

ICE JAMS

PREVENTION AND CONTROL

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Effective prevention and control can help manage one of the most complex winter hydrological hazards: ice jams. Through continuous monitoring, timely forecasting, and the use of engineering, technological, and informational measures, the damage caused by ice jams can be significantly reduced.

WHAT PREVENTIVE MEASURES CAN BE USED?

Preventive measures

Forecasting, monitoring, and preparedness before ice jams form

1

Emergency measures

Rapid response to ice jam formation or flooding

2

Long-term measures

Long-term infrastructure and planning solutions

3

1 PREVENTIVE MEASURES

- Modelling and development of flood hazard and flood risk maps; forecasting;
- Visual monitoring (drones, cameras, trained observers recording ice conditions);
- Field measurements of ice and snow;
- Ice weakening: spreading materials (ash, soil, salt), breaking, cutting, or perforating ice;
- Public warning systems, municipal preparedness plans, and community information and education.





2 EMERGENCY MEASURES

- Mechanical ice removal (excavation), temporary embankments or barriers, use of sandbags;
- Water management (control of water releases from dams and reservoirs);
- Ice blasting, used only in critical situations when ice has already stopped and there is a high flood risk;
- Evacuation: coordinated relocation of residents to safe areas;
- Strategic non-intervention, applied when an ice jam poses little danger or is located in an area that is physically difficult to access.





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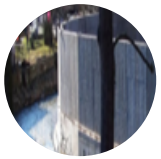
3 LONG-TERM MEASURES

- River channel widening and deepening, removal of obstacles (trees, sediment, etc.);
- Ice control structures, piles, permanent embankments, sills, and protective walls;
- Improvement and maintenance of bridges, culverts, dams, and other structures to improve ice passage;
- Strategic land-use planning based on hazard and risk zones to prevent development in flood-prone areas.







RECOMMENDATIONS

- Follow weather and hydrological information provided by the Lithuanian Hydrometeorological Service;
- Monitor water levels if you live near a water body, especially near bridges or river sections where ice jams often form;
- Report sudden rises in water level or observed ice jams to responsible authorities;
- Do not walk on ice or approach ice jams, as ice is unstable and dangerous;
- Do not attempt to break, weaken, or remove ice yourself, as this can trigger sudden water level rise and flooding;
- Prepare for possible flooding;
- Do not ignore warnings or evacuation instructions.