Climate change and wholesale agricultural changes to water-intensive perennial crops have compounded unsustainable water use in California. The Sustainable Groundwater Management Act (SGMA) aims to address this by mitigating the overdraft of groundwater. One strategy to accomplish such goals is repurposing irrigated lands in ways that minimize economic impacts and adverse effects on rural communities. While land repurposing can reduce the overall water demands, the secondary effects that removal of irrigated land induces on local climate and air quality are unknown and represent a key knowledge gap in informing local groundwater sustainability plans. These secondary effects, which include heat and air quality extremes resulting from land use change, can have substantial ramifications for the livelihood and health of the vulnerable populations of the San Joaquin Valley (SJV). We propose a science-to-action approach that will provide the best available climate science to support investments and policies that reduce future climate and health risks in the SJV. Our approach will use model experiments informed by land-use scenarios through direct engagement with end-users and address SGMA plans that ask how adaptation pathways influence community health and agricultural water demands. Consequently, we will examine how land-surface feedback due to land repurposing influences air quality extremes, heat stress, and water demand for agriculture, as well as how secondary effects influence both human exposure and pregnancy outcomes in SJV. Our proposed work directly aligns with the several priorities and goals of the 2021 California Climate Adaptation Strategy, including (1) "strengthen protections for climate vulnerable communities", (2) "bolster public health and safety to protect against increasing climate risks", and (3) "make decisions based on the best available climate science". In addition, actionable outcomes from our proposed work will provide insights for decision-makers to prioritize and develop effective adaptation strategies for SGMA by incorporating the secondary effects of land repurposing in the most vulnerable communities. Our project will also help raise awareness and educate people on the importance of land repurposing and its impact on the environment and provide opportunities for capacity building through training and skills development. Our focus on the secondary influences of land repurposing on health impacts aims to empower the voices of vulnerable low-income communities that have been left out of SGMA decision-making.