

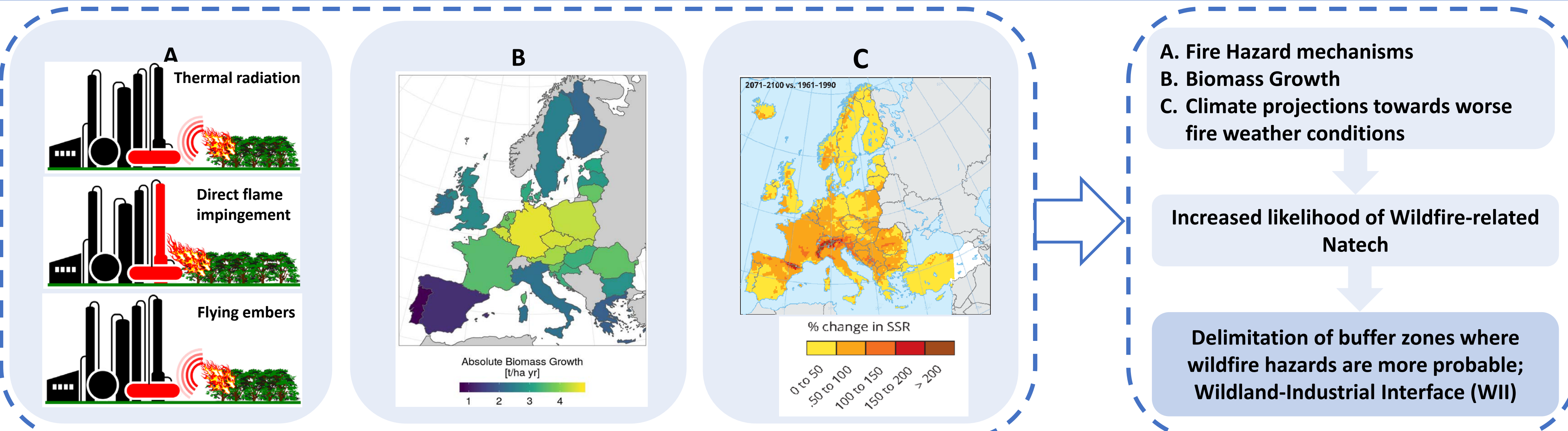
# Risk Mitigation of Wildfire-Driven NaTech Events with Optimally Localized Wireless Sensor Networks in the Wildland-Industrial Interface (WII)



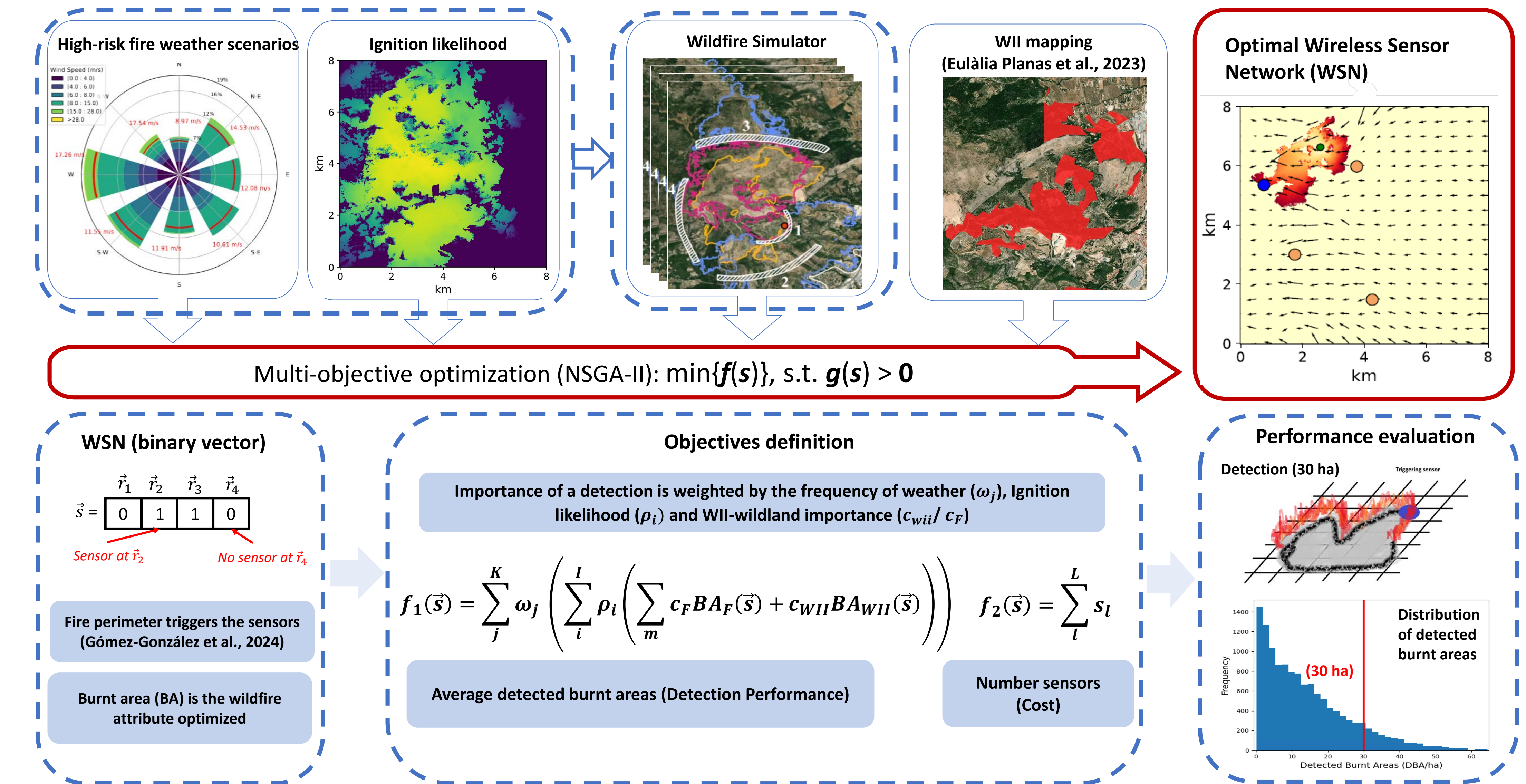
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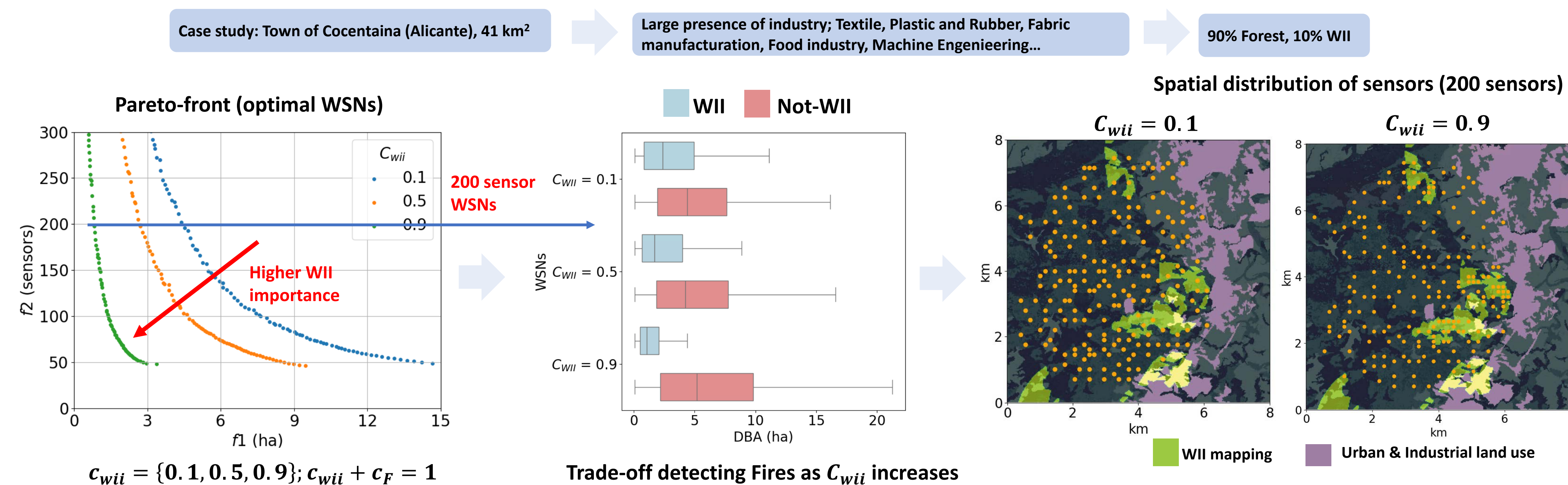
## Wildfire threat to Industry



## Methodology for a simulation-driven optimization of sensor locations in WSNs



## Results



References  
 (Gómez-González et al., 2024) "Leveraging national forestry data repositories to advocate wildfire modeling towards simulation-driven risk assessment", <https://doi.org/10.1016/j.ecolind.2023.111306>.  
 (Eulàlia Planas et al., 2023) "Fires at the wildland-industrial interface. Is there an emerging problem?", <https://doi.org/10.1016/j.firesaf.2023.103906>.

**Conclusions**

- Optimization framework that includes the best wildfire dynamics information available.
- The methodology allows for a trade-off analysis to support decision-making across different priority areas. E.g. for the same costs and high WII protection ( $c_{wii} = 0.9$ ) compared to no protection ( $c_{wii} = 0.5$ ), the size of 75% fires is reduced by half, while the size of fires in the forest only experience a 1/4 increase in size.