

WESTAR-WRAP Emissions and Modeling Scenarios – Display and Comparison Specifications

draft V11 – June 11, 2020 update – draft V11

highlighted text: blue – complete, green – priority to complete/deliver in June, purple – July and after

| Scenario Name | Shakeout v1 & Model Performance Evaluation v2 (2014 emissions / BCs / meteorology) | Representative Baseline (emissions inputs from 2014 through 2018, uses 2014 meteorology) | Regional Haze Planning Goals 2028 Projections (2014 meteorology) | Alternate Outcomes and Contribution Scenarios (2014 meteorology) |
|--|--|---|--|--|
| Code | A1, A2 | B | C1, C2, C3, C4 | D1, D2, D3, D4 |
| Timing | April 2019, Jan. 2020 | February | March - May | June - August |
| IWDW | Display emissions, model results, and site-level MPE results) Compares to B, C1-3 | Display emissions, model results Compare to A2, C2-3, D1-4 | Display emissions, model results Compares to A2, B, C1-3, D1-4 | Display emissions, model results Compares to B, C1-4, D4 stand-alone |
| TSS | Display emissions, model results Compares to B, C1 | Display emissions, model results Compare to A2, C2-3, D1-4 | Calculate and Display 2028 RPGs Display emissions, model results Compares to A2, B, C1-4, D1-4 | Calculate and Display 2028 RPGs Display emissions, model results Compares to A2, B, C1-4, D4 stand-alone |
| CAMx Modeling Scenarios <i>(italicized scenarios not yet in contract, or not funded or confirmed)</i> | A1) 2014v1 (no data display or distribution) | B) Representative Baseline w/RepFire ¹ , also high-level CAMx source apportionment (PSAT / APCA) & zero-out runs | C1)* 2028OTBb w/14fire ² | D1)** 2028OTBw/ RepFire_SOxNOxPSAT and ozone precursor APCA state by source sector |
| | A2) 2014v2 | | C2)* 2028OTBa w/RepFire ¹ | D2)* 2028OTB_WildfireFuture ³ |
| | | | C3)* 2028PotentialAddtlControls #1 w/ Rep Fire ⁴ | D3)* 2028OTB_RxFireFuture ⁴ |
| | | | C4)** 2028PotentialAddtlControls #2 w/ Rep Fire ³ | D4)* Dynamic Modeling results and results displays |
| | | | C5optional) 2028AsAdoptedAddtlControls w/ Rep Fire ⁵ | |
| CMAQ | A2optional) 2014v2 | | C1optional) 2028OTBb w/14fire ¹ | |

* - timing to transfer both C and D series modeling results to CIRA will be completed as expeditiously as practicable. ** C4, D1, D4 scenarios to be completed in August-Sept.

¹ 2014 International Anthro contribution adjustment option available from this modeling scenario (by difference)

² 2014 or Representative/Current Baseline Rx fire contribution adjustment option available from either of these scenarios, respectively

³ Fire paired in space and time with RepFire activity, these sensitivity scenarios give potential for wildfire and Rx fire contributions to Reasonable Progress Goals, relative to C2-4 scenarios

⁴ Will utilize inputs from 13 contiguous states in 2 scenarios (results from first model scenario run in June, second scenario run to be completed and delivered in Sept.)

⁵ Controls adopted by states in their SIPs, this scenario is likely not possible until 2021 (unfunded at present, not in Workplan)

WESTAR-WRAP Modeling results delivery schedule

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| Code | Modeling Scenario with documentation / specification sheet (<i>links to be added</i>) | Modeling Scenario & post-processing Complete / Date | Presented on RTOWG / other groups' calls / dates | Date of key results transfer to CIRA | Planned date to have displayed on TSS |
|------|---|---|--|--|---------------------------------------|
| A2 | 2014v2 | January 2020 | Jan. 22, 2020 RTOWG call ⁶ | June 2020 | June 2020 |
| B | Representative Baseline | February 2020 | Feb. 26, 2020 RTOWG call ⁷ | IMPROVE daily concentrations and extinction with SA delivered June 9 th | Aiming for June 23 rd |
| B | RepBase high level source apportionment | April 2020 | TSS display review planned on June 23 rd , also methodology / "how to use" results on June 25 th | | |
| C2 | 2028OTBb (pairs to 2014v2) uses actual 2014 fires, with projections | March 2020 | RTOWG presentation in April, in spreadsheet ⁸ , SMAT input file update required re-run | Preliminary transferred April 2020. Updated using 4_20_2 IMPROVE reference dataset, transferred June 9 th | Aiming for June 23 rd |
| C1 | 2028OTBa (pairs to RepBase) both use RepBase fires, with projections | April 2020 | RTOWG presentation in April, in spreadsheet ⁸ , SMAT input file update required re-run | | Aiming for June 23 rd |
| C1 | 2028OTBa (pairs to RepBase) high level source apportionment with projections | early July 2020 | July 2020, also methodology at June 25 workshop | July 2020 | July 2020 |
| D1 | 2028OTBa (pairs to RepBase) state by source sector apportionment (PSAT and APCA) | August 2020 | August 2020, also methodology at June 25 workshop | August 2020 | September 2020 |

⁶ https://www.wrapair2.org/pdf/WRAP_2014v2_MPE_RTOWG_2020-01-22v2.pdf

⁷ https://www.wrapair2.org/pdf/WRAP_RTOWG_ModelingUpdate_2020-02-26v2.pdf

⁸ https://www.wrapair2.org/pdf/WRAP_Prelim-Glidepath_2028_EPA-Method_NEWIMP2012-2016_2020-04-23.xlsm

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|----|---|--|---|-----------------------|----------------------------------|
| C3 | 2028OTBa Potential Addtl. Controls #1 with projections | Running, to be completed with projections ~June 20 | Ready for June 25 results workshop presentation format, also Methodology / “how to use” results | end of June 2020 | early July 2020 |
| C4 | 2028OTBa Potential Addtl. Controls #2 with projections | end of August | September 2020 | September 2020 | September 2020 |
| D2 | 2028OTBa Wildfire Sensitivity Run with projections | end of July 2020 | July 2020 | August 2020 | September 2020 |
| D3 | 2028OTBa Prescribed Fire Sensitivity Run with projections | end of July 2020 | July 2020 | August 2020 | September 2020 |
| D4 | Dynamic Modeling results (2002 backcast, RepBase, 2028OTBa) | end of July 2020 | July 2020, also methodology at June 25 workshop | August 2020 | September 2020 |
| C5 | 2028AsAdoptedAddtlControls | Not in contract | | | |
| | Final Aoi/WEP | June 15 th | Methodology / “how to use” at June 25 results workshop | June 18 th | Aiming for June 23 rd |