

Fire risk assessment for prevention improvement in the Chernobyl exclusion zone

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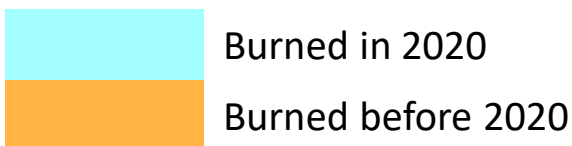
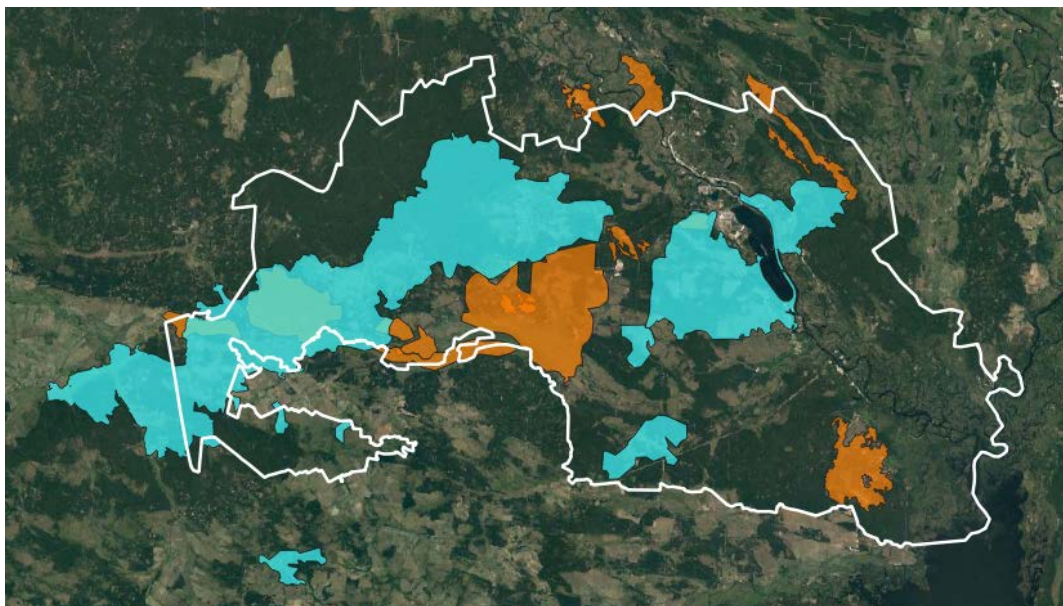
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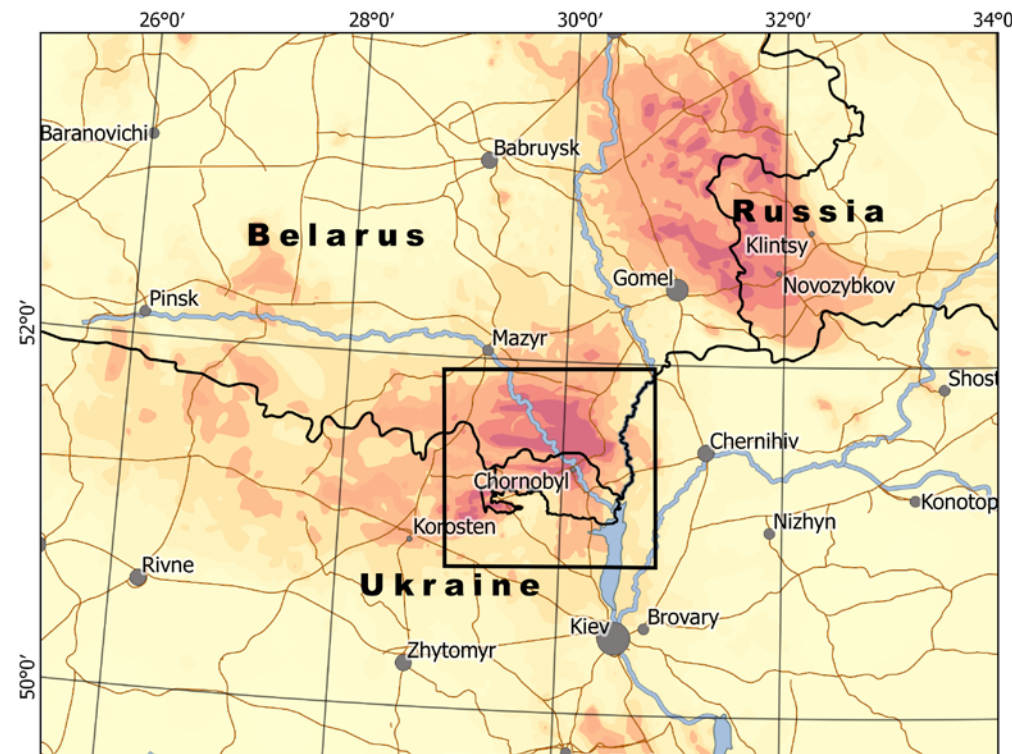
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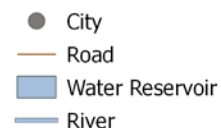
The wildfires issues on the Chornobyl Exclusion Zone (CEZ)



Total area of the CEZ: 2,600 km²
Burned in 2015 and 2020: ~820 km²

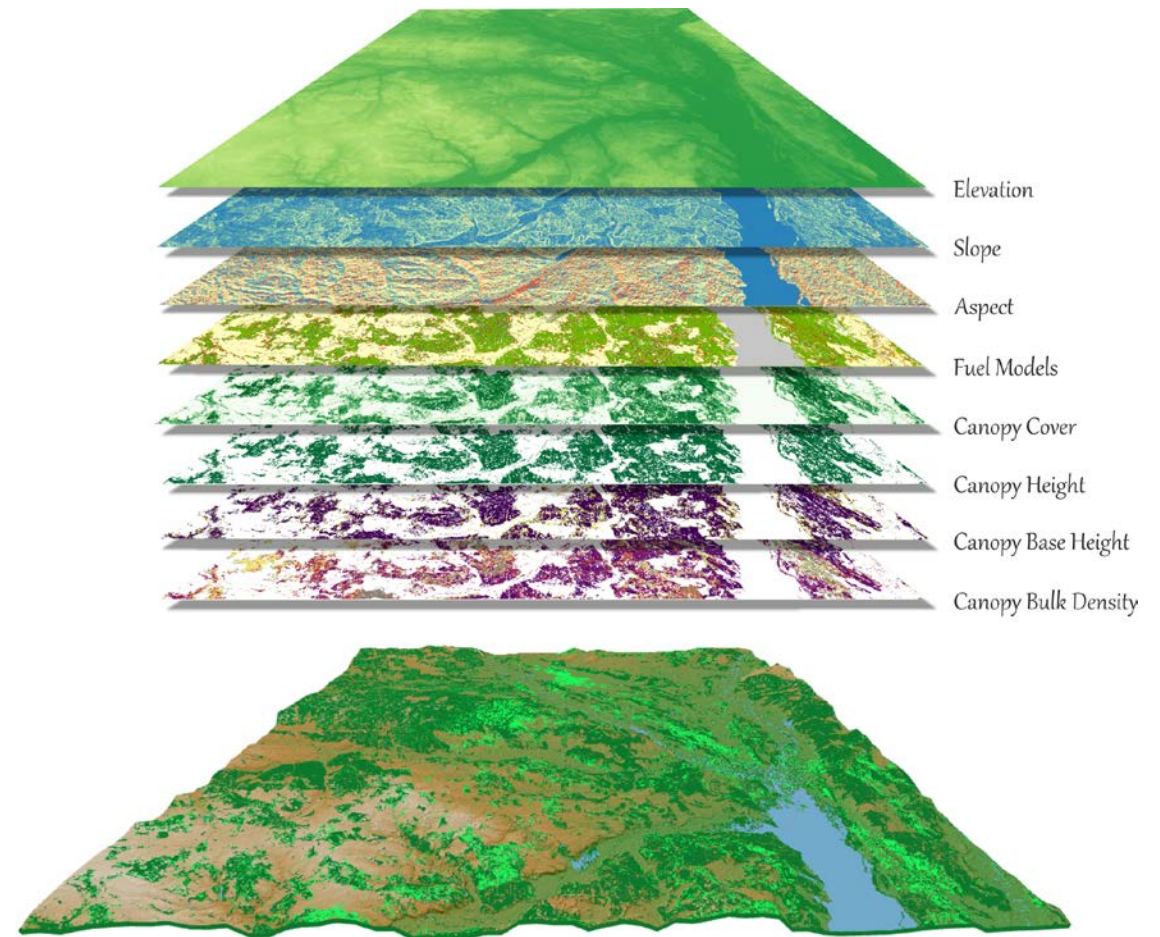


Cesium-137 deposition levels



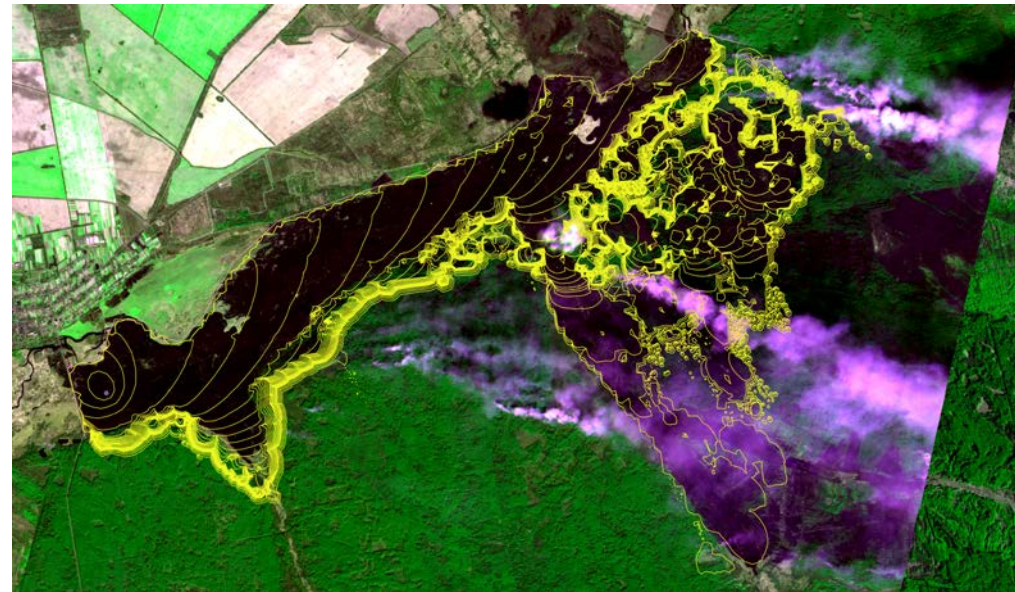
Fire behavior modeling to support wildfire management

- Fuel type data
 - Landsat Time Series classification
- Canopy fuels
 - GEDI & Landsat data modeling
- Weather
 - Historical records and forecast
- Ignitions
 - Official records augmented with MODIS and VIIRS hotspots



Calibration of the fire behavior models using historical fire perimeters

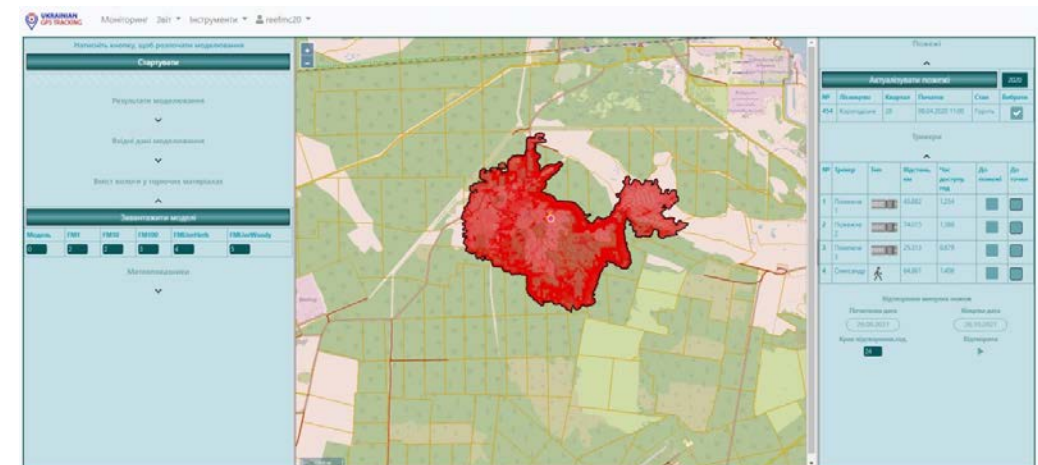
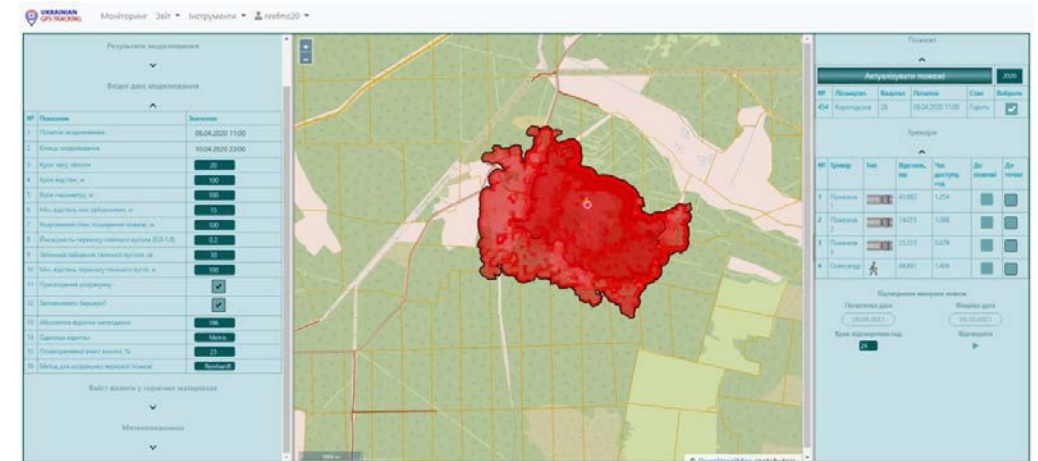
- The perimeters of large wildfires as a reference
- Historical weather records in 3-hr time lag
- The fire area simulation using FARSITE



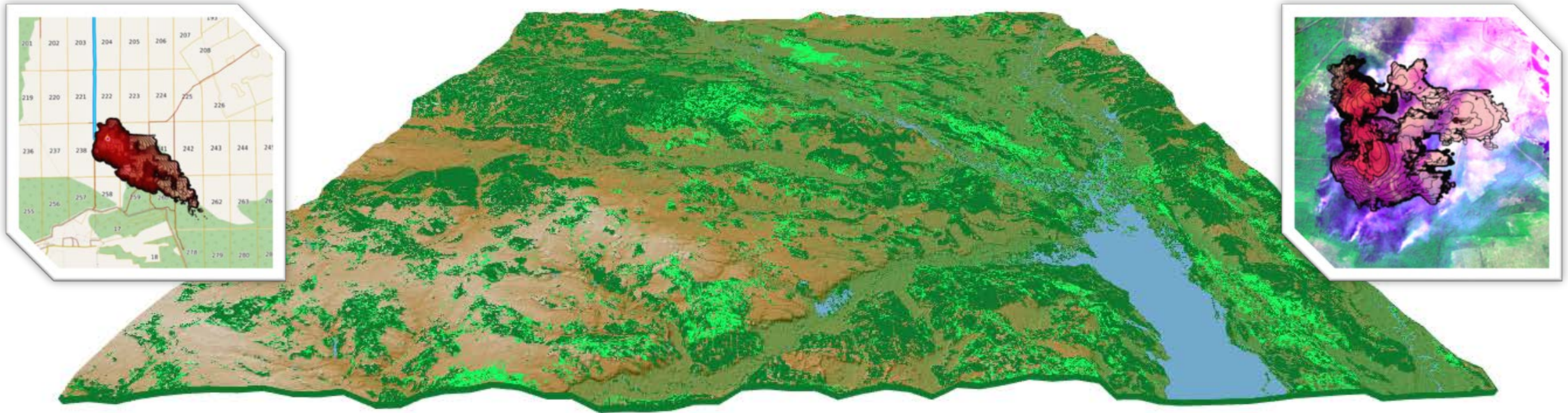
The Figure shows a simulated 3-hourly fire progression (yellow lines) overlaid over satellite imagery (Planet Team; April 4, 2020)

Web-based tools for wildfire monitoring

- Web-based application of the fire simulation
- Integration of the global fire data sets (ignitions, burned areas)
- Automatic updating weather data
- GUI for testing various fire behavior scenarios



Thank you for your attention!



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