7 Mm^3 : no significant VPD change was detected between the Historic and

Intermediate periods (L167–168), which does not exclude a contribution, and temperature, seasonal precipitation and runoff timing are not analysed, although L227 and L233–234 rely on them.

7. Historic periods start as late as 1965 for some catchments (Table A1), and the period boundaries coincide with the PDO shift, the onset of pumping and the 1976–77 drought. If time allows, checks with shifted boundaries and Mann–Kendall trend tests would make the results more convincing; I see these as optional. A non-significant change in annual flow does not by itself show "redistribution" (L9–10, L184–186). I would also temper wording such as "It does not." (L220, L324) and "climate change now governs the decline" (L16, L222–223), and give effect sizes for the warming signal described as "coherent across all nine study catchments" (L224). I also think the title should name the Scott River.

Specific comments

Abstract (L1–18). The abstract has the expected elements, although the rationale appears only in the closing implications (L16–18). I think three additions would strengthen it without crowding it: name the earlier study (van Kirk and Naman, 2008, ending in 2005) in place of "another study" (L5), the Scott and Salmon rivers, and the period years; add one sentence on **limitations** (natural variability in the climatic component, L289–298, and the irrigated baseline); and qualify the **implications** (L16–18), saying which measure acts on which component.

- Line 55–56: distinguish the earlier finding of declining summer precipitation from the present analysis of annual precipitation, and check that the cited sources support the local claim; Tang et al. (2009) concerns Upper Klamath Lake.
- Line 73–78: hypothesis 1 should name the expected changes directly and separate an expected lack of change from a failure to reject one; VPD measures atmospheric demand, which is different from evaporation; the mechanism in hypothesis 3 is untested. I would revisit all three in the Discussion.
- Line 92: the Upper Sacramento and the Illinois are not in the lower Klamath basin (also Fig. 1 caption).
- Line 94–98, Table A1: Trinity at Hoopa lies below Trinity and Lewiston dams but is listed with 1.17 Mm³ storage and an area that appears incremental; could the authors confirm how it was derived? USGS reports no regulation upstream of Trinity Center (11523200), so "heavily regulated" at L194–195 does not apply to it.
- Line 106–110: which PRISM product was used? The long-term dataset is designed for trend analysis. Adding temperature would help.
- Line 120–121: "to year-end" against "to the end of the water year" in Fig. 3F; the water year ends on 30 September, before the season ends.
- Line 123–128: Figs. 4, 5 and B1 use 1943–1976 for the Historic period.
- Line 175–177: "35 mm through 25 mm to 20 mm" does not match Table B1 (41.3, 27.8, 22.4 and 37.6, 20.9, 20.3). I suspect the Table B1 values may be inches, the unit NRCS commonly uses; please check against the source series. L114 gives 2100 m as the highest course, but DDF is at 2195 m.
- Line 183: I could not see why the Sacramento is called "higher": its mean elevation (1263 m) is below the Scott's (1321 m).
- Line 190–191: for "marginally later ($p = 0.04$)", give the shift in days and separate its size from its significance; end and post-season metrics are missing from Table 1.
- Line 262: "ten times faster": I get a factor of about 5.6 from the reported values (16.2 against 2.9 Mm³).
- Line 325: "close to 90 %" against 85 % at L209 and L263.
- Line 334–336: I am not sure a retrospective attribution can show when a shift "will occur".
- Table 1 caption: "No Intermediate–Modern comparison was significant" contradicts Fig. 2 (seven catchments); "always its lowest" does not hold for the Shasta (LSH 1890 m, SWT 1783 m).
- Fig. 4: are flows divided by each period's summer mean or by the Historic mean?
- Data availability (L337–343): I would add a code availability statement.
- References: Mote (2006) and Mote et al. (2005) lack journal details; Mote et al. (2018) article number should be 2 (listed as 4384); Williams et al. (2020) should cite the Science paper; the Coates (2005) DOI is an OECD prefix.

Minor corrections (grammar and spelling)

Line 3: '... dry season-flow decline ...' --> '... dry-season flow decline ...'

Line 6 (-7): '... in Northern California ...' --> '... in northern California and southern Oregon ...'

Line 12 (-13): '... between the two climate change periods ...' --> '... between the Intermediate and Modern periods ...'

Line 13: '... Mm3 : During late 20th century ...' --> '... Mm3. During the late 20th century ...'

Line 14: '... But under 21st century megadrought conditions ...' --> '... Under 21st-century megadrought conditions, ...'

Line 16 (-17): '... might not sufficiently sustain ...' --> '... may be insufficient to sustain ...'

Line 59: '... from days to few months ...' --> '... from days to a few months ...'

Line 60: '... *Oncorhynchus tshawytscha* ...' --> '... *Oncorhynchus tshawytscha* ...'

Line 63: '... 2026) —a measure ...' --> '... 2026), a measure ...'

Line 79: '... precipitation, vapor pressure, snow storage ...' --> '... precipitation, vapour pressure deficit, snow storage ...'

Line 111: '... (Lee and Roberti, 2018) were used ...' --> '... (Lee and Roberti, 2018), were used ...'

Line 118: '... in Shasta River ...' --> '... in the Shasta River ...'

Line 142: '... 1940-1976 era ...' --> '... 1940–1976 period ...'

Line 163: '... reached significance in none of the catchments ...' --> '... were not significant in any catchment ...'

Line 174: '... showed significant difference ...' --> '... showed a significant difference ...'

Line 184 (-185): '... no significant difference was detected in every catchment but the Shasta ...' --> '... no significant difference was detected in any catchment except the Shasta ...'

Line 185: '... Table 1) ...' --> '... Table 1) ...'

Line 199: '... record: The standardized ...' --> '... record: the standardized ...'

Line 201: '... Modern period. (Figure 4). ...' --> '... Modern periods (Fig. 4). ...'

Line 204: '... The total difference ... are much larger ...' --> '... The total differences ... are much larger ...'

Line 214: '... (Figure 5 A): The agricultural ...' --> '... (Fig. 5a): the agricultural ...'

Line 271: '... and —in the case of young coho—over-summer in Scott River’s tributaries ...' --> '... and, in the case of juvenile coho, over-summer in the tributaries of the Scott River ...'

Line 301 (-302): '... Even minor influences ... is folded ...' --> '... Even minor influences ... are folded ...'

Line 313: '... pressure, though, do not depend ...' --> '... pressure, though, does not depend ...'

Line 345: '... JP conducted the analysis wrote the first draft ...' --> '... JP conducted the analysis and wrote the first draft ...'

Line 374: '... Staffreport ...' --> '... Staff report ...'

Line 419: '... Meterological ...' --> '... Meteorological ...'

Line 465: '... P Acific N Orthwest ...' --> '... Pacific Northwest ...'