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SITUATION IN UKRAINE How the war in Ukraine has affected the radioecology field of research

Rodolphe Gilbin

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SITUATION IN UKRAINE

How the war in Ukraine has affected the radioecology field of research



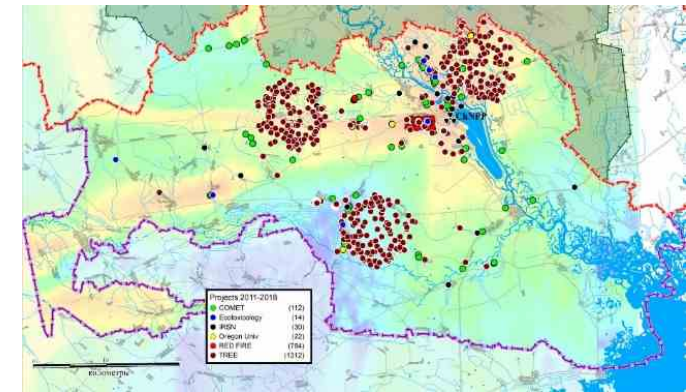
Chernobyl: a major Observatory Site for Radioecology Research

Key Advances Before the War

- Insights into radionuclide behavior in soils and ecosystems (hot particles, groundwater, biota...)
- Testing remediation techniques and risk mitigation strategies for food chains
- Improved radiological risk assessment models

Remaining Challenges

- Uncertainty about long-term radiation effects on biota
 - Gaps in understanding wildlife susceptibility and ecological significance
 - Difficulty linking effects directly to radiation exposure
- undermined confidence in setting safe radiation thresholds for non-human biota



Key Impacts of the War in Ukraine

- **Military Occupation and Control:** disrupting operations, safety concerns
- **Infrastructure Damage:** Monitoring systems and infrastructures
- **Humanitarian Concerns:** workers under extreme physical and psychological stress

→ Research Disruption

- **Laboratories damaged,** including critical equipment used for studying radiation in the CEZ
- **Access to CEZ restricted,** limiting new data collection and compromising long-term experiments
- **Delayed or Cancelled Projects**



How the war in Ukraine has affected the radioecology research

- Radionuclide redistribution due to War activities, Explosions, Intensified forest fires (secondary contamination)
- Invalidation of past Environmental Risk Assessments (increased radiation levels, worsened air pollution...)
- Ecosystem Changes due to military activities, complicating scientific data interpretation
- ➔ Shift in Research Priorities: Focus on Military-Driven Radiological Risks, Gaps in emergency response and environmental monitoring capabilities...
- ➔ Long-Term Scientific Impacts for Radioecology Research:
 - Loss of Unique Research Opportunities: CEZ was a rare natural laboratory for studying long-term radiation exposure.
 - Data Gaps: Interruption of long-term studies in the CEZ (limits the understanding of chronic low-dose radiation effects on ecosystems)
 - Delayed Progress on the ALLIANCE SRA Goals (ecological risk assessment, ecosystem recovery, harmonization of European radioecological research)





How the war in Ukraine has affected the radioecology field of research

It has disrupted the radioecology field at multiple levels, from site-specific research in the CEZ to broader international collaborations and strategic priorities.

It underscores the need for adaptive strategies, enhanced funding, and international support to mitigate the war's impact and ensure the continuation of essential research in radioecology.