Lithuanian Hydrometeorological Service

Analysis of Ice-Jam Flood Observations in the Recent Years in Lithuania

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Map of Significant Ice-Jams Leading to Flood Events

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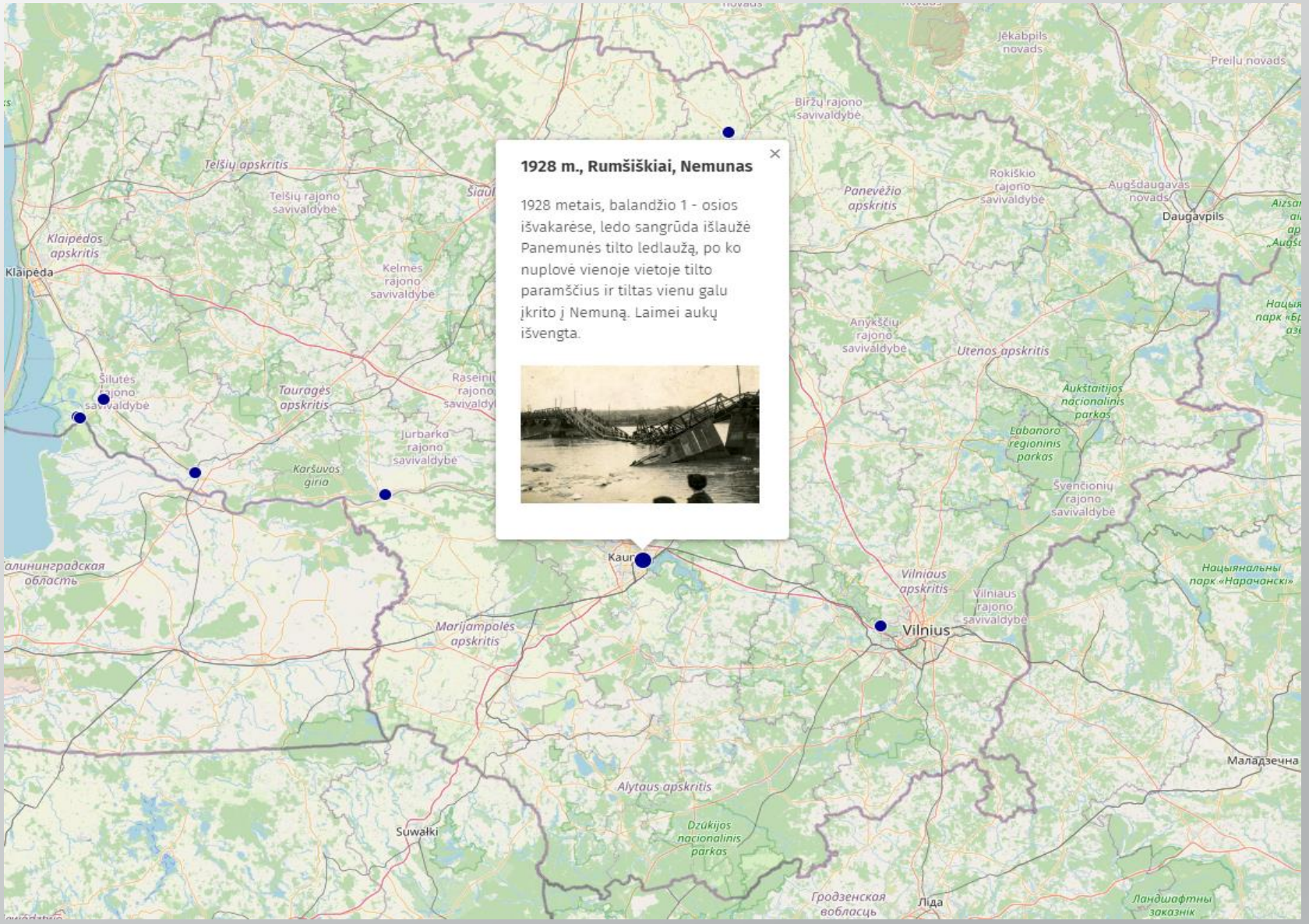

Every ice-jam results in a different flood, each with its own story and distinct damage

Flood in Kaunas (Panemunė), 1928

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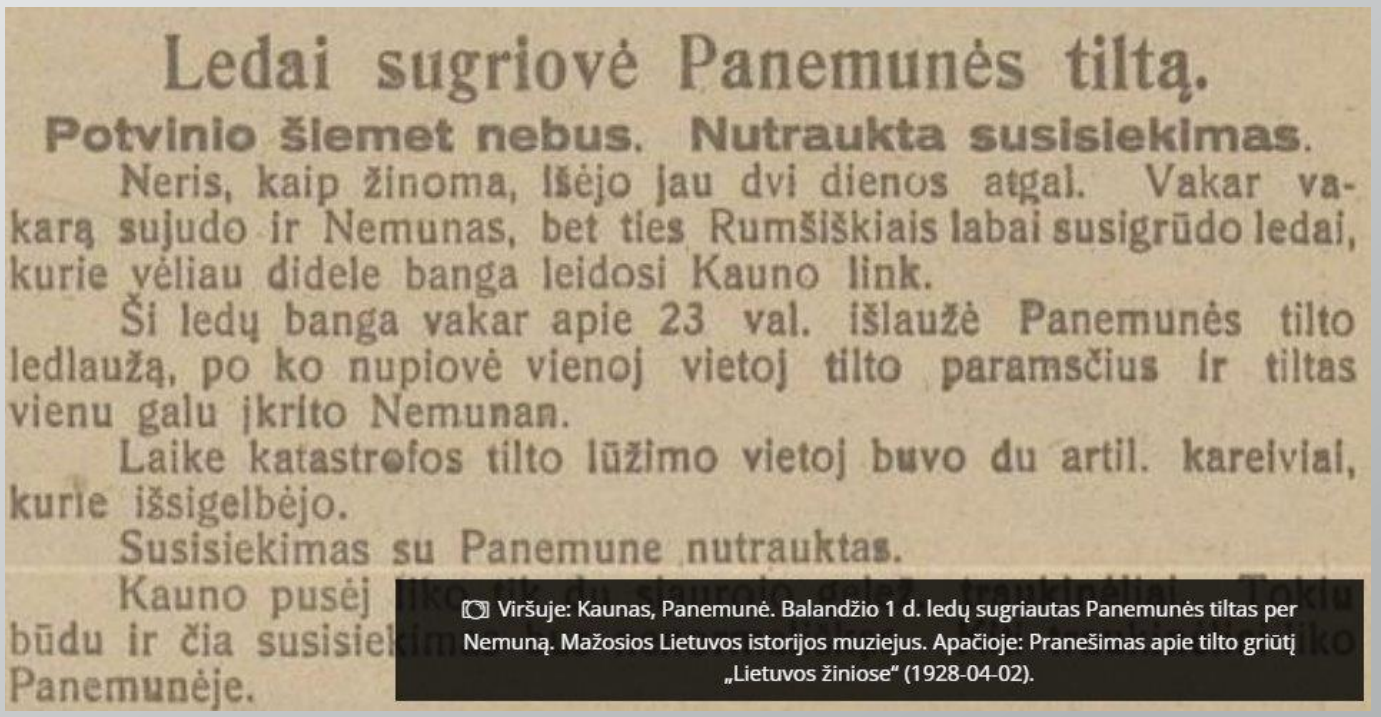

Ledai sugriovė Panemunės tiltą.

Potvinio šiemet nebus. Nutraukta susisiekimas.

Neris, kaip žinoma, išėjo jau dvi dienos atgal. Vakar vakarą sujudo ir Nemunas, bet ties Rumšiškiais labai susigrūdo ledai, kurie vėliau didele banga leidosi Kauno link.

Ši ledų banga vakar apie 23 val. išlaužė Panemunės tilto ledlaužą, po ko nupiovė vienoj vietoj tilto paramsčius ir tiltas vienu galu įkrito Nemunan.

Laike katastrofos tilto lūžimo vietoj buvo du artil. kareiviai, kurie išsigelbėjo.

Susisiekimas su Panemune nutrauktas.

Kauno pusėj
būdu ir čia susisiek
Panemunėje.

Viršuje: Kaunas, Panemunė. Balandžio 1 d. ledų sugriautas Panemunės tiltas per Nemuną. Mažosios Lietuvos istorijos muziejus. Apačioje: Pranešimas apie tilto griūtį „Lietuvos žiniose“ (1928-04-02).

Photo by the Historical Museum of Little Lithuania.

The Panemunė Bridge in Kaunas is one of the few bridges where people managed to escape after it collapsed...
On the evening of April 1, 1928, an ice jam knocked down one of the piers of a newly built (still not fully completed) bridge, but fortunately, no one was injured.

"The Neris, as is known, broke up two days ago. Last night, the Nemunas also began to move, but the ice became heavily jammed near Rumšiškės. Later, the ice broke free and surged in a large wave toward Kaunas. Around 11 p.m. yesterday, this wave of ice broke through the icebreaker of the Panemunė bridge, after which it swept away some of the bridge's supports in one section, causing one end of the bridge to collapse into the Nemunas River."

The Great Kaunas Flood of 1946

Lithuanian Hydrometeorological Service

Photo by Lithuanian Literature and Art Archive

- "In 1946, there was an exceptionally cold winter. Around the end of February - beginning of March, a thaw occurred and the Nemunas River moved and began to carry ice. However, suddenly frost set in and the ice stopped at Vilkija. The ice pile here was about 4 km long, and the ice width was about 5 m thick."
- After the flood, the press and advertisements warned that Kaunas residents should not use unboiled water, fearing a humanitarian crisis, which later came to Kaunas. In April, all residents of Kaunas aged 10-45 were to be vaccinated against dysentery and typhoid.

On the late evening of March 23, 1946, the residents of Kaunas noticed that water levels began rising in many parts of the city.

Ice started moving from the Neris River. Early on the morning of March 24, the ice jammed at the confluence of the Nemunas and Neris rivers, and having nowhere to flow, the Neris turned towards Vilijampolė, quickly flooding residents' homes.

On the morning of March 25, the water level at the Kaunas Old Town water measurement station reached the highest in recorded history – as much as 8.57 meters.

Two-thirds of the then Kaunas city and its suburbs were flooded. In many places, only the roofs were visible from the water. People rushed to save themselves by climbing to the second floors of houses, while those living in lower cottages climbed onto roofs. Tragic accidents were unavoidable: the strong current of the swollen river with ice carried away some homesteads along with residents, livestock, and other property.

The situation was dire: many people lost their possessions and fled their homes in just shirts, despite the cold. Eventually, the townspeople faced shortages of food and clean drinking water. This flood contributed to the view that to prevent similar disasters in the future, a hydroelectric power plant must be built upstream of Kaunas. This was realized in 1959.

The Great Kaunas Flood of 1946

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https://kaunas.kasvyksta.lt/2023/06/05/miestas/didysis-kauno-potvynis-1946-aisiais-senamiescio-matavimo-stotyje-vandens-lygis-virsijo-85-m-nese-trobas-gyvulius-gelbejosi-net-voniomis/

Ice-jam floods in Northern part of Lithuania

Lėvuo river, 2010 (and 2018)

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At the beginning of the 21st century, significant floods due to ice jams in the upper reaches of the Lėvuo River occurred in 2010 and 2018.

In the year 2010 there was a significant flood in Lėvuo. There was a large ice-jam near Piniava village. On 23 March, the water level was rising up 126 cm above critical level and reached 46,67 m a.s.l. (perennial highest water level 46,73 m a.s.l.).

Community gardens and roads were flooded. Houses in Tičkūnai and Šeškai villages were also flooded, several families were evacuated, electricity was turned off in 7 community gardens, and the "Kemira GrowHow" seed factory was flooded. The water broke through the embankment at Pakuodžiupiai village, flooded the fields from Bernatoniai village towards the Pušalotas town and started to flood Skaistgiriai villages.

The water was slowly receding from the flooded areas of Lėvuo. On 3 April, part of the community gardens of Tičkūnai village were still flooded, even though the water level at Bernatoniai was already only 118 cm.

Flood in Panevėžys, photo of Andrius Repšys.

In the spring of 2018, due to ice jam, the maximum water level in Lėvuo near Bernatoniai reached 46.38 m a.s.l. (97 cm above critical level). Ice-jam flood in 2018 did not cause significant damage.

Ice-jam floods in Northern part of Lithuania
Musa river, 2010

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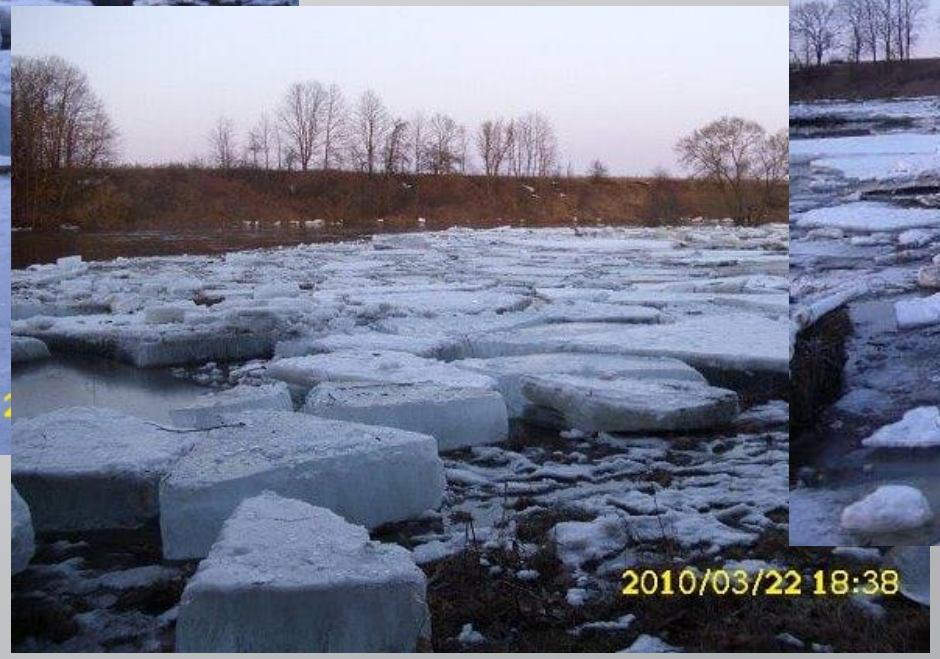
At the beginning of the 21st century, significant floods due to ice jams in the upper reaches of the Musa River occurred in 2010 and 2013.

In the spring of 2010, due to ice jams, the maximum water level in Musa near Ustukiai reached 30.25 m a.s.l. (90 cm above critical level).

Ice-jam flood in 2010 caused some damage, flooding of floodplains at a river stretch.



Mūša-Ledonešis-Narteikiai. Jono Vitkausko nuotr.

Ice-jam floods in Northern part of Lithuania
Musa river, 2013

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In April 2013, ice jams caused extensive flooding in Musa River.

At Ustukiai water level reached 30.51 m a.s.l. (125 cm above critical level).

Ice-jam flood in 2013 cause a lot of damage in Pasvalys town, where houses, warehouses, summerhouses, greenhouses were flooded. The water layer up to 0.5-1 m deep covered Žemdirbių and Bokšto streets in the community garden "Vyturys". However, residents refused to evacuate.

Flooded community garden "Vyturys", April, 2013

The Tendency of Ice Phenomena in the Mūša River in Ustukiai, 1990 - 2020

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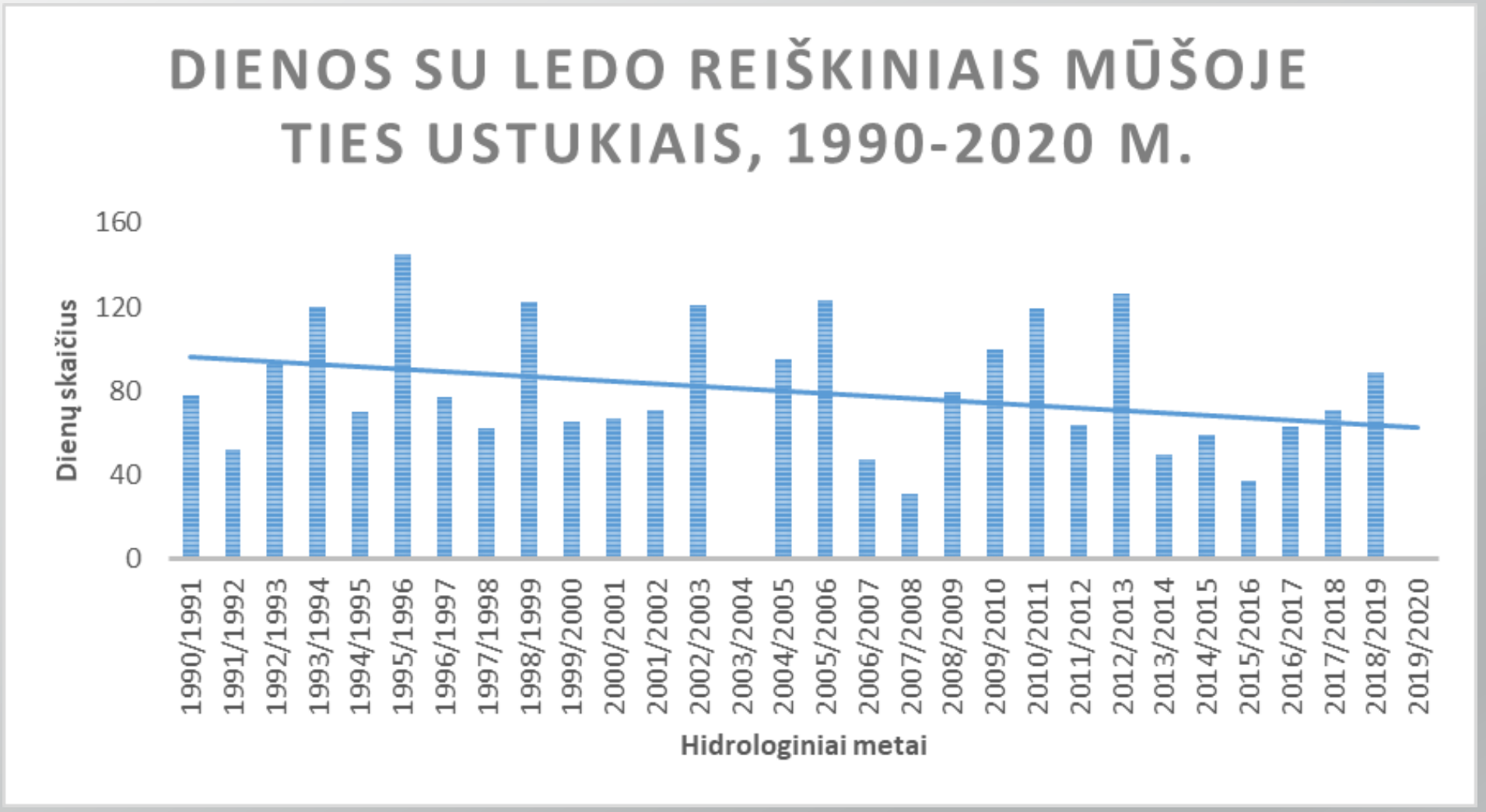

The Tendency of Ice Phenomena in the Lėvuo River in Bernatoniai, 1990 - 2020

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Thank you

Lithuanian Hydrometeorological Service (LHMS)
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