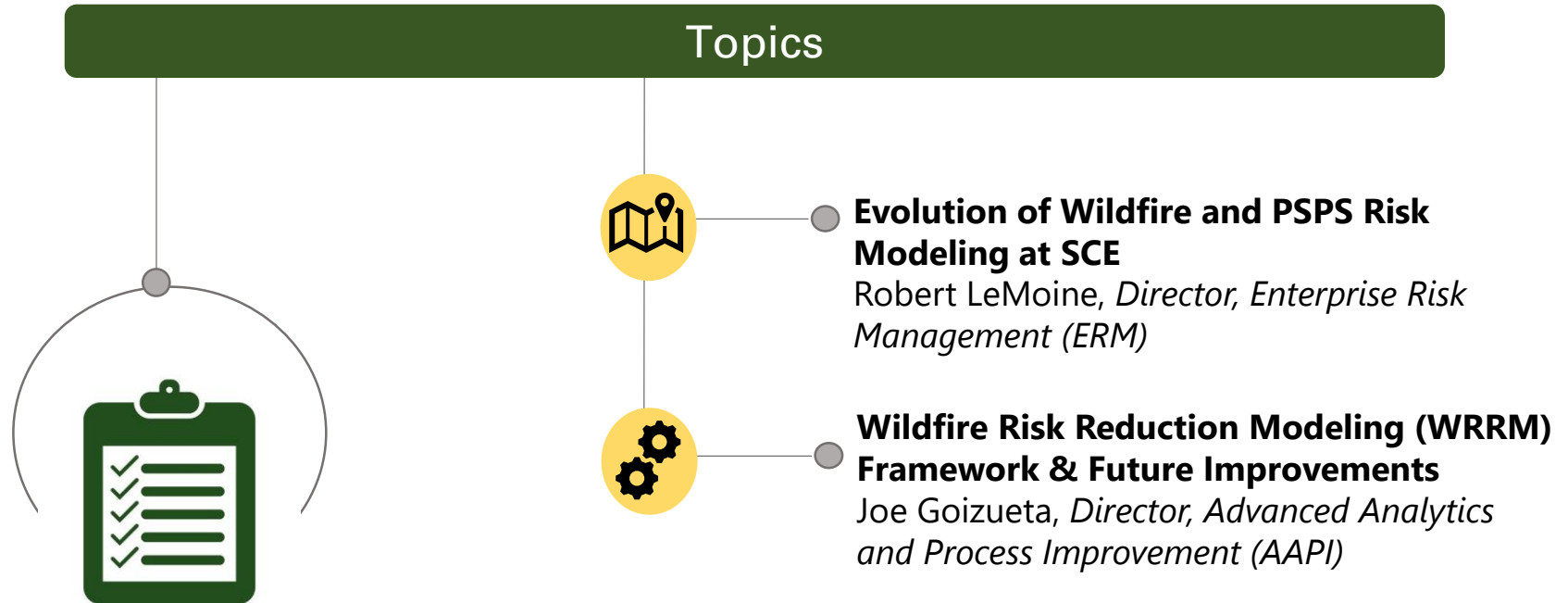


2021 WILDFIRE MITIGATION PLAN UPDATE

**Risk Assessment and Mapping &
Resource Allocation Methodology Panel**
2021 WMP Update Technical Workshop
February 22, 2021



Agenda

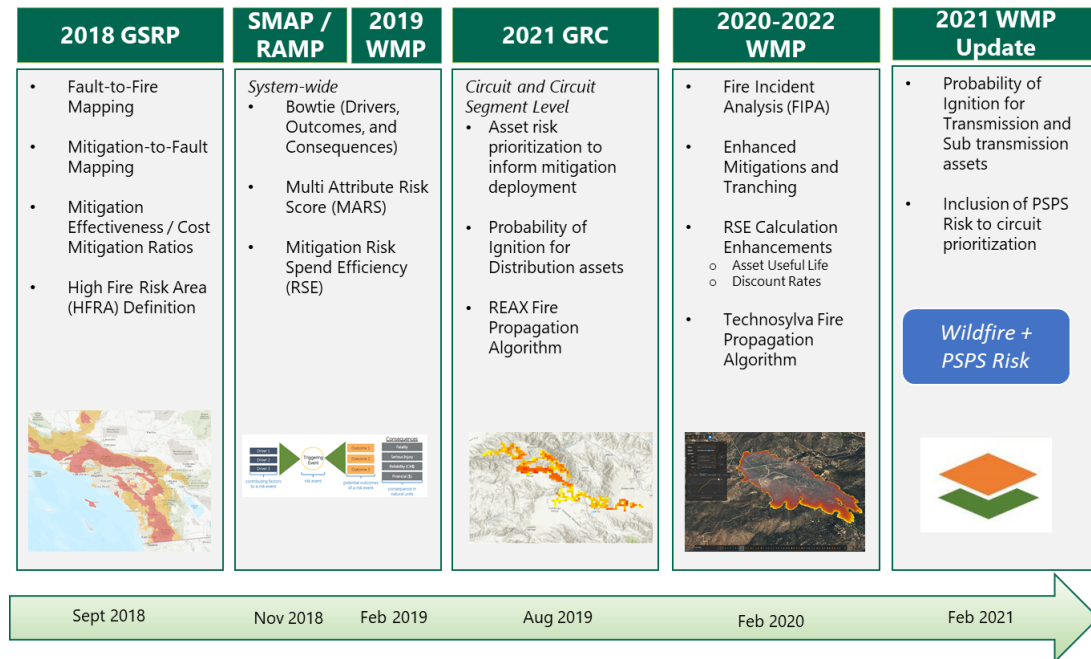


Evolution of Wildfire and PSPS Risk Modeling at SCE

SCE continues to evolve its wildfire and PSPS risk modeling capabilities

In 2020, SCE achieved several key milestones in enhancing our wildfire risk modeling capabilities, including:

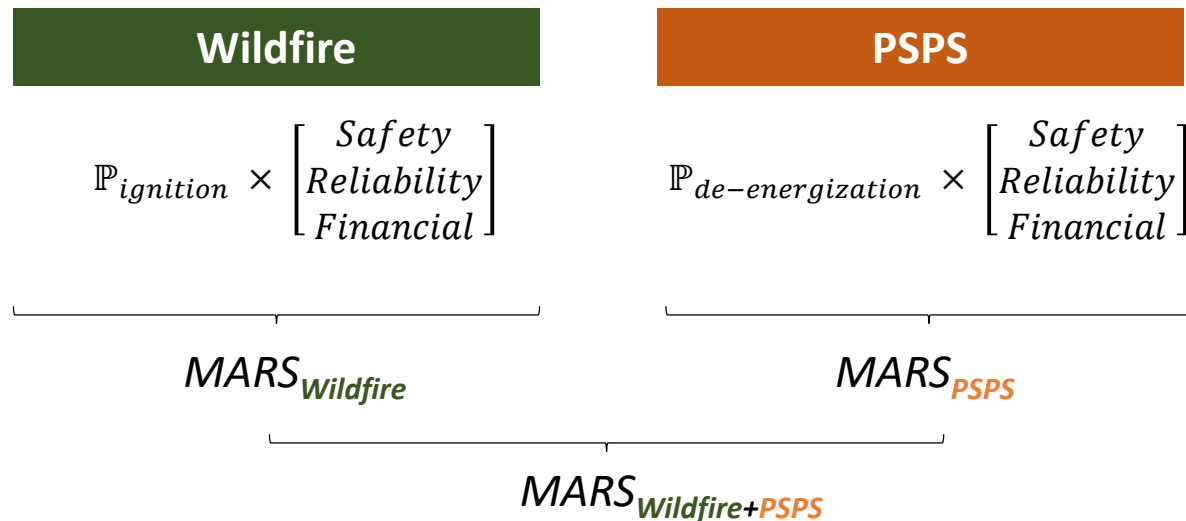
- Asset specific probability of ignition (POI) models
- A new consequence modeling tool developed by Technosylva, with advanced fire propagation modeling algorithms, and improved granularity of inputs and outputs
- An approach to estimating PSPS risk, as well as comparing it to wildfire risk



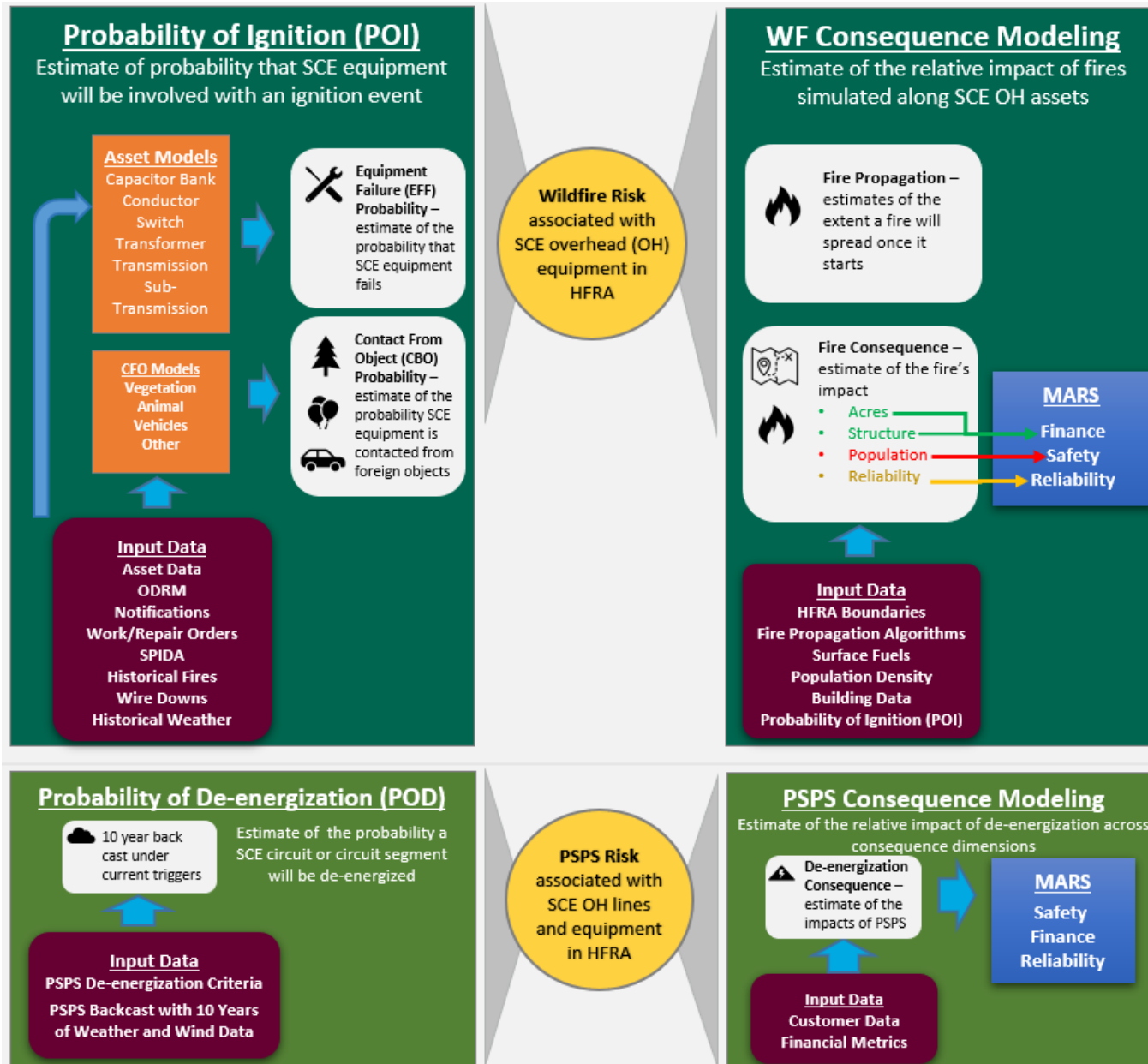
MAVF and MARS 2.0

SCE can quantify Wildfire and PSPS risk together or independently

- The CPUC Safety Model Assessment Proceeding (S-MAP) provided guidelines for developing SCE's Multi-Attribute Value Function (MAVF)
- MARS 2.0 is the output of this risk framework – converting WRRM consequences in natural units to a unitless risk score
- Mitigation benefits can be quantified either by using each risk independently or the combination of both, as in the case of covered conductor

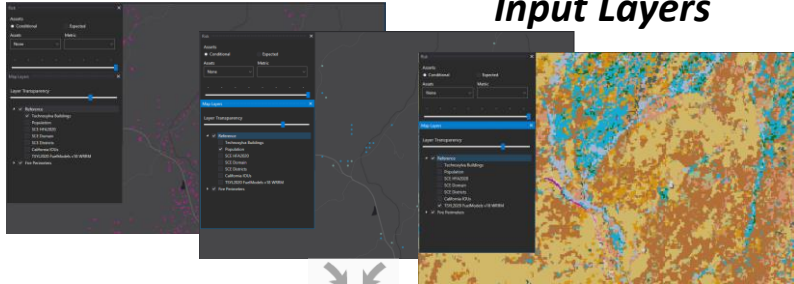


Wildfire Risk Reduction Modeling (WRRM) Framework

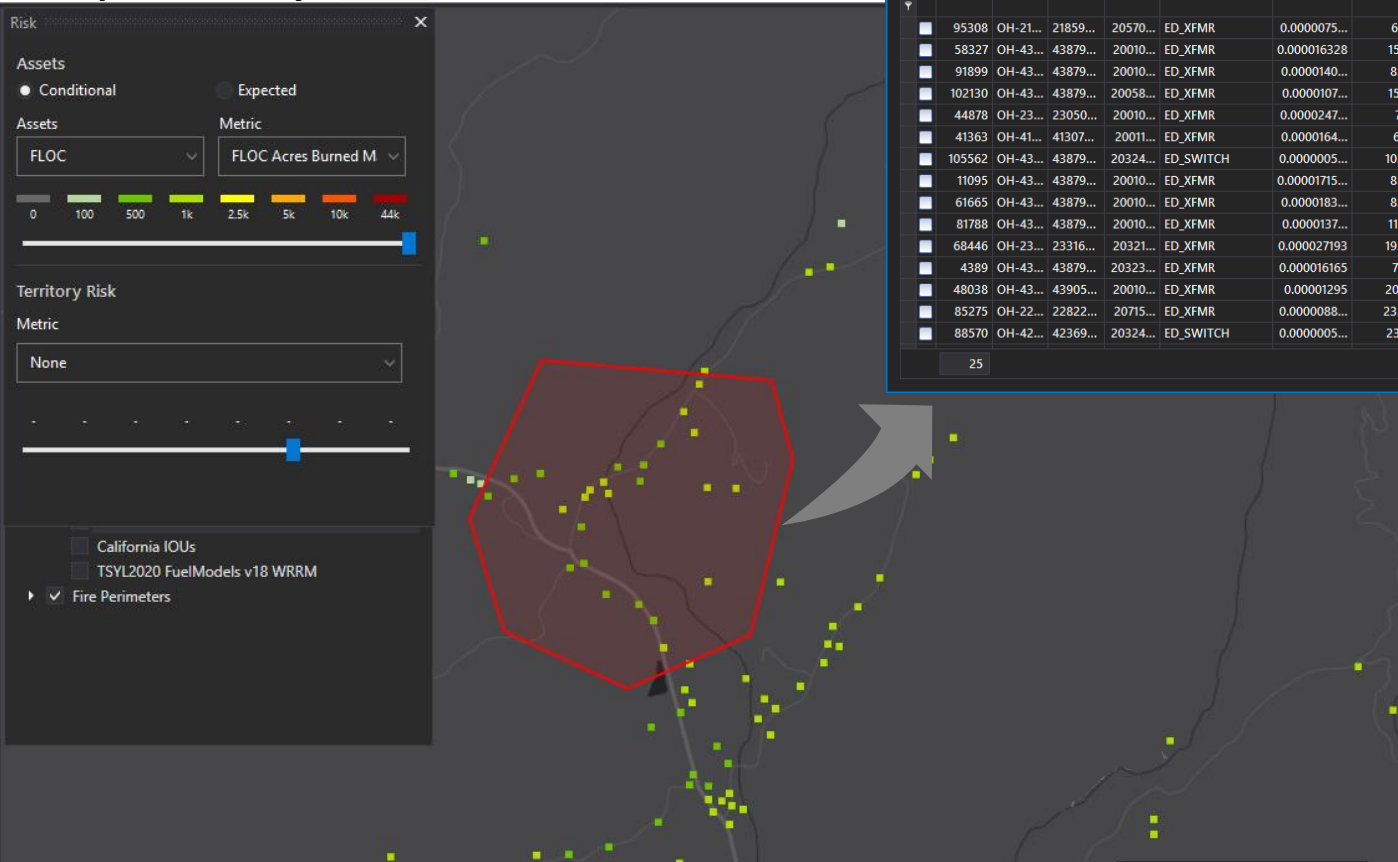


WRRM User Interface

Input Layers



Geospatial Analysis



Asset Query

Geographic Filter

Filter data grids by drawing an area on the map

Start Drawing Clear Area Export Grids

FLOC Distribution Lines Transmission Lines Distribution Poles Transmission Poles

Drag a column header here to group by that column

	Object Id	FLOC	Structure	Equip...	Equipment Type	Probability	cPopMax	cBldMax	cAcrMax	ePo...	eBl...	eAc...	eBl...	eAc...	ePo...	ePo...
▼	95308	OH-21...	21859...	20570...	ED_XFMR	0.0000075...	6.9275	10.3371	142.1986	0.0...	0.0...	0.0...	64...	0.2...	1.3...	0.0...
■	58327	OH-43...	43879...	20010...	ED_XFMR	0.000016328	15.0137	19.0429	199.0323	0.0...	0.0...	0.0...	25...	0.8...	3.9...	0.0...
■	91899	OH-43...	43879...	20010...	ED_XFMR	0.0000140...	8.2843	19.3568	340.0926	0.0...	0.0...	0.0...	22...	1.18...	5.8...	0.0...
■	102130	OH-43...	43879...	20058...	ED_XFMR	0.00000107...	15.1736	21.5818	258.2438	0.0...	0.0...	0.0...	190...	0.6...	3.4...	0.0...
■	44878	OH-23...	23050...	20010...	ED_XFMR	0.0000247...	7.1861	24.0901	568.8356	0.0...	0.0...	0.0...	48...	3.5...	17...	0.0...
■	41363	OH-41...	41307...	20011...	ED_XFMR	0.0000164...	6.4791	25.4262	593.3980	0.0...	0.0...	0.0...	34...	2.4...	11...	0.0...
■	105562	OH-43...	43879...	20324...	ED_SWITCH	0.0000005...	10.6439	26.2984	247.0948	0.0...	0.0...	0.0...	11.7...	0.0...	0.1...	0.0...
■	11095	OH-43...	43879...	20010...	ED_XFMR	0.000001715...	8.0000	27.6614	506.4785	0.0...	0.0...	0.0...	38...	2.1...	10...	0.0...
■	61665	OH-43...	43879...	20010...	ED_XFMR	0.0000183...	8.0000	28.1300	550.9646	0.0...	0.0...	0.0...	42...	2.5...	12...	0.0...
■	81788	OH-43...	43879...	20010...	ED_XFMR	0.0000137...	11.4875	28.5444	269.9057	0.0...	0.0...	0.0...	32...	0.9...	4.5...	0.0...
■	68446	OH-23...	23316...	20321...	ED_XFMR	0.000027193	19.3036	30.6465	400.5443	0.0...	0.0...	0.0...	68...	2.7...	13...	0.0...
■	4389	OH-43...	43879...	20323...	ED_XFMR	0.000016165	7.7593	30.8050	528.8972	0.0...	0.0...	0.0...	40...	2.1...	10...	0.0...
■	48038	OH-43...	43905...	20010...	ED_XFMR	0.00001295	20.2018	31.9904	384.9107	0.0...	0.0...	0.0...	33...	1.2...	6.1...	0.0...
■	85275	OH-22...	22822...	20715...	ED_XFMR	0.0000088...	23.9498	37.6986	454.5391	0.0...	0.0...	0.0...	27...	1.0...	4.9...	0.0...
■	88570	OH-42...	42369...	20324...	ED_SWITCH	0.0000005...	23.4741	38.8791	505.9497	0.0...	0.0...	0.0...	17...	0.0...	0.3...	0.0...
	25															

Asset Level Information

Future Improvements to the WRRM

SCE continues to develop its risk modeling capabilities to further inform deployment of mitigations

Prioritization of Mitigations

- Reevaluating need and prioritization criteria for one mitigation activity once another mitigation has been implemented
 - Need for expanded trims once covered conductor has been installed
 - Changes to PSPS de-energization thresholds as more system hardening is completed
 - Sequential evaluation of mitigation deployment provides optimization across multiple mitigations

Tree Removal Example

- Determining risk of each hazard tree in SCE's territory then prioritizing larger areas (i.e., region/district) with highest hazard tree risk on average
 - Approach beneficial from a pace of risk-reduction and execution efficiency perspective
 - Removing "riskiest" tree from one region and traveling to another region to remove "riskiest" tree sharply decreases pace of risk reduction and increases cost due to time elapsed between tree removals



Thank You