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WATER ISSUES

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PHOTOG DONALD GIANNATTI

WATER AND FASHION. ABOUT DIFFICULT CHOICES AND EASY DECISIONS

THE FUTURE OF EU AGRICULTURE – STRATEGIC STAKEHOLDER DIALOGUE

SAND DAMS COLLECT WATER AND SAVE THE LIVES OF THOUSANDS OF PEOPLE

ALIEN SPECIES, INVASIVE SPECIES: CHANGING PARADIGMS IN THE FACE OF CLIMATE CHANGE?

REGIOSTARS 2024 - WHO WILL WIN THE AWARD THIS YEAR?

Posted on 29 February 2024 by Magdalena Skrzypek

The next edition of the REGIOSTARS program for projects implemented with the support of European funds is being launched. What are the criteria for the competition? In which categories will the jury award prizes?

Categories: Onet, Issue 4/2024, News
Tags: award, EU, KE, REGIOSTARS

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What is REGIOSTARS?

REGIOSTARS is a program for people who have created an EU-funded project focused on showcasing cohesion policy and the impact of regional development. All initiatives will be evaluated by academic experts specializing in specific fields:

- A competitive and smart Europe;
- Green Europe (A green Europe);
- A Connected Europe (A Connected Europe);
- A social and inclusive Europe;
- A Europe Closer to the Citizens.

The REGIOSTARS competition also includes a People's Choice Award. The winner of each of the five categories will be honored with the opportunity to conduct, together with the Directorate General for Regional and Urban Policy, a communication campaign. Applications can be submitted until May 31, 2024, and the awards will be presented on October 9 this year in Brussels.

Presentation of categories

The first edition of the program was organized in 2008. By DG REGIO. It is a European brand of excellence for projects implemented with the support of European funds intended to increase the impact of regional development. The goal of the competition is to inspire other European areas to increase the importance of regional policy. In 2024. Participants can submit five projects, each of which must address one of the following points:

- Promoting economic competitiveness and resilience;
- Ecological transformation as a development factor for the region;
- Improving mobility and integration between regions;
- Achieving European cohesion by leveraging regional potential;
- Promoting sustainable development of all types of territories.

The winners of each category will be announced during the European Week of Regions and Cities in Brussels at the REGIOSTARS ceremony.

How to apply?

Any person who wants to submit a project should apply on the REGIOSTARS platform. The Commission will consider initiatives co-funded by the European Regional Development Fund, the European Social Fund, the Cohesion Fund or the Fair Transition Fund, in addition to Interreg programs that began after January 1, 2014. and have already been completed. The application should include a brief description of the prepared project, taking into account its main objectives and positive impact on EU regional policy. If the program is recognized by an expert jury, then the description will increase the chance of winning the Public Choice Award. The application should also provide a thorough analysis of the project, including all information necessary for expert evaluation.

Applying for the competition

Candidates who wish to participate in the program should submit an application along with a confirmation letter (signed by the head of the managing institution) via the REGIOSTARS website. The application may be prepared in Polish. It is worth remembering that each participant is entitled to submit five projects. Each of them should be completed, that is, carried out in accordance with a predetermined action plan, subsidized and closed by the managing authority. The committee considers all submitted projects, with each project having to be submitted in a different field. In the submitted form, all positive effects of the implemented project should be included, and it should be shown that without it, beneficial changes would not have been possible.

Jubilee REGIOSTARS in 2022.

In 2022. The 15th anniversary event was held. edition of the competition, so the organizers decided to select a dozen of the best projects prepared by the finalists and winners of the previous competition. A short film was made about each of them. The commission decided to honor two Polish submissions. The first was on the revitalization of the Lower Town in Gdansk. 2016 draft. allowed investment in infrastructure and strengthening of social ties. Another winning plan included a cutting-edge partnership that makes community services more accessible through a peer-to-peer mobile app for people at risk of either poverty or exclusion.

REGIOSTARS is an extremely important competition to increase the impact and universality of regional development. Will Polish projects be recognized by the expert panel in this edition as well? We encourage you to apply on the REGIOSTARS website.

THE BLUE CRAB – WILL ECUADORIANS MANAGE TO SAVE IT?

Posted on 29 February 2024 by Alicja Bar

The blue crab is a representative of a species that was once common in the lush mangrove (mangrove) forests along the Esmeraldas coast in Ecuador, but is now threatened with extinction. Will it be possible to save the crustaceans, which are an important part of the local ecosystem, economy and culture?

Categories: Issue 4/2024, News, Onet

Tags: blue crab, crab, Ecuador

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Esmeraldas coast shelters blue crab

The Esmeraldas coast is located in the northwestern part of Ecuador, near the border with Colombia. The mangroves found in the area provide shelter for many species of plants and animals, including blue crabs, which are not only a source of food but also part of the local culture. Cardisoma crassum, with its distinctive blue shell, orange belly, red legs and white pincer, usually feeds on mangrove leaves and locally occurring vegetation. This species, which has a terrestrial lifestyle, prefers water margins and muddy tree roots in which it digs burrows, while it spawns in estuaries and oceans.

As it turns out, the activities of local communities, which have been carried out very intensively in recent years, have become destructive to the population of these animals. Deforestation and indiscriminate shrimp farming have led to the destruction of 25 to 90 percent. Ecuador's mangrove forests by province. Also, pollution from the intensive shrimp industry, such as fertilizers and antibiotics, threatens delicate mangrove ecosystems, the health and well-being of local communities, and the habitat and reproductive processes of blue crabs. These activities have proven so destructive that the species is now considered endangered, with a noticeable population decline since the 1980s. In the 1970s.

If the mangroves disappear, so will the blue crab

The community of Esmeraldas province has recognized the problem and is trying to counter it. Luna Creciente and the Union of Peasant Organizations of Esmeraldas (UOCE) have taken steps to protect blue crabs, including education on the importance of observing seasonal fishing bans. The bans, which are imposed twice a year, are designed to protect the blue crab population during key periods of their life cycle, such as courtship and moulting times.

The first ban on trapping blue crabs is in effect from January to February, when the animals are preparing for courtship and mating. The second takes place between August and September, which is when the crabs grow and shed their too-small armor (moulting). What's more, the local community knows that it can't fish for female crabs and individuals with carapace lengths of less than 19.05 cm, and follows these guidelines very closely.

In addition to protecting blue crabs, measures are being taken to take care of the mangrove forests. As it turns out, in the northern part of Esmeraldas province, where the mangrove ecosystem is in better condition than in the south, restoration work has already been undertaken. In cooperation with 66 local communities, plants are being planted in areas destroyed by shrimp farms. Their goal is to reforest 400 hectares of land and protect 15,000. hectares of mangroves, which will give blue crabs conditions that increase their chances of survival.

Ecuador's mangrove forests have also become a site for research. Researchers from Universidad Espíritu Santo, Stanford University, the Scripps Institution of Oceanography and the Environmental Defense Fund have looked at changes in carbon dioxide and methane storage in revitalized mangroves. They monitor carbon and methane levels before and after restoration to assess the impact of ecosystem restoration on its ability to absorb greenhouse gases. The research also includes analysis of water quality and biodiversity.This holistic approach will allow a better understanding of how mangroves respond to environmental changes and assess the overall health of the restored ecosystem.

Blue crab is a symbol of culinary culture

The people of Esmeraldas province promote blue crabs as a symbol of their unique culinary culture. In 2018. The aforementioned Luna Creciente and UOCE organizations have petitioned for the recognition of blue crabs by the global organization Slow Food International, which seeks to prevent the disappearance of local cultures and culinary traditions. One of the organization's priorities is to raise awareness through the development of the *Ark of Taste*, which is a catalog of sustainably produced products that are in danger of disappearing, but have exceptional taste and are part of the heritage of a specific region in the world.

Another tool is the development of Slow Food Presidia, projects that aim to maintain high-quality food production processes that preserve tradition while respecting soil, water, animal welfare and biodiversity. In the case of crabs, this means that the entire harvesting process is protected and the community is more involved in ensuring sustainable harvesting. Surrounding residents are already feeling the positive changes of the measures taken. The recovery of species, such as the blue crab, and their habitat is enabling the development of tourism, and providing new income opportunities for women in Esmeraldas province. In addition to selling blue crab meat, they may offer tourists dishes with flavors they won't find in any other part of the country, such as *encocado*, a coconut stew with crab meat.

The projects initiated in recent years play an important role, as they not only protect blue crabs and their natural habitat, but also support the local economy by promoting sustainable fishing practices and eco-tourism. Although earthquakes, floods and the El Niño phenomenon continue to exacerbate the difficulties of protecting blue crabs and their habitat, the action taken is extremely important. Not only for biodiversity, but also for the future of local communities that depend on these ecosystems.

FARMERS' PROTEST ESCALATES: EUROPEAN GREEN DEAL UNDER FIRE

Posted on 28 February 2024 by Agata Pavlinec

Yesterday, a protest was held in Warsaw by farmers over the import of cheap food from Ukraine and the unfavorable Green Deal policy requirements for the sector. A day earlier, the Minister of Agriculture and Rural Development, Czeslaw Siekierski, defended Polish interests at a meeting of the EU Council on Agriculture and Rural Development. Agriculture and Fisheries (AGRIFISH). There is more criticism of the EU's climate and agricultural policies in Europe. Will they be taken into consideration?

Categories: Issue 4/2024, News, Onet

Tags: agriculture, farmers, Green Deal, protest

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Farmers have been protesting for three weeks

Recall that the Independent Self-Governing Trade Union of Individual Farmers *Solidarity* announced the start of a general strike of farmers on February 9. Heavy agricultural equipment took to the streets across the country, organizing blockades in 250 locations. Protest actions resumed in the following days in varying intensity, and on February 20, the nationwide farmers' protest involved the blocking of nearly a hundred national roads, expressways and highways. The organizers predict that the strike could last until March 10, and in a black scenario even until April.

What are the farmers fighting for? This time their opponent is the European Commission, which on January 31 this year. published a draft regulation extending the suspension of tariffs on imports from Ukraine. The document only partially addressed Polish demands to protect the sensitive market for agricultural products. Farmers are agitating against the influx of cheap food from the East, while loudly protesting the requirements of the Green Deal and changes to the Common Agricultural Policy. In their view, the *Green Deal* should be abandoned for the sake of Polish agriculture, and the border with Ukraine needs to be sealed immediately.

Polish minister appeals to European Commission

Minister Czeslaw Siekierski stressed at a meeting in Brussels on Monday that the farmers' protest in Poland is the result of a drop in their income due to inflation and imports from Ukraine. He also pointed out that the current Green Deal requires fundamental changes, and for the time being the European Commission is dragging its feet and not taking into account proposals from member states.

According to the Minister of Agriculture and Rural Development, the Standards for Good Agricultural Environmental Conditions (GAEC) are particularly problematic. The Polish delegation proposed that the GAEC 6 standard for minimum soil cover during sensitive periods be limited to areas affected by erosion. In the context of the GAEC 7 standard for crop diversification on arable land, the minister requested a derogation in 2024. The most controversial standard was GAEC 8, which states that 4 percent must be allocated. Arable land into non-productive areas on farms over 10 hectares. This requirement, according to the Polish ministry, should be transformed into a voluntary ecoscheme.

In his speech, Minister Siekierski also called for the abolition of sanctions for non-compliance with conditionality and the introduction of compensation for farmers affected by the Green Deal requirements and the opening of the market. He considered the issue of surplus grain, which he said could be exported for humanitarian purposes, to be particularly urgent.

Discontent across Europe

While the Polish minister was speaking at the AGRIFISH meeting, an international farmers' protest was escalating in Brussels. More than 900 tractors blocked the streets of the Belgian capital, with bottles, eggs, and police water cannons in motion. February was also noisy in other member states. In Madrid, thousands of farmers protested against the Common Agricultural Policy's findings, demanding easing of regulations. In the Netherlands, police intervened when farmers blocked highway exits and held bonfires on their roadsides. Protests are also

taking place in Slovakia and Hungary, the Czech Republic, Bulgaria, Greece, France and Portugal.

Stormy farmers' protest in Warsaw

It was assumed that Tuesday's farmers' protest in the capital would be a peaceful demonstration, without blocking the streets. In the heat of emotion, unfortunately, there was pushing with the police, burning tires and vests, shooting flares and firecrackers. The demonstration, which was attended by about 10,000. participants, walked from the Parade Square to the Sejm building, where she met with Speaker Szymon Holownia. To him, farmers submitted a petition for the abandonment of the Green Deal, an embargo on Ukrainian imports and increased protection for animal husbandry in the country.

Minister Siekierski is scheduled to hold talks with farmers on February 29, while the German Minister of Agriculture is scheduled to visit the capital on March 1. agriculture. The road to compromise at the EU level, for the time being, seems long.

HEAVY RAINS IN THE UK AND WALES – HUNDREDS OF FLOOD WARNINGS ISSUED

Posted on 27 February 2024 by Izabela Łuba

Rainy winters are no surprise to Britons, but this year the weather has been particularly unkind to them. The heavy rains that fell in the UK and Wales last week led to numerous floods and traffic disruptions in those countries. Flooded roads, closed schools and paralyzed rail traffic are just a few examples of the consequences of the intense rainfall that Islanders have faced in recent days.

Categories: Issue 4/2024, News, Onet
Tags: flood, torrential rains, United Kingdom, waterlogging

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England's Environment Agency has issued hundreds of flood warnings and alerts

Heavy rains in the UK and Wales, which persisted for several days last week, caused groundwater and river levels to rise, resulting in numerous floods. The Met Office issued three yellow weather warnings on Thursday (February 22, 2024), all related to heavy rainfall. In some areas of England on that day, more than 32 mm of rain fell in an hour. According to meteorologists, the heaviest precipitation was recorded in Whitebarrow, Dartmoor, and amounted to as much as 68 mm/h. Intense downpours were also accompanied by gusty winds, which were forecast to reach speeds of up to about 100 km/h.

As of 11:00 a.m. Saturday, the English Environment Agency (AE) maintained 216 alerts and 65 warnings indicating a real threat of flooding. Almost all of central and southeastern England was put on alert. Heavy rains in the UK continued unabated throughout last weekend. On Monday, February 26, the number of announcements remained almost unchanged. AE continued to report flood risks in 66 regions, and issued flood alerts for 214.

The highest risks were in the area west of the River Rother, the lower section of the Dorset Frome River, and in the towns of Hamm Court, Purley Village, Shiplake, Lower Shiplake and Wargrave, as well as in Abingdon near the Thames, among others. Wales also had to deal with the consequences of heavy rainfall. National Resources Wales (NRW), the Welsh equivalent of AE, maintained 1 flood warning for residents of Tenby, located on the Ritec River, and 6 flood alerts on February 24. On Monday, February 26, the situation improved, with the number of flood warnings issued by NRW dropping to 0. Residents could breathe a sigh of relief.

Closed schools, flooded roads - consequences of heavy rains in the UK

Heavy rains in the UK have led to paralysis in many regions. In Herefordshire and Worcestershire, classes have been canceled at several schools due to increasing flood risks and dangerous road conditions. In the West Midlands county, located in the Midwest of England, many roads and railroads have been flooded. Rail carriers worked hard to resume traffic, and Transport for Wales and West Midlands Railway offered passengers replacement bus services between Shrewsbury and Wolverhampton.

Problems on rail lines also occurred in Herefordshire, on sections between Worcester Foregate St and Hereford and between Plymouth and Newton Abbot. Disrupted connections were also reported in Devon, where the River Axe has fallen from its banks, as well as in Cornwall. Warnings have been issued in many regions of the country about the possibility of road closures and detours, flooding of properties and sewage systems due to steadily rising river and groundwater levels. Unrelenting rainfall resulted in real threats.

Heavy rains in UK once again in 2024 lead to flooding

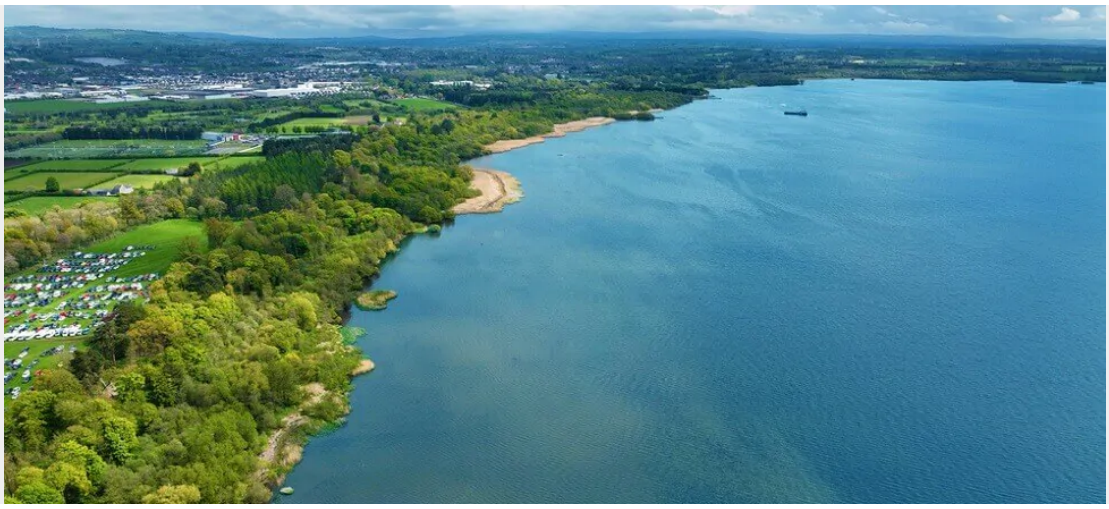
British and Welsh people are once again facing the effects of heavy rainfall this year. In January, torrential rains caused by Storm Isha, or Orkan Henk, led to flooding, inundation of hundreds of homes and many traffic difficulties. The current flooding conditions in this area of Europe are a consequence of the very heavy rainfall that has been occurring since the beginning of the month, as confirmed by Graham

Madge, a Met Office spokesman. He explained that: *These conditions in themselves are not exceptional, but after significant amounts of rainfall in February, the cumulative effect means that river catchments are more vulnerable to additional rainwater.*

The cooling forecast last week is expected to improve the situation. Lower temperatures, more typical of the UK in February, will make the strong winds and heavy rains subside.

INSECTS NEEDED OVER LOUGH NEAGH. BRITISH ISLES' LARGEST LAKE FACING MOUNTING PROBLEMS

Posted on 26 February 2024 by Magdalena Skrzypek



Lough Neagh is a lake located in Northern Ireland. This huge reservoir is the drinking water supply for more than 40 percent of the country's population. country's population. Unfortunately, experts are sounding the alarm that the reservoir's ecosystem has collapsed. Although it seems unlikely, the lack of insects may be the cause. It is momentarily unclear why they stopped dancing over the water.

Categories: Issue 4/2024, News, Onet
Tags: climate change, flies, insects, Loung Neagh

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Dancing or clumsy insect tangles over Lough Neagh?

The lake is home to several different species of insects of the fly order, the ochre family (Chironomidae). These small, non-biting insects had the status of nuisance and unwanted guests among local residents and visitors to the lake. They left marks on clothes, car windows, moving along the lake's several dozen kilometer-long shoreline, and disturbed the people staying there. What was a nuisance for some, others were infused with delight. Environmental activists were enchanted by the mating dances of the insects, which floated above the treetops like subtle ballerinas. Suddenly these artistic performances stopped. It was as if the Lough Neagh orchestra had stopped playing. Chironomidae flies have left the scene.

Insect absence a problem for lake ecosystem

Deklan Coney, one of the eel fishermen, was convinced that something was wrong. The absence of insects over Lough Neagh was a disturbing phenomenon. In previous years, ochreflies regularly appeared over the lake, and the swarms, forming into belts or thick plumes, resembled clouds of smoke.

Last spring, "Lough Neagh flies" did not appear on the lake. To many, it may seem that such a change has pleased residents. For the first time ever, when approaching the Cross of Ardboe monument or its environs, one could not see the insect clouds. Their dancing unexpectedly stopped. The delight of nature advocates has turned into concern.

Will the fish, for which the Northern Ireland lake is the main habitat, survive without ochrefish?

"Lough Neagh flies are nuisance but harmless insects. They are a major source of food for selected species of fish and wild birds, for which this lake is the only habitat in the UK. Lack of food threatens the extinction of these animals, as well as the spread of invasive zebra mussels (also known as Dreissena polymorpha predatory mussels - the variegated crayfish) and the long-term deterioration of the quality of water taken for drinking purposes. It is worth mentioning that each year the lake hosts Europe's largest wild eel fishery. The absence of chironomids is not only a threat to this event, but to the entire lake ecosystem.

The first effects could already be seen last summer, when the expansion of algae increased, resulting in the depletion of oxygen, essential for aquatic organisms. We wrote more about this in one of our previous publications - Lake Lough Neagh an example of the changes taking place in nature. Although this green-blue blanket of bloom has disappeared from the surface of the lake, blue-green algae are still present in the reservoir. As it turns out, algae are not the only nuisance to the ecosystem. Dense, light-colored foam has recently been observed in the lake's waterways. It was not until mid-February that the political debate over the management of Lough Neagh began.

Same place, different view

Ciarán Breen is a man for whom Lough Neagh is a second home. He has been working as a wildlife warden since 1986, but has never experienced a sight like this in his career. The sight of nothing. Every winter he counted Lough Neagh's wild birds with his colleague. There were as many as 50-60,000 diving ducks here. Over the years the numbers have dropped by 80 percent. Breen invariably checks the sites of his former sightings. However, there is nothing to count. It's not just the ducks that have disappeared. In late November, swans came to Lough Neagh from Iceland, heralding the arrival of winter with their calls. Those clamorous calls have turned into silence.

The future of Lough Neagh

The lake was home to many animals, as well as an important point on the map for residents of surrounding villages and towns. The collapse of the ecosystem has led to the demise of the lake's central fishing industry. However, the losses could be much higher. Local communities fear that Lough Neagh will succumb to privatization. The Earl of Shaftesbury has not ruled out this possibility. *The priority must be to maintain the life of the lake*," Bernadette McAliskey, a former MP from Mid Ulster, told those gathered at a rally in Toome. - *If we collectively sustain the life of Lough Neagh, then Lough Neagh will sustain us. As long as we work in harmony, everyone will be able to live here.*

Will the lake's biodiversity be saved? There is no clear answer to this question at the moment, as there may be many factors responsible for the disappearance of the insects. What is certain, however, is that ochreflies have been a very important part of the Lough Neagh ecosystem, and without them it will be difficult to restore the biological balance of the waters.

JAPAN'S WOODEN SATELLITE A WAY TO TACKLE SPACE POLLUTION

Posted on 25 February 2024 by Izabela Łuba

Space pollution in low Earth orbit, which is increasing by 5 percent. annually, are a growing problem. Japanese researchers at Kyoto University became interested in the topic and succeeded in finding a solution. They have created the first satellite made of wood, which they plan to send into space later this summer.

Categories: Issue 4/2024, News, Onet
Tags: contaminants, LignoSat, satellite, space

Space pollution in low Earth orbit, which is increasing by 5 percent. annually, are a growing problem. Japanese researchers at Kyoto University became interested in the topic and succeeded in finding a solution. They have created the first satellite made of wood, which they plan to send into space later this summer.

LignoSat - the first satellite made from biodegradable materials

The first wooden satellite, LignoSat, was created with the cooperation of scientists from Kyoto University and employees of Sumitomo Forestry. It was built mainly from magnolia wood, which showed the greatest stability, as well as resistance to cracking, during the year-long tests conducted on the International Space Station ISS. Other types of wood, such as Erman birch and Japanese cherry, were also tested in the trials. However, the wood of the broad-leaved magnolia stood out for its best performance, including mainly durability. Therefore, it was from it that a satellite was created with dimensions comparable to the size of a coffee mug. It houses an antenna, and the outer body is covered with solar panels.

If the wood-built LignoSat survives its journey into space, it will not only contribute to solving the problem of space pollution, but will also significantly reduce the cost of building similar devices. This is because the aluminum used to date is both less environmentally friendly and much more expensive.

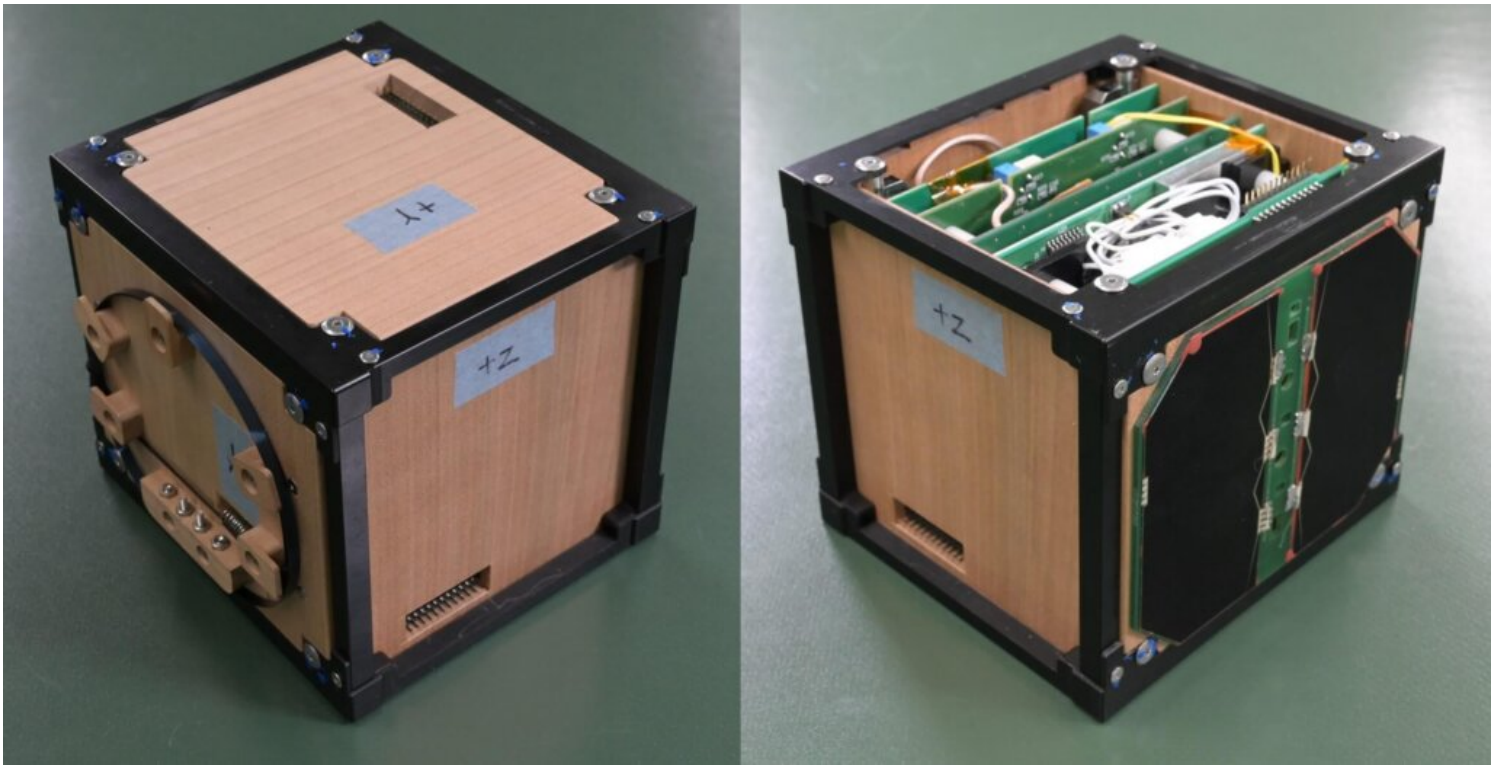

photo: Kyoto University

Wooden satellites as solution to space pollution problem

A study by researchers at the University of British Columbia in Canada has found that aluminum from returning satellites to Earth's orbit has the potential to seriously weaken the ozone layer. In addition, it may also affect the reduction of sunlight that penetrates the atmosphere and reaches the Earth's surface. The resulting pollutants in space affect the various elements of our climate. Especially if we consider that about 2,000 are scheduled to be launched in the coming years. satellites of this type. If they re-enter the Earth's atmosphere, they burn and form

tiny aluminum oxide particles that will float in the upper atmosphere for many years, Takao Doi, a Japanese astronaut and aerospace engineer at Kyoto University, recently warned.

The solution to the problem of space pollution may just become wooden satellites, which when burned after re-entering the atmosphere will not produce harmful substances, but only a small amount of biodegradable ash. That's why Kyoto researchers have been working on a project in recent years to try to assess whether the wood can survive space launch and orbital flight.

The results of their research were astounding. This is because it turned out that the wood was resistant to the elements in these extreme conditions - its mass did not change, and it showed only minor damage when brought to Earth. Koji Murata, project manager, believes this is due to the lack of oxygen and the absence of living creatures in space that could contribute to material degradation. The discovery is a real breakthrough. Indeed, wooden satellites can have the same functionality as their metal counterparts, while being more friendly to the planet and its environment. Thanks to their use, space exploration will not contribute to the creation of more junk.

When will the first wooden satellite fly into space?

Although there is still no final decision on the choice of launcher, the first space mission of the wooden satellite is expected to take place later this summer. It will likely be carried out using the Orbital Sciences Cygnus resupply ship on the ISS. If this plan fails, an alternative solution is to locate it in space a little later, during a similar SpaceX Dragon mission.

Japan's LignoSat will be sent into space to test how a satellite made of wood performs in Earth orbit. One of its missions will be to be able to measure the deformation of the wooden structure in this space. The wooden satellite will spend at least six months in orbit. It will then enter the upper layers of the atmosphere, where it will be destroyed, leaving behind only a small plume of atmosphere-safe ash.

There are high hopes for the LignoSat nanosatellite mission. If it proves itself in orbit, its construction will prove to be the opening of a new era of spacecraft that will be constructed from wood that does not contribute to interplanetary space pollution.

Photo. main: Kyoto University

WILL NATURALLY VALUABLE AREAS LIVE TO SEE PROTECTION IN POLAND? THE FIRST INITIATIVES OF THE IOC

Posted on 24 February 2024 by Agata Pavlinec

On February 21 this year. The Ministry of Climate and Environment held a press conference on the protection of forests with special natural values. During the event, Deputy Minister Nikolai Dorozhala summarized the steps taken so far by the new government and announced further actions. The ministry aims to develop a multidisciplinary approach to the protection of valuable natural forest areas after years of neglecting these very important issues. What specifically does the Ministry promise?

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Tags: forests, MKiŚ, protection

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A new team at the IOC

In an order dated February 7, 2024. The Minister of Climate and Environment has established a Team for Strengthening the Protection of Environmentally Valuable and Socially Important Forests. Its chairman was Deputy Minister Dorozhala, and in addition to ministry staff, it included representatives of the State Forests and independent experts in forestry, nature conservation and EU law. The task of the Team is to develop recommendations on how to protect areas of natural value and at the same time carry out forest management on them.

A similar team has been established within the structures of the Directorate General of State Forests (DGLP). According to Deputy Minister Dorozala, cooperation between the two units is going very well. It has even been possible to develop communication methods to improve the flow of information.

Reduce logging of Polish forests - we protect naturally valuable areas

Earlier, on January 8 this year, Climate and Environment Minister Paulina Hennig-Kloska announced the issuance of a decision to restrict and halt logging of forests of special natural value. The first task of the newly-established team at the Ministry of the Environment was to analyze notifications received from forest districts and forest service companies (ZUL) in connection with the implementation of the decision. Representatives of the timber industry and ZUL have been invited to participate in subsequent meetings of the team.

Deputy Minister Dorozhala warns that naturally valuable areas could be used in political manipulation ahead of the upcoming local elections. In his view, such activities should be abandoned, focusing instead on constructively reducing initiatives that harm nature.

Fortunately, the first effects of intensive cooperation for the benefit of Polish forests are already visible. After two weeks of meetings and consultations, it was possible to develop guidelines on the basis of the problems raised by the forest districts, which were then forwarded to DGLP. The Ministry has scheduled a nationwide discussion on forests, open to all interested parties, for the second half of March. Ultimately, the work will be distributed among task forces focusing on the natural, social and economic aspects of protecting valuable land.

Forests of special natural value in Poland

The halt in logging affected ten key areas identified by the IOC as needing urgent protection. Specifically, it is the Borecka Forest, Swietokrzyska Forest, Augustowska Forest, Knyszynska Forest, Karpacka Forest, Romnicka Forest, as well as the Bieszczady Mountains, the Tri-City Landscape Park and valuable natural forest areas around Wroclaw and Iwonicz-Zdrój. The reduction in logging affects a total of 20-30 percent. previously planned cuts and will include old-growth forest, water-protected forests and mountain areas. Maps showing where logging will be halted or restricted have been posted on the IOC website.

The aforementioned maps also illustrate projected reserves where it is important to preserve the current state of tree cover. The ministry's decision to limit logging is further argued by the extent of Natura 2000 areas and the function of forest promotion complexes. Saved from the sawtooths and located around major metropolitan areas, the forests are also expected to help with water retention, preventing floods, which

we can expect to see more and more of in this era of climate change. The Ministry of the Environment announces that in the near future it will launch a form on the website through which the public will be able to make suggestions on valuable natural areas worthy of protection.

Need to implement sustainable forest management

Deputy Minister Dorozhala noted at the conference that naturally valuable areas will be included in the program of activities related to the development of sustainable economy elements. In short, the idea is to reconcile the interests of different social groups and the environment. The protection of biodiversity and the use of the recreational and educational potential of forested areas must coexist with the important economic function that forests perform in Poland. According to the Polish Economic Chamber of the Timber Industry, the country's forestry and timber sector generates as much as 2.5 percent of the country's total forestry output. GDP and employs more than 350,000. Employees.

By inviting representatives of the timber industry to the talks, the ICC provides an opportunity to develop solutions for the long term. The future will show whether these ambitions can be realized.

PROTECTION OF WATER AGAINST NITRATES - AN ADDITIONAL CALL FOR APPLICATIONS FOR INVESTMENT SUPPORT HAS BEEN LAUNCHED

Posted on 23 February 2024 by Karol Kucharski

On February 20, 2024. The Agency for Restructuring and Modernization of Agriculture, due to increased interest from farmers, has launched an additional call for applications for subsidized investments aimed at protecting waters from nitrates from agricultural sources. Agricultural producers wishing to take advantage of financial assistance called Investments to protect waters from nitrate pollution from agricultural sources, from the Rural Development Program 2014-2020, can expect support of up to 150 thousand. PLN. This is the next call under RDP 2014-2020 for this type of action, the previous one was held in October/November 2023. The current one is the last call for applications under the 2014-2020 RDP for this type of operation and will run until March 20 this year. To date, more than 275 million zlotys have been disbursed for water protection against nitrates to 3,600. farmers.

Categories: Issue 4/2024, News, Onet
Tags: funding, nitrates, recruitment, Support for farmers

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Protection of water against nitrates - for whom is the support intended?

Agricultural producers who rear or raise livestock may apply for financial assistance to support investments in the protection of water against nitrates. Support is not available to owners of poultry farms of more than 40,000. Stands and piggeries with more than 2,000. Stands for pigs weighing more than 30 kg or more than 750 stands for sows.

What can you get funding for?

Funding can be used for, among other things. on:

- Construction, reconstruction or purchase of tanks for storing liquid natural fertilizers, slabs for storing solid natural fertilizers, and tanks or slabs for storing silage;
- Purchase of technical installation or equipment for liquid natural fertilizer storage tanks;
- Purchase of new machinery or equipment for the application of natural liquid fertilizers;
- overhead.

Protection of water against nitrates - amount of support

Aid granted for the construction or building of new slabs or tanks for storing natural fertilizer is granted in the form of standard unit rates. For other investments, the aid takes the form of a refund of part of the eligible costs and amounts to 60 percent if for a young farmer, and 50 percent for other beneficiaries. The maximum amount of aid granted to one applicant and per farm may not exceed PLN 150 thousand.

Protection of water from nitrates - obligation to adjust storage sites for natural fertilizers and silage

Financial assistance may be granted for construction and expansion projects that will ensure that farms are brought into compliance with the requirements set forth in the Program of measures to reduce water pollution by nitrates from agricultural sources and prevent further pollution, known as the " Nitrate Programme". nitrate program, and which concern storage conditions for manure and silage.

In accordance with the provisions of the nitrate program, entities raising livestock less than or equal to 210 livestock units are required to adjust the area or capacity of their manure storage facilities to the requirements set forth in the Action Program by December 31, 2024. This means that as of January 1, 2025. the requirement for proper storage of natural fertilizers will become mandatory for the above-mentioned entities.

At this point, it is also worth mentioning that for entities that raise livestock in excess of 210 livestock units (LU), the requirement to adjust the area or capacity of their manure storage facilities was set for December 31, 2021. (Currently, only a young farmer will be able to apply for investments in this area, and only within 24 months from the date of commencement of farming as a manager, but no later than June 30, 2025).

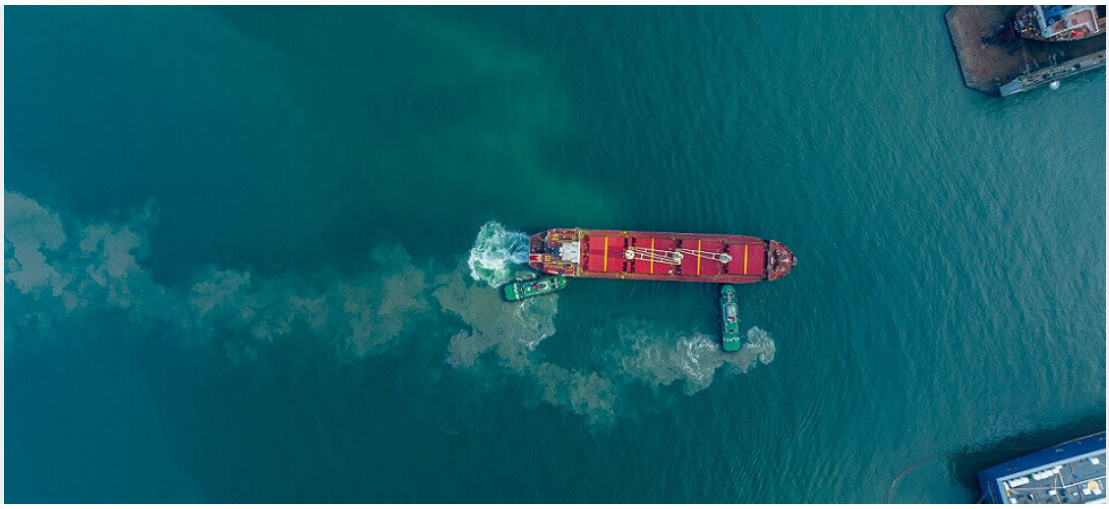
How to apply for support for investment to protect water from nitrates?

Applications for support can be submitted until March 20, 2024. In regional branches and district offices of ARMA. They can be delivered in person or by an authorized person, sent by registered mail, posted at a Post Office facility, or through an ePUAP sub-box.

The applications submitted by farmers will be scored. Their sum will determine the order in which aid is awarded. Among other things, the following will be taken into consideration. the number of animals, the share of investment costs to bring the farm into compliance with the requirements of the nitrate program, the storage conditions of the manures produced, and whether the applicant has not previously applied for this type of support. A ranked list of beneficiaries will be published within 50 days of the end of the call for proposals.

POLLUTION FROM SHIPS - AGREEMENT ON AMENDING THE DIRECTIVE, WHAT SANCTIONS AWAIT SHIPOWNERS?

Posted on 22 February 2024 by Karol Kucharski



Increasingly, attention is being paid to pollution from ships entering our seas, as we have written about several times in Water Matters. The problem is serious and cannot be ignored under any circumstances. It is estimated that a large cruise ship (about 3,000 tourists) produces, for example, 8 tons of oily bilge water every day, approx. 960 m3 so-called. "gray water", during a week-long voyage also produces about 8 tons of solid waste, often these pollutants will illegally end up in the sea. Is the fact that the European Union is taking more initiatives an opportunity to make the seas cleaner? The actions of individual member states and international organizations offer hope.

Categories: Issue 4/2024, News, Onet
Tags: contaminants, Directive, EU, KE, ships

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Amendment of the directive on ship-source pollution

To reduce the impact of ships on the quality of waters in the seas, the Parliament and the European Council on February 15, 2024. have adopted an agreement to amend Directive 2005/35/EC on ship-source pollution and to introduce penalties for violations. Sanctions are to apply to shipowners using ships, while if it is proven that someone other than the shipowner was responsible for the violation, he is also to be subject to sanctions under Directive 2005/35/EC. This will bring the document into line with the International Convention for the Prevention of Pollution from Ships(MARPOL Convention) and expand the scope of the directive to include additional types of pollutants discharged into the seas, such as sewage and garbage.

Pollution from ships - new regulations

Thanks to the adopted agreement, there will be increased transparency of information about pollution offenses in European seas, the types and amounts of anticipated penalties that may be imposed for non-compliance. The news will be made available to the public, including on websites. Details will also be published on how coastal authorities are checking for potential spills using satellite surveillance.

Another change relates to the imposition of administrative penalties on those responsible for the illegal discharge of wastewater from ships. In order to increase their effectiveness: for example, the size of the illegal discharge, its impact on the environment or the financial capacity of the responsible party will be taken into account. Member state authorities will have more effective tools and platforms for sharing information and experiences. For example, satellite surveillance of ship-borne pollution(CleanSeaNet - EMSA's surveillance and information-sharing database) will be improved - providing better resolution. All the changes introduced contribute to preventing pollution of European seas.

When will the new regulations take effect?

The new rules were presented by the Commission in June 2023. As part of the maritime security package. Once formally adopted by Parliament and the European Council, they will be published in the Official Journal of the European Union and enter into force 20 days later. Member states will have 30 months to transpose the directive into national law.

Directive on ship-source pollution and the introduction of penalties for violations

The Directive on ship-source pollution and the introduction of penalties for violations 2005/35/EC is being revised for the second time. The first time this happened was in 2009. The handling procedures were first developed between 2000 and 2009, following two major maritime accidents involving the ships Erika and Prestige, which caused significant oil spills. Directive 2005/35/EC regulates penalties for illegal

discharges of oil and noxious liquid substances from ships into the sea and applies to all vessels regardless of size.

To add, not all waste generated on ships must be discharged at ports. Some may be discharged into the sea, but these are legally regulated procedures. We speak of an illegal discharge when it does not meet the relevant International Maritime Organization (IMO) regulations, i.e. standards set forth in the International Convention for the Prevention of Pollution from Ships (MARPOL).

International Convention for the Prevention of Pollution from Ships (MARPOL)

MARPOL is an agreement adopted at the International Conference on Marine Pollution, organized by the IMO in October 1973. O 50. The anniversary of the signing of the MARPOL Treaty by the IMO was mentioned in some of our previous articles in *Water Matters*: World Maritime Day 2023.

MARPOL is a set of regulations governing the construction and equipment of seagoing vessels carrying oil, its distillation products and harmful chemicals, and regulating the handling of all substances (including waste) discharged from ships into the sea. MARPOL, among others. prescribes the construction of double-hulled tankers, prohibits the disposal of harmful chemicals and plastics, establishes standards for the cleanliness of discharged water, washings, wastewater and emitted exhaust, designates specially protected seas (including the Baltic Sea), where it is completely prohibited, for example, to dispose of washings after washing cargo tanks (regardless of their degree of cleanliness) and garbage (with the exception of food waste). In addition, it requires states to equip seaports with facilities to collect washings, sewage and garbage from ships.

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enterprises using ships. If it is proven that a person other than the company was responsible for the violation, it will be subject to sanctions in accordance with Directive 2005/35/EC.

THESE REGIONS OF POLAND MAY BE UNDER WATER - WHAT AWAITS US?

Posted on 21 February 2024 by Agata Pavlinec

Progressive climate change breeds uncertainty about the future. While many areas of the world will be subject to gradual desiccation and even desertification, others are threatened with catastrophic flooding. Both extremes are likely scenarios for Poland as well, and according to experts, some regions of our country could be underwater within a few decades. But the bad news doesn't end there - the latest forecasts also foretell the accelerated arrival of a new ice age. Will we actually find ourselves under a layer of ice?

Categories: Issue 4/2024, News, Onet

Tags: flood, hydrogeological situation, hydrological situation, waterlogging

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What about groundwater?

In January 2024. The State Hydrogeological Service (PSH) has published a periodic report on the current hydrogeological situation in the country. It shows that the vast majority of the territory has seen an increase in the water table in the first aquifer. Groundwater resources were considered safe for supplying the population. The hydrogeological low was found in some parts of the Pomeranian, West Pomeranian, Warmian-Masurian and Greater Poland Voivodeships - but its extent was lower than in previous months.

However, some areas of the country, in the event of an unfavorable rainfall scenario, may be under water in the coming days. According to the Institute of Meteorology and Water Management-State Research Institute (IMGW-PIB), as of February 21 this year. Flood risk alert status has been registered in many places. The water level in the Oder River exceeded 450 cm at some measurement points, and in Bielinek it even reached 557 cm. Alert status was also recorded on the Widawa, Barycz, Ssiecznica, Orla, Warta, Obra and Mosina Canal.

Will part of Poland be permanently underwater?

The threat of flooding, for the time being, is seasonal in our country and is related to the intensity of precipitation and the rate of melting of the snow cover. However, long-term forecasts assume that some regions could be permanently underwater due to rising sea levels.

According to a model prepared by Climate Central, an independent group of scientists, climate change will put vast areas of Pomerania under water by 2050, from Gdansk through Zulawy to Elblag and further south to Brudzady and Swiety Gaj. In the west of the country, the threat of permanent flooding includes parts of Szczecin and Wolin Island, the Oder coast up to Cedynia, the area around Kamień Pomorski, and further Mrzeźno and Dźwirzyno. Areas around Darlowo, Puck, Beka and Rewa may also be under water.

Recall that since the pre-industrial era, the average global sea level has already risen by 21-24 cm. This phenomenon is caused by the massive melting of glaciers and ice sheets while the volume of water increases due to rising temperatures. The whole process is related to global warming, which in turn is due to the accumulation of greenhouse gases in the atmosphere. Even if we achieve the zero-carbon policy goals, it is possible that sea levels will rise another 30 cm by the end of the century.

A new ice age?

pic. derepente/depositphotos

Dutch scientists also have a bad prognosis for us, which can be compared to the proverbial bucket of cold water. The Atlantic Meridional Overturning Circulation (AMOC), one of the most important drivers of global climate, is approaching a tipping point, according to a study published this month in the journal *ScienceAdvances*. So far, this unusual mechanism has helped distribute energy around the Earth and modulate the effects of man-made global warming.

Currently, all indications are that the AMOC is at its weakest in more than a thousand years and may soon collapse completely due to melting glaciers and changes in ocean salinity. Scientists predict that this will happen before a century has passed and will have catastrophic consequences. The Atlantic level will rise by as much as 1 meter, and the rainy and dry seasons will reverse, which will be deadly for the rainforests. Temperatures in the southern hemisphere will rise, while in Europe the climate will cool dramatically and precipitation will weaken.

The changes would be particularly felt in northern Europe, where temperatures could drop by 10-30°C. The weather in London will resemble that in Stockholm, while Stockholm will experience Siberian winters. What doesn't go underwater can therefore freeze. The more precise date of the announced disaster so far remains a great unknown - Prof. Potsdam-based Rahmstorf warns, however, that the crisis could be experienced by the next generation.

Photo. main: courtesy of OSP Zabrodzie Ksrg

WORLD WATER DAY PHOTO CONTEST 2024

Posted on 20 February 2024 by Iwona Szyprowska-Głodzik

World Water Day, celebrated on March 22 each year, is a global call to action to recognize the essential role of water in sustaining life, driving economic growth, and supporting the ecological balance of our planet. The theme for World Water Day 2024, "Water for Peace," underscores the critical importance of water in fostering peaceful coexistence and cooperation among communities and nations. It draws attention to the urgent need for collaborative efforts in water management to avert conflicts, guarantee equitable access, and safeguard this indispensable resource for the well-being of future generations. In conjunction with World Water Day, the organizers are hosting various events, one of which is a competition designed to raise awareness and engage the community in water conservation efforts.

Categories: Issue 4/2024, News

Tags: Photo Contest 2024, Water for Peace, World Water Day

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World Water Day Photo Contest 2024: "Leveraging Water for Peace"

The World Water Day Photo Contest 2024 invites photographers worldwide, both amateurs and professionals, to capture and share the profound impact of water on societies through their lenses. Running from October 15, 2023, to February 26, 2024, the contest operates under the theme "Leveraging Water for Peace," aiming to highlight the diverse ways in which water acts as a pillar for peace, prosperity, and environmental sustainability. Originating in 2017 as an initiative of the Seregno AID Lions Club, the contest has evolved into a significant cultural and philanthropic project.

Annually, a panel of judges selects outstanding photographs for exhibition in Italy and across Europe, promoting artistic expression and raising awareness about the crucial role of water. The contest, through the support of its participants and sponsors, empowers the Seregno AID Lions Club to implement water access projects in regions plagued by severe water scarcity, offering direct aid to communities in dire need of potable water.

The significance of World Water Day

World Water Day serves as a poignant reminder of the challenges we face in water management and the potential for positive change through cooperation and sustainable practices. With over 3 billion people reliant on transboundary waters and a mere fraction of nations having established cooperation agreements, the imperative for joint action has never been more critical. The day advocates for worldwide participation, urging individuals and governments alike to contribute to the "Water for Peace" campaign.

Apart from organizing the photography contest, the United Nations operates on multiple fronts. They run a dedicated website called "World Water Day - Resources," offering educational and promotional materials to facilitate engagement in activities related to World Water Day. The Activation Kit for Students, aimed at educating young minds about water conservation and its significant role in peace-building, includes engaging and educational activities centered around art and football. Additionally, the website provides the opportunity to submit inquiries related to World Water Day, motivating teachers, students, and the wider audience to actively engage and delve into the significance of water conservation efforts and peace-building initiatives.

Creating a positive ripple effect

World Water Day 2024 transcends mere observation - it is a clarion call to action. By centering on "Water for Peace," we are reminded of

water's transformative potential to engender harmony, prosperity, and resilience against shared challenges. The World Water Day Photo Contest 2024, alongside global campaigns, invites us to unite in our quest for a peaceful and sustainable future for all, leveraging the universal language of photography to highlight the critical importance of water in achieving peace and sustainability. The contest ends on February 26, 2024. There's not much time left to participate, so we encourage you to join!

Photo: Hope by New Long for World Water Day Photo Contest 2023 (third place)

NEW LAW IN ENGLAND - BIODIVERSITY WITH 10%. NET PROFIT

Posted on 20 February 2024 by Magdalena Skrzypek

The growing environmental problems have had a huge impact on English law. The government has decided to make it mandatory to compensate for ecological losses that arise during infrastructure construction. Biodiversity with 10 percent. net profit is an innovative program that can significantly improve the environment in the Islands.

Categories: Onet, Issue 4/2024, News

Tags: diversity, England, environmental protection

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Biodiversity with 10 percent. net profit

At the core of the Biodiversity Net Gain concept is the UK's desire to reduce the pressure of development projects on surrounding nature.

At the end of 2023. A legal obligation was introduced to plan investments taking into account the state of the environment and to develop strategies for the inviolability of nature or the improvement of its condition. The order applies not only to developers, but also to landowners. They must demonstrate that their investment will improve biodiversity by at least 10 percent. Net. The value of BNG is calculated on the basis of a special Defra yardstick, which should be used by all entrepreneurs at the construction planning stage. If the biodiversity gain is at least 10 percent, then the developer can proceed with his project. However, it is necessary to submit documents confirming the maintenance or improvement of the environment.

Balancing act: development and protection

Introduced at the end of 2023. The law is the result of several years of work, which culminated in the publication in 2018. environmental program, scheduled for 25 years. Biodiversity with 10 percent. net profit is one of the key elements of this project, so all major investments must be created with conservation or improvement of nature in mind. It is for this purpose that a special Defra meter was developed. Two years after the publication of the environmental plan, the parliament passed a law implementing the BNG into law and designated an autonomous body responsible for overseeing the Biodiversity Net Gain.

The entire project has implications not only for government policy, but also for transforming the existing paradigm of approaches to urban development and environmental protection. The first waves of transformation can be seen, among others. At Iford Estate Farm in East Sussex. According to analysts and environmentalists, biodiversity with a mandatory net gain is one of the most innovative conservation programs.

Biodiversity and the Defra meter

The Defra statutory indicator is a tool used to measure changes in biodiversity in an area. It focuses on habitats, not including protected species. After determining the unit value of biodiversity, the meter calculates its value for the proposed investment. Based on this information, the authorities decide whether the construction can be implemented.

BNG will have a positive impact on the environment and services and living

comfort

Biodiversity included in development projects is a symbolic statement to nature. The essence of this promise is to build homes where people can start a new life without disturbing the richness of nature. The main idea of BNG is to create a dualistic world where man and nature treat each other as partners. Biodiversity with 10 percent. profit is the development of the city for people and the environment. Developers, on the other hand, can improve their market position by creating a brand image that is ready to meet environmental challenges. Biodiversity will furthermore reflect favorably on the expansion of services such as fire protection and carbon sequestration.

Biodiversity Net Gain - hopes and challenges

BNG is an example for other countries to follow, as the 2019 UN reports. The world is facing a biodiversity crisis that could lead to the extinction of millions of species. However, the law introduced in the UK has quite a few limitations. Critics point out that many developers may look for loopholes in the government's law and destroy habitat with the promise that biodiversity will be compensated elsewhere. Another problem is the Defra meter itself and the monitoring of the entire compensation process. It is also worth remembering that BNG is not an effective method of combating climate change, overconsumption and population growth. In these areas, the decisions of the people - urban and rural residents and entrepreneurs - matter most.

Although BNG is a legal regulation, the entire program should be seen as a major change in culture, values and attitudes toward nature, which, like humans, has a right to life. Any human interference should seek to improve its quality.

HOW CAN MUNICIPALITIES IN THE FOOTHILLS DEAL WITH THE PROBLEMS OF WATER SHORTAGES AND EXCESSES?

Posted on 19 February 2024 by Barbara Surmacz-Dobrowolska, Maciej Kozłowski

The answer to this question will be sought by participants in a conference scheduled for March 18 and 19, 2024. in Jelenia Gora. It will also be an opportunity to take a closer look at the Between Drought and Flood project. Blue-green infrastructure in the Forest Municipality. The event will focus on practical solutions gathered to address the real needs of local governments.

Categories: Issue 4/2024, News
Tags: lack of water, water

The answer to this question will be sought by participants in a conference scheduled for March 18 and 19, 2024. in Jelenia Gora. It will also be an opportunity to take a closer look at the project *Between drought and flooding. Blue-green infrastructure in the municipality of Lesna*. The event will focus on practical solutions gathered to address the real needs of local governments.

Beginning of the challenge

Happily, we are already ending the stage of discussion about whether we are facing climate change. More and more local governments are moving from the doubt phase to looking for solutions that will help them adapt successfully. This is how the idea of cooperation between the Lower Silesian municipality of Leśna and the Sendzimir Foundation, which for years has specialized in water conservation, rainwater management and the promotion of blue-green infrastructure, was born.

The *Between Drought and Flood* project was a response to the problems Forest has faced over the past two decades. In 2010. The municipality experienced a flood wave that inundated the center of the village up to a meter high as a result of a violent storm and damming of water on the Milosz Creek. In 2013. A similar scenario was realized on the Bruśnik stream. Then, in 2015 and 2018, the region faced the effects of drought, which required the ad hoc involvement of the Volunteer Fire Department to deliver drinking water by barrel trucks directly to farms. This was a clear signal that planning was needed to improve water security for residents.

Time for implementation

The Foundation, together with the municipality of Lesna, thanks to funding obtained from the EEA funds, carried out an educational program and prepared (with the participation of residents) a whole set of retention solutions. As a result, the foundations have been laid for the Izera Adaptation Center, a space showcasing the implementations used in the municipality. At its core is an educational path.

The retention basins, flower meadows, rainwater containers and rain gardens created in Lesna are just a selection of the solutions to help manage rainwater and inspire residents to take action on their own plots. This is because economies of scale are important. In rural areas, only with the involvement of residents is it possible to minimize the harmful effects of recurring floods and droughts, which are becoming more frequent.

Municipalities from foothill areas - popularization of solutions

Forest is no exception. The problems faced by the municipality are typical of the entire Jizera foothills and the Giant Mountains. Hence the ambitious plan to share the experience gained in the project with other local governments in the foothill regions. The occasion will be a conference scheduled for the second half of March in Jelenia Gora.

Participation in the two-day event is free. Applications are accepted until the end of February via the registration form. The number of seats is limited. More information about the conference can be found on the project website. The conference program emphasizes its practical nature, and the selection of speakers will provide a comprehensive look at the topic of blue-green infrastructure. During the exchange of good practices, panel discussions and workshops, participants will learn about many inspiring solutions, how they can be implemented in their own municipalities and where to get funding for this.

A broad perspective

The partners of the event are institutions actively working for the region and solving water problems. The city of Jelenia Gora is the initiating center for the regional climate change adaptation plan, which will be discussed by Michal Krzywicki-Guz, the head of the ZIT Management Department of the Jelenia Gora Agglomeration. The Karkonosze National Park, meanwhile, is the leading institution promoting the idea of protecting wetlands and floodplains around naturally meandering streams throughout the Jelenia Góra Basin. Dorota Wojnarowicz, who for years has specialized in protecting and fully utilizing the potential of the Karkonosze peatlands, will tell the story.

A panel discussion led by Ilona Gosk, managing director of the Sendzimir Foundation, with the participation of, among others, the following, also promises to be interesting. Renata Kwiatek, deputy mayor of Jelenia Gora, Dr. Andrew Raj, director of the Karkonosze National Park, and Szymon Surmacz, mayor of Lesna. Speeches by representatives of these institutions and specialists will be available for participants to discuss and supplement with behind-the-scenes discussions. The event schedule also includes workshops and networking sessions. There will be no shortage of opportunities to exchange knowledge.

Guided tour of the Forest

Since the conference summarizes the project implemented in the field, there will also be a study visit - a walking tour of Lesna. More than a dozen facilities are to be presented, tools for rainwater management, which have been incorporated into the attractive form of recreational areas. Some of them are designed for easy and low-cost adaptation in a residential setting. With this event, Forest turns an experiment conducted in the municipality into a solution manual for the entire region.

Photo. main: Sendzimir Foundation

WORLD WHALE DAY

Posted on 18 February 2024 by Izabela Łuba

World Whale Day - whales are mammals that live in the oceans and seas and are one of the most fascinating groups of animals inhabiting our planet. Unfortunately, their population is drastically declining due to numerous threats. In order to draw attention to this problem and to emphasize how important these animals are for the balance of ecosystems, World Whale Day is celebrated. This year it fell on February 18. This is an excellent opportunity to educate the public about whales and promote conservation efforts.

Categories: Issue 4/2024, News, Onet
Tags: animals, climate change, water, whale, world day

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Some interesting facts about cetaceans for World Whale Day

Cetaceans are the largest creatures that have ever inhabited our planet and are divided into two groups - toothfish and whalefish. The former have teeth, and their food source is fish and cephalopods. This includes dolphins, orcas and porpoises, representing the cetaceans in our native Baltic. Fishbones, on the other hand, are devoid of teeth. Instead, they have horn-shaped plates that, like a sieve, filter food from the water. These include the largest representatives of cetaceans, commonly called whales, such as the blue whale, which can reach up to 33 meters in length and 190 tons in weight.

Whales, although they live their daily lives in the water, are mammals that have developed mechanisms that make them similar to fish. They breathe air through nostrils located at the top of their heads, but would not be able to survive on land, as their great mass would make movement impossible. They have mammary glands, allowing them to feed their young, and they are warm-blooded. An interesting fact is that the whale's heart beats only 9 times a minute. By comparison, an elephant's heart beats 25 times per minute, a horse's heart 45, a giraffe's 65 times, and a human's 60-70 times per minute.

Whales are also long-lived. Blue whales can live up to 90 years, while sperm whales can live 70 to 80 years. This is due to the fact that, apart from humans, they have no enemies in the environment. And it is as a result of human activity that the whale population has dropped to just 1 percent in half a century. (compared to the size before the period of massive fishing). This is one of the reasons why World Whale Day was established, with the aim of raising public awareness of the importance of these animals in the environment and promoting their protection.

Why celebrate World Whale Day?

Whales play a key role in marine ecosystems. Their feces contain large amounts of iron, which is vital for life in the oceans. Among other things, it stimulates the growth of phytoplankton, microscopic organisms that are the basis of the food chain in marine ecosystems. Phytoplankton, by absorbing carbon dioxide from the atmosphere, help mitigate climate change.

Therefore, it is worth publicizing the celebration of World Whale Day and reminding people of the need to protect these aquatic mammals. They have a huge impact not only on local ecosystems, but also on global climate processes, and a drastic decline in their populations could lead to serious consequences for the entire marine environment and humanity.

How is World Whale Day celebrated in Hawaii?

Hawaii, the site of the most lavish World Whale Day celebrations, was not chosen at random. Every winter near the second largest island in the Hawaiian archipelago, Maui, you can watch flocks of humpback whales mating there and welcoming their young to the world. That's why the Maui Whale Festival, organized by the Pacific Whale Foundation, has been held in South Maui for more than 30 years. Its climax is a parade of cetaceans.

The festival is not only an opportunity to admire the majestic aquatic mammals, but also to support efforts to protect them. Anyone can join

the action, as the Pacific Whale Foundation, celebrating World Whale Day, has announced Race for Whales 2024, which takes place from February 1 to 29, 2024. In doing so, it threw down the challenge of beating the 1 percent. the route (30 miles) that humpback whales travel to reach their breeding grounds in Hawaii. You can take part in the race anywhere, documenting the kilometers covered using apps such as Strava. Each additional kilometer converts into dollars that will contribute to the foundation's account.

How to celebrate World Whale Day in Poland?

Although in Poland we can't count on such lavish festivals as in Hawaii, let's not forget about World Whale Day. All the more so because the Baltic Sea is home to one of the representatives of this order - the porpoise. In celebration of World Whale Day, you can join the action organized by the Pacific Whale Foundation or support other organizations working to protect these animals.

Also learn more about these fascinating marine mammals and, with your daily actions, contribute to improving their living conditions. Limit the use of single-use plastic products and try to keep them out of the seas and oceans. If you must already use plastic, make sure it is properly recycled.

Also get your friends in on the action by telling them about World Whaleday Day on your social media, using the hashtag #worldwhaleday in your posts.

WILL CATASTROPHIC FLOODING TAKE AN UNPREPARED CALIFORNIA BY SURPRISE? METEOROLOGISTS WARN

Posted on 17 February 2024 by Agata Pavlinec

Californians are used to facing climatic extremes - usually heat waves, wildfires and droughts. February 2024. has, however, brought residents of Los Angeles and surrounding areas a new cause for concern, after heavy rains flooded roads and left more than half a million people without power. According to meteorologists, this is just the beginning of a series of water disasters caused by climate change and atmospheric rivers over the US territory. A catastrophic flood of biblical proportions is a scenario that must begin to be taken seriously, experts warn.

Categories: Issue 4/2024, News, Onet
Tags: atmospheric rivers, California, flood, precipitation

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What are atmospheric rivers? The catastrophic flood of 1862.

In meteorology, an atmospheric river is a long and relatively narrow strip of water vapor that forms over the ocean and travels inland. It transports huge amounts of moisture from tropical zones to the north, bringing abundant rainfall to slightly cooler regions. The phenomenon is occurring in various parts of the world, but is particularly acutely manifested on the west coast of the United States. The catastrophic flood that hit California, Oregon and Nevada in 1862. was the result of the passage of a whole series of atmospheric rivers over two winter months. The death toll at the time was approx. 4 thousand. People, and 25 percent. cattle drowned. Losses were estimated at $100 million. - The equivalent of today's 3 billion.

Wet February in California

In early February this year. Strong atmospheric rivers have come over the west coast of the United States. According to the National Weather Service (NWS), the three-day rainfall total was second highest observed since 1877, the beginning of meteorological data collection. In California, the balance of five days of heavy rainfall brought more than 500 mudslides and nine deaths. Local flooding affected Los Angeles and Santa Barbara County, and even mountainous areas of Santa Ynez.

Flood risks have affected up to 40 million residents, of which 11 million have been identified as life-threatening. Representatives of Pacific Gas&Electric, one of the region's largest energy suppliers, announced that they had never before recorded so many power outages during a single storm - at one point up to 1.4 million of their customers were without electricity. In San Francisco Bay, wind gusts reached up to 126 km/h, knocking down coastal trees and electric poles.

Catastrophic flooding is only a matter of time?

According to experts, the dramatic events of early February will continue and intensify. In 2022. Daniel Swain and Xingying Huang, scientists at the National Center for Atmospheric Research in Colorado, have published an analysis that says another catastrophic flood is a real and growing threat to California. Accumulated satellite data suggests that climate change has already doubled the risk of cataclysmic events, and in black scenarios, rainfall totals in future storms could be as high as 200-400 percent. higher than historical records for the Sierra Nevada.

Scientists recalled the disastrous flood of 1862. and suggested that tragedies of this magnitude occur ca. 7 times per millennium, or roughly every 100-200 years. Meanwhile, 150. The anniversary of the cataclysm is upon us. In 2010. The U.S. Geological Survey, in cooperation with a multidisciplinary team of scientists, has prepared a flood scenario dubbed ARkStorm 1.0, which anticipates the need to displace millions of people and close important transportation corridors, with total economic losses estimated at nearly $1 trillion.

Projections provided by Swain and Huang in 2022. is an update to the pessimistic scenario, referred to as ARkStorm 2.0. Although the California Department of Water Resources (DWR) was involved in its preparation, the work is underfunded and still in its infancy.

California unprepared for dangers

Dr. Daniel Swain, who has become California's favorite social media meteorologist in recent years, warns that inadequacies in cooperation between federal and state agencies make it difficult to properly prepare for black scenarios. So far, flood control infrastructure has been strengthened mainly in the US Midwest, where water hazards have historically been a priority. In California, its shortages are significant, as highlighted, for example, by the intense increase in gastrointestinal infections after the recent floods in the San Diego region.

The catastrophic flooding predicted by scientists will be a far greater threat to life, public health, infrastructure and the functioning of society than any before. Without adequate investment and good communication with citizens, its effects will be dramatic.

THE GENERAL DIRECTOR OF ENVIRONMENTAL PROTECTION – THE CONTEST OF THE MINISTRY OF THE ENVIRONMENT HAS BEEN SETTLED

Posted on 16 February 2024 by Zespół redakcyjny

On February 14, the Public Information Bulletin mentioned the outcome of the previously announced competition. It was won by Piotr Otawski, who will occupy the position of General Director of Environmental Protection. Meeting the requirements set by the IOC was not easy. The choice is to ensure professional management of the institution.

Categories: Issue 4/2024, News, Onet

Tags: environmental protection, GDOŚ, Ministry of Climate and Environment

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Competition announced by the Ministry of the Economy

The Ministry of Climate and Environment announced the recruitment for the position of General Director of Environmental Protection at a press briefing in early January this year. At the time, Deputy Minister of the Ministry Anita Sowinska conveyed:

Today we announce recruitment for the positions of Chief Environmental Inspector and General Director of Environmental Protection. These are very responsible functions, and the requirements are considerable. These are competency requirements in terms of knowledge of environmental law, but not only - we also require knowledge of finance and public procurement law. She added that candidates with managerial competence should apply for the position, as professional management of the GIOŚ and GDOŚ will depend on it, which will translate into *A higher level of quality in environmental management in Poland.*

Results of the competition for General Director of Environmental Protection

According to information posted two days ago on the BIP website, Piotr Otawski - a doctor of legal sciences and legal advisor - has been selected in the competition for General Director of Environmental Protection. In 2014-2015, he served as Undersecretary of the Ministry of the Environment and Chief Nature Conservator. In recent years, he has been a partner in a Warsaw law firm and co-owner of a consulting company, on whose website we can read: *Long-time lecturer in law, administration and European studies in the area of public law - Polish and European environmental law and environmental policy. Author of dozens of publications in the field of environmental law, especially in relation to urban planning and the investment process.*

Photo. Piotr Otawski - private archive

General Directorate of Environmental Protection and subordinate units

The General Directorate of Environmental Protection (GDOŚ) is the institution responsible for nature conservation and participation in environmental investment processes. The basis for its activities is defined primarily by the Law of October 3, 2008. On sharing information about the environment and its protection, public participation in environmental protection and environmental impact assessments, and a number of implementing acts. According to the statute, the GDOŚ is an office of government administration. The General Director appoints and dismisses Regional Directors, performing their tasks in the areas of each province.

The main tasks of the General Director of Environmental Protection include. Control of the investment process in the environmental part, including strategic environmental impact assessments and proceedings on transboundary environmental impact; performing a number of tasks related to the Natura 2000 network, EMAS auditing or conducting Central Register of Nature Conservation Forms. On the other hand, according to the GDOŚ website, the main tasks of the Regional Environmental Directorates include:

- Issuance of decisions and stipulations under the Law on Nature Protection;
- Creation and elimination of forms of nature protection;
- transfer of data to the database on environmental impact assessments of projects, maintained by the General Directorate of

Environmental Protection;

- Participation in strategic environmental impact assessments;
- Management of Natura 2000 sites and other forms of nature conservation;
- conducting environmental impact assessments of projects or taking part in them;
- Performing tasks related to the organization's participation in the EMAS eco-management and audit scheme;
- Conducting proceedings and performing other tasks under the Law on Environmental Damage Prevention and Remediation;
- Cooperation with local governments on matters relating to environmental impact assessments of investments and nature conservation;
- Cooperation with environmental organizations.

At the moment, it remains to wait for the appointment of a new General Director of Environmental Protection.

UN REPORT WARNS. MIGRATORY ANIMALS IN DANGER OF EXTINCTION

Posted on 16 February 2024 by Izabela Łuba

Every year, migratory animals cross land and oceans, sometimes traveling thousands of kilometers to reproduce and find food. Unfortunately, this may soon change. The groundbreaking United Nations (UN) State of the World's Migratory Species report leaves no illusions - unsustainable human activity threatens the future of migratory species.

Categories: Issue 4/2024, News, Onet

Tags: animals, climate change, nomadic animals, plastic, report, threat, UN

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UN report is first review of conservation status and population trends of migratory animals

On February 12, during the 14th. The United Nations Conference on the Conservation of Wildlife (CMS COP14), which is currently taking place in Samarkand, Uzbekistan, and will run until February 17, has unveiled its first-ever assessment of the state of the world's migratory animals.

The report considers 1189 species covered by the UN Convention on the Conservation of Migratory Species of Wild Animals (CMS), which has been in effect since 1979. It was prepared by conservation scientists at the United Nations Environment Programme World Conservation Monitoring Center (UNEP-WCMC), using the most reliable species datasets and with support from BirdLife International, the International Union for Conservation of Nature (IUCN) and the Zoological Society of London (ZSL), among others.

More than one in five migratory animal species are threatened with extinction

The latest UN report presents alarming data. The population of almost half (44 percent) of CMS-listed species has declined in recent years, and as much as 22 percent. Are threatened with extinction. These data clearly indicate that the number of migratory animal species is steadily decreasing, and thus the risk of their disappearance from our planet is dramatically increasing.

According to the document, the threat of extinction particularly affects fish. Population 97 percent. of the 58 species covered by the UN Convention on the Conservation of Migratory Species of Wild Animals has decreased by 90 percent. Compared to data from the 1970s. In the 1970s. You can mention sharks, sturgeons or stingrays, among others. Significantly, a number of migratory animals that are not currently listed by CMS but are included in the report are also threatened with extinction. This is nearly 400 species worldwide, of which 35 (4 percent) are classified as critically endangered.

Migratory animals may become extinct due to human activities

According to the United Nations report presented, the biggest threat to migratory animals is humans and their activities. Their migrations are primarily disrupted by environmental pollution with chemicals and plastics, hunting, as well as climate change and habitat destruction and defragmentation due to agricultural activities. In addition, migratory animals are also gradually losing the ability to move freely along their migration routes due to expanding road, rail and agglomeration infrastructure.

What should be done to protect migratory animals from extinction?

Migratory animals are an important part of the balance of complex ecosystems on our planet. Through their migrations, they help, among other things, to store carbon dioxide, transport nutrients between marine, terrestrial and freshwater ecosystems, or pollinate plants. Migratory species are also an important source of food for other animals and populations found along their migratory routes.

Therefore, it is necessary to prevent the extinction of endangered animal species by taking appropriate measures as soon as possible to eliminate the pressure they face. The related recommendations in the UN report cover five areas of action:

- Protection, connection and restoration of natural habitats for migratory animals;
- Reduce overexploitation of migratory species by humans;
- Reducing the harmful effects of environmental pollution;
- delaying climate change, as well as its effects;
- Expanding the lists of species covered by the UN Convention on the Conservation of Migratory Species of Wild Animals (CMS) to include species not included in the list but threatened with extinction.

Among other things, the measures are to identify key sites for migratory species along their migration route, and to increase conservation coverage (up to 30 percent) of Key Biodiversity Areas (KBAs) and other important habitats by 2030. It is also important to take action to reduce the impact of overfishing, the incidental capture of marine migratory species, or to help all migratory species adapt to a changing climate through targeted efforts to restore natural ecosystems.

WATER AND FASHION. ABOUT HARD CHOICES AND EASY DECISIONS

Posted on 15 February 2024 by Agnieszka Hobot

Can fashion be responsible for water? Of course it does. As much as one-fifth of the world's industrial wastewater discharge comes from apparel manufacturing. A common practice is that they end up in rivers without any treatment. It is not only the garment manufacturers that are responsible, but also the unwillingness to enforce the law in countries such as China and Bangladesh. Colorful, disgusting and carcinogenic streams flow for hundreds of kilometers, destroying life in and out of rivers, while people suffer from lack of access to clean drinking water. This is what the social responsibility of the global fashion business looks like today. Will the water crisis and investment risk change anything?

Categories: In this issue, Issue 4/2024, Issue topic, Onet
Tags: contaminants, fashion, sewage, water

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You've got to be kidding, after all, there is a promotion," comments the teenager, poking her friend, who can't decide whether to buy one or two T-shirts. - *See, you get two for the price of one.* That one tries to resist: *But I don't need two. Besides, I came for the pants*. This dialogue of female representatives of Generation Z is not unique, it is ordinary. How many times, looking at promotional prices, have we been tempted to buy something we didn't need.

I have to admit that despite my awareness of pervasive consumerism and the impact of industrial processes on natural ecosystems, I stopped for a long while at the problem of fashion and water only now. I immediately asked myself why. The answer is simple - closer to the body the shirt. After all, Poland is not a fashion basin. However, in this case, a broader view of the problem is essential - facing the consequences of climate change, drought or the migration of the south of the globe to the north, already gives a fuller picture, not very fashionable and less colorful.

pic. depositphotos/pierivb

Colorful closet - colorful river

The passing autumn-winter season was reportedly not surprising. Fashion magazines indicated as desirable shades of beige - from cold to warm, sandy colors. Spring 2024 is expected to bring a fashion for slightly bolder colors - red, pink, caramel. Unfortunately, a sizable number of people follow just such guidelines, to which are added guidelines for cuts and accessories. If I don't have something, I'll buy it. What we have in our closet is usually thrown away (about 92 million tons of clothes in the world every year), less often sold or recycled.

Unfortunately, most of the clothing we buy is so-called. fast fashion. My definition, after reading a number of publications about the scale of this phenomenon, is: produce as cheaply as possible, sell as much as possible, poison - no matter who or what. Climate reports state that the

garment industry is responsible for 10 percent of Global greenhouse gas emissions and 20 percent. global water pollution.

Report Quantis International reports that there are three main factors that affect resources: dyeing and finishing clothes - 36 percent, yarn preparation - 28 percent, and fiber production 15 percent. Without expert knowledge, one can imagine that every fashion season means new collections and colors, and thus new pigments, dyes and chemicals discharged into rivers. It's true that watercourses have the ability to self-purify, but in that case we're no longer talking about a river, but rather a channel in which sewage flows.

Business is booming, environment not necessarily

In fast fashion, high demand means high profit. Business is booming, as are the polluted rivers flowing with color. About 80 billion garments are sold in the world every year, which means about 10 pieces for each of us. Not to mention the garments that were produced and not sold. On the one hand, it seems obvious that an economy that defines success by rapid growth sees no need to promote the slow fashion trend and reduce resource consumption; on the other hand, it wants to show its pro-environmental side, so we are fed with fashion CSR reports, which, it is worth adding, are voluntary and not subject to any verification at the moment.

Given the undeniable damage that fashion corporations are doing to the environment, it is not surprising that they are defending access to hard data on water consumption and wastewater discharge. Many times they are scored by activists and NGOs for tattling or, more nicely, not disclosing facts. For this reason, fast-fashion consumers are also not fully aware of the impact of their choices on water, the environment and the climate.

As Greenpeace points out in one of its publications, some of the most common offenses of fashion brands include:

- Misleading labeling for customers, including fake certificates;
- No information on the full production chain;
- Lack of complete information on resource consumption in CRS reports;
- No attempt to stop the growth of mass production;
- misleading information about the closed-loop manufacturing process regarding the use of recycled polyester from plastic bottles;
- Overuse of terms about responsibility and sustainable production in communications to consumers;
- Promotion of non-recyclable fabrics;
- relying on discredited measurement tools to describe the environmental impact of materials used in a product;
- informing consumers that changes have been made to the production process, but taking place on a small scale, and the modification requires the entire process.

pic. depositphotos/kasto

Investors' response to the water crisis

The water-intensity of the fashion industry is huge, with nearly 80 billion[cubic meters of] water abstracted annually, placing it second only to other industries in the world. These numbers are frightening, especially if we look at the water footprint of individual products, for example: one T-shirt - 2.7 thousand. l; a pair of jeans - 10 thousand. l. Are strategic fashion investors responding to the worsening water crisis? Does the word *sustainable* mean anything to the apparel industry? With the answer to this question comes the results of the latest Planet Tracker report *Exposing water risk*
, which was released in January of this year.

The authors analyzed as many as 3,900. documents, which published 29 of the world's leading fashion brands, including well-known in Poland: Adidas, H&M, Nike, Zalando, GAP or Victoria's Secret. The aim of the report was to examine how they manage water risks. The conclusion is quite depressing - as much as 90 percent. documents analyzed, i.e. annual reports, sustainability reports or investor meeting transcripts, mentioned nothing about such risks. Undoubtedly, this demonstrates a significant gap in the fashion giants' disclosure practices. However, mention should also be made of those in the minority, noting the risks associated with water. In the period from 2018. By 2022. mentions of these threats appeared more frequently there was an increase from 2,000. Up to 9,000.

In many parts of the world, water availability is increasingly under threat due to climate change, inefficient use and untreated disposal. This could threaten textile production in key regions, disrupting supply chains - Richard Wielechowski of Planet Tracker warns.

Failure to disclose information about water risks exposes both investors and financial institutions to erroneous decisions based on incomplete data. The report's authors call for water risk to be factored into investment decisions, urging financial institutions to consider its potential impact on supply chains and retail prices.

Following fashion or following water?

Reviewing the dates of publications on the environmental impact of the fashion industry, I get the impression that they come out in waves.

Such sinuosity does not serve water conservation - the topic should be addressed regularly, as if we wanted to swim in a relay race. Passed from editorial to editorial, from discussion to discussion, from action to action, to maintain continuous interest and induce thoughtfulness in consumer choices.

A simple answer that came to me on its own in response to the question: what can I do? If I am faced with a difficult choice, I should make an easy decision - I don't buy, I protect water and the lives of hundreds of thousands of people.

As I was finishing writing this article, I received a text message that read: *Welcome to the -50 percent sale on the entire JZ'23 collection....* I deleted it, having not read to the end.

EU APPROVES POLISH AID PROGRAM - 300 MILLION EUROS FOR COAL SECTOR EXTINCTION

Posted on 15 February 2024 by Agata Pavlinec

On February 5 this year. The European Commission has officially approved Poland's proposed aid program for workers at closing coal-fired power plants and mines. Under it, the Polish government has provided 300 million euros in compensation for lost jobs in the extinguished "dirty" sector. Margrethe Vestager, EC Vice President in charge of competition policy, commented on the decision: This shows that the Commission is committed to the green transition and is not leaving anyone behind.

Categories: From the European Commission, Issue 4/2024, Onet
Tags: aid program, coal, EU, KE

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What does the assistance program consist of?

Acceptance of public support for coal miners and power plant workers was sought in Brussels by Industry Minister Marzena Czarnecka and State Assets Minister Borys Budka. In talks with representatives of the European Commission, Polish delegates presented an aid program amounting to approx. PLN 1.3 billion (€300 million), which will be implemented until February 2034. After this deadline, there is a possibility of extending the time to obtain support.

Under the program, employees of closing coal- and lignite-fired power plants and miners from decommissioned lignite mines will be entitled to collect a cash severance payment equal to one year's earnings. This is a voluntary alternative to the severance payments provided under union contracts. In parallel, the Polish delegation notified the Commission of a plan to offer up to four years of paid leave (so-called "mining leave") to laid-off workers of retirement age.

Legal basis of the EU decision

The Treaty on the Functioning of the European Union prohibits member states from providing state aid because it conflicts with the principles of fair competition. However, there are exceptions to this rule, and the Polish aid program meets the conditions included in Art. 107 (3) (c) Treaty. At the same time, the Polish government's initiative is in line with the 2022 Guidelines on State Aid for Climate and Environmental Protection and Energy Targets(CEEAG).

According to the Commission, both the support for laid-off workers and the provision of paid leave do not constitute state aid and do not violate the principles of fair competition. According to Brussels, the Polish aid program is necessary and appropriate to mitigate the social consequences associated with the extinction of coal mines and related power plants.

The Polish government's plan was also assessed as proportionate, as it is limited to covering only some of the social costs associated with the termination of beneficiaries. In addition, the initiative was considered to have a motivating effect, as it builds public support for green transformation activities. It is worth mentioning that CEEAG's guidelines in particular are intended to help member states provide the support necessary to achieve Green Deal policy goals in a targeted and cost-effective manner.

The deplorable state of Poland's coal sector and the green transition

According to data from the Polish Coal Market, at the end of November 2023. The country's coal sector employed 76.2 thousand. individuals. In the same month, domestic producers extracted 4.6 million tons of raw material. That's still a lot, given that Poland has pledged to decarbonize, i.e. completely abandon the use of coal in the electricity, heating, industry and households.

By 2049. all of Poland's coal mines are planned to be decommissioned - the gap in the energy market is to be covered by RES, particularly wind and photovoltaic power plants and nuclear power plants planned to be commissioned. However, the construction of the latter is well behind schedule. In the interim era, energy deficits will most likely be covered by natural gas, which is used primarily in thermal power

plants.

However, the state's energy policy is a separate issue that must be resolved independently of the plan to extinguish coal mines. Reducing carbon emissions remains a priority required by the European Green Deal policy and expressed in documents such as the National Energy and Climate Plan 2021-2030 and the not yet officially approved Climate Neutral Transformation Strategy.

Meanwhile, signed in May 2021. The social contract with the miners provides for protective packages for those leaving their jobs, including the aforementioned mining leave and one-time severance payments. The new Polish government has expressed interest in increasing the pace of mine closures, so the aid program approved by the European Commission is likely to reduce the social costs of Poland's energy transition.

THE FUTURE OF EU AGRICULTURE – A STRATEGIC DIALOGUE OF STAKEHOLDERS

Posted on 15 February 2024 by Karol Kucharski

The European Commission has launched a strategic dialogue. The future of EU agriculture is a topic that still needs to be clarified. It is necessary to shape a common vision for the area and the entire EU food system. The dialogue was announced by European Commission President Ursula von der Leyen in her 2023 State of the Union address. and formally launched on January 25, 2024. It is a meeting of a diverse group of stakeholders in the European agri-food sector to find common solutions for all concerned.

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Tags: agriculture, CAP, EU, KE

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Strategic dialogue: the future of EU agriculture and its goals

The Strategic Dialogue on the Future of EU Agriculture aims to develop a shared vision of the future EU agricultural and food system by actors from every stage of the agri-food chain, including farmers, cooperatives, agribusinesses and rural communities, as well as NGOs and civil society representatives, financial institutions and academia.

The strategic dialogue will address challenges and opportunities, such as ensuring an adequate standard of living for farmers and other rural residents, supporting agriculture while taking into account the limitations of our planet and its ecosystems, taking advantage of the vast opportunities offered by knowledge and technological innovation, and promoting a successful future for the EU food system in a competitive world. The dialogue, by bringing together different perspectives, can serve to support the creation of new solutions and develop a common vision by the summer of 2024.

Who can participate in the strategic dialogue on the future of EU agriculture?

The dialogue will be attended by representatives of associations and organizations at the EU level, representing a range of interest groups. As major players in all, diverse parts of the EU agri-food value chain, they have in-depth knowledge and experience.

A prerequisite for a successful strategic dialogue is to have a balanced and representative group that reflects the richness and diversity of all stakeholders. The selected actors represent different segments of the agricultural and food system (including farmers, cooperatives, agribusinesses and rural communities), as well as NGOs and civil society representatives, financial institutions and academia.

In order to allow targeted and lively interaction, the number of representatives who will be able to attend the meetings is limited. Those who are not directly represented will be asked to provide their opinions and comments through a special "Express Your Opinion" portal. More details will be available on the website of the Strategic Dialogue on the Future of Agriculture in the EU. The inaugural meeting was held on January 25, and the schedule of subsequent meetings will be determined and published in the coming weeks.

Professor Peter Strohschneider, who has many years of experience in a similar position at the German Federal Government-appointed Commission for the Promotion and Protection of the German Economy, was appointed chairman of the dialogue. The Future of Agriculture. Participants will work on a common vision of the future, taking into account different points of view. According to the plans, by summer 2024. a report and the main conclusions of the interviews will be presented.

Importance of agriculture in the EU

According to the EC website, Europe's agri-food sector provides safe, healthy and affordable food for 450 million people. More than 17 million people work in this EU sector, and the average age of a farmer is 57. This provides tremendous opportunities to change and adapt strategies to the modern world.

EU activities in the field of agriculture

One of the EU's core agricultural activities is the Common Agricultural Policy (CAP). In 2023. The European Commission has launched a five-year support system in the form of its update. There will be €300 billion in funding and stronger incentives to push farmers toward more sustainable and resilient practices. Under the policy, farmers are also to receive additional compensation for their crops if they reduce $_{CO_2}$ emissions.

In the strategic plans of the Common Agricultural Policy, member states provide more support to those who need it most. For example, more than 10 percent. EU direct payments, or €4 billion a year, will go to smaller farms. Support for emergencies caused by natural disasters and price shocks has also been increased. In 2023. Additional aid of more than 500 million euros has been provided to farmers hardest hit by the crisis.

ARTIFICIAL INTELLIGENCE ONE OF THE EU'S DEVELOPMENT GOALS

Posted on 15 February 2024 by Karol Kucharski

The European Commission, in order to increase competitiveness in the market and gain confidence based on EU values, has been facilitating closer cooperation throughout the community for many years. Among other things, they have resulted in increasingly developed artificial intelligence. As part of this effort, a package of measures has been adopted to support European start-ups and small and medium-sized enterprises. The premise of all these activities is the development of trustworthy and compatible artificial intelligence (AI) in accordance with EU values and regulations.

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Artificial intelligence - EC efforts to develop it

The first steps in the development of artificial intelligence in the EU were described in the European Commission's White Paper on Artificial Intelligence, published in 2020. It outlined a vision for AI in Europe - moving toward an ecosystem of trust and excellence. In April 2021. a proposal has been made for an EU AI act and a new coordinated plan, which was created in cooperation with member states, to ensure the security and respect of the rights of citizens and businesses. It is also not insignificant to promote investment and innovation in all EU countries. In December 2023. The content of the EU AI act has been tentatively agreed upon. This is the world's first comprehensive law on the subject.

A new initiative to make supercomputers available to innovative European artificial intelligence start-ups was mentioned by European Commission President Ursula von der Leyen in her 2023 State of the Union address. The first step toward its implementation was the November 2023 announcement. *The Great AI Challenge*, a competition in which the prize is financial support and access to supercomputing.

Package of measures to provide support for the development of artificial intelligence

The package adopted by the European Commission to support the development of artificial intelligence provides a wide range of funds for innovation and privileged access to supercomputers for specialized start-ups. It concerns:

- Amending the EuroHPC regulation to establish artificial intelligence factories, a new pillar of the Joint Venture's supercomputing efforts. New activities include:
- Acquiring, improving and operating supercomputers designed for AI work to enable rapid machine learning and training of large general-purpose AI models;
- Facilitating access to supercomputers designed for AI work, thus contributing to the use of artificial intelligence by more public and private users, including start-ups and small and medium-sized enterprises;
- Offering a single point of contact for start-ups and innovators, supporting the AI start-up and research ecosystem in algorithm development, test evaluation and validation of large-scale models, providing programming facilities and other support services;
- Enabling the development of new artificial intelligence applications based on general-purpose AI models;
- Decision on the establishment within the Commission of an Office for the Promotion and Protection of Human Rights. The Artificial Intelligence Council will take care of the development and coordination of AI policies at the European level and will oversee the implementation and enforcement of the future AI act;

- Communication on AI start-ups and innovation in the EU, which outlines additional key actions:
- financial support that the Commission will allocate to generative AI through the Horizon Europe and Digital Europe programs. Implementation of the package will entail additional public and private investment worth a total of about €4 billion by 2027;
- Accompanying initiatives to strengthen the EU's generative AI talent pool through education, training, and acquisition or retraining activities;
- Continue to encourage public and private investment in AI start-ups and scale-ups, including through venture capital or equity support (including through new initiatives under the EIC and InvestEU "Accelerator" programs);
- Accelerate the development and implementation of common European data spaces for AI as a key resource for training and improving models. The current situation in this regard is outlined in the Commission Staff Working Document on Common European Data Spaces;
- "GenAI4EU" initiative, which aims to support the development of new applications in 14 European industrial ecosystems, as well as in the public sector. Application areas include robotics, health, biotechnology, manufacturing, transportation, climate and virtual worlds.

Consortia for European Digital Infrastructure (EDIC)

The European Commission, in cooperation with member states, will set up two European Digital Infrastructure Consortia (collectively known as EDICs):

- "Alliance for Language Technology" (ALT-EDIC), which aims to build a common European language technology infrastructure in response to the scarcity of data on European languages and to preserve the richness of the continent's linguistic and cultural diversity. The alliance will support the development of large European language models;
- "CitiVERSE" EDIC will use cutting-edge AI tools to develop and expand local digital twins for smart communities, thus helping cities simulate and optimize processes - from traffic management to waste management.

When will the package of measures providing support for the development of artificial intelligence take effect?

The European Commission's proposed amendments to the regulation on the establishment of the Joint Undertaking in the field of European Large Scale Computing will be examined by the Parliament and the European Council.

As envisioned, the Office of the Food and Drug Administration has been working on a number of issues. An Artificial Intelligence Committee will be created within the European Commission, and will be tasked with implementing the AI Act at the EU level and overseeing regulations for general-purpose models and systems. It is expected to become the central coordinating entity for AI policy at the EU level and to cooperate with other European Commission services, EU bodies, member states and the community. The office will also have an international dimension - promoting the EU's approach to AI management and supporting the EU's international AI activities. Office for the Environment.

The goal of the Artificial Intelligence Council is to facilitate its understanding and support AI implementation and innovation in the field. The decision to establish it will take effect on February 21, 2024.

WATER DEFICIT RESILIENCE INITIATIVE IN THE FACE OF DROUGHT AND CLIMATE CHANGE

Posted on 15 February 2024 by Monika Zabrzeńska-Chaterera

The fact that recurrent and increasingly severe droughts and sudden flooding and waterlogging are to be expected has been talked about for years. But it is only now, as the effects of these extreme events are becoming increasingly burdensome for Europeans, that the European Commission is preparing to launch a "water resilience" (water scarcity) initiative.

Categories: From the European Commission, Issue 4/2024, Onet
Tags: climate change, deficit, Drought, EU

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Addressing water deficit resilience is high on the EU's environmental agenda. The European Commission (EC), in its October 17, 2023 communication outlining its work plan for 2024, indicated that it will launch a non-legislative "water deficit resilience" initiative to ensure that EU citizens, nature and economies have access to water, while preventing catastrophic floods, water shortages and droughts.

Europe is currently battling waterlogging and flooding and drought

Progressive warming, along with rainfall and melting snow, is causing a lot of flooding, waterlogging and even snowmelt floods in some regions of Europe, and droughts in others. An example of this is some regions of Germany, Poland or northern France, which have recently been hit by severe flooding and waterlogging. The situation, if only in the case of our country, remains worrisome. Forecasts predict further downpours and snowstorms, which will be followed by even more warming, resulting in further increases in water levels in rivers, including exceedances of warning and alarm levels.

Meanwhile, the northeastern part of Spain is increasingly feeling the negative effects of climate change, primarily those related to water shortages and drought. Spanish media recently reported that the region's water reserves, after 40 months with rainfall below the average of previous years, had fallen below 16 percent. David Mascort, Catalonia's Minister for the Economy. climate, called the current situation the worst drought in Spain's history, and the country's residents are facing increasing water restrictions.

It's time for concrete action! - EC "water deficit resilience" initiative

Faced with recurring water crises, the European Commission is taking steps to make countries more resilient to the deficit, both now and in the future.

On March 12, 2024. The EC plans to publish a new "water deficit resilience" initiative, along with a related document on climate change adaptation. The initiative is intended to contribute to identifying and assessing the best way to manage climate risk in all EU policy areas, including water policy. It will include a series of actions for immediate implementation and will initiate public debate on ways to lead to water deficit resilience. Part of this debate will take place as part of Green week, organized by the European Commission in Brussels on May 29-30, 2024.

Water shortages are as much a problem as the energy crisis

The commissioner for the Ministry of Agriculture. Environment Minister Virginijus Sinkevićius, outlining preliminary plans for a "water deficit resilience" water initiative, compared potential future water shortages to the energy shock that followed Russia's invasion of Ukraine. He pointed out that the issue to be dealt with is access to drinking water and its transmission losses, as well as limiting the amount of resources taken. In addition, he reported that major users in the industrial, energy, transportation and agricultural sectors will need to join in so that water efficiency and resource conservation can be effectively integrated. The commissioner also referred to EU legislation under the Water Framework Directive 2000/60/EC, pointing out that the environmental and resource costs of water supply, as a promotion of more efficient use of resources, have not been implemented sufficiently.

Virginijus Sinkevićius said in January this year, following a meeting of EU environment ministers, that prioritization of sectors to diversify water supply is not being considered, but an approach emphasizing the importance of water as a resource to be well managed and secured for future generations is being promoted.

At a meeting of EU Council of Agriculture and Fisheries Ministers in January 2024, Portugal proposed preparing a plan to reduce the European Union's vulnerability to the impact of climate change on water resources, which could be called "RewaterEU." for which public funds would be allocated to increase water security while guaranteeing access to water resources at reasonable prices. It was also pointed out that resilience to water scarcity and concern for water availability in the EU is probably the most important issue for the future of agriculture and food systems. The importance of courses of action such as storage, water distribution, effective management of reuse of resources, development and use of new technologies, including precision agriculture, proper water management planning and monitoring of resources was emphasized.

Is action at the EU level sufficient to prevent a global water crisis?

Resilience to water deficits is a challenge not only for the EU, but also for other regions of the world. Across the globe, the water cycle is unsustainable, closely linked to climate change and biodiversity loss. The effectiveness of flood risk reduction and drought prevention, including increasing "water deficit resilience," will not be achieved without an integrated approach that takes into account all stakeholders, not only from the European Union, but from around the world.

ARTIFICIAL INTELLIGENCE WILL HELP PREVENT FLOODS

Posted on 15 February 2024 by Agata Pavlinec

Categories: Business and economics, In this issue, Issue 4/2024, Onet
Tags: artificial intelligence, climate change, flood

Climate change has clearly intensified the frequency and intensity of weather extremes. As a result, more and more floods with devastating consequences are being recorded around the world. To better cope with them, we need accurate and precise forecasts and warning systems. According to hydrologists, the most important prevention tool in the coming years will be artificial intelligence. How can AI help? Practical solutions are already being implemented, with considerable success.

Artificial intelligence in flood risk management

The process of climate change cannot be easily stopped - even consistent reductions in emissions will not work like a magic wand and will not save us from the effects of further cataclysms in the coming decades. The key issue, therefore, is to prepare adequately for extreme weather events and effectively mitigate their effects.

In the field of flood risk management, artificial intelligence offers unprecedented advantages - it can quickly process huge amounts of data and formulate the most likely forecasts and models based on it. Satellite images and hydrological measurements are used for analysis, on the basis of which it is possible to try to understand how floods occur and what determines their scale. Due to the volume and complexity of this data, only computer technology has a chance to make calculations fast and accurate enough.

Artificial intelligence as a flood risk management tool makes it possible to formulate forecasts well in advance and with a precision that humans cannot match. They form the basis for spatial planning and, above all, the preparation of infrastructure and rapid response systems for disasters. The benefits cannot be overestimated, both in terms of protecting human life and health and preserving property assets.

Technologies used by AI

The great potential of artificial intelligence in forecasting meteorological and hydrological phenomena lies in the so-called "artificial intelligence". machine *learning*(from *machine learning*). We are talking about processes resulting from the software used in AI, and enabling actual learning based on the information input. The more data we provide to artificial intelligence, the easier it will be for it to draw complex conclusions about the processes taking place on Earth.

From the point of view of flood control, the so-called "flood prevention" is particularly important. Deep *learning*, which involves the creation of multilayer neural networks. Artificial intelligence uses the data given to it to predict future events based on past experience - this can be done in a supervised way, with the exact type of data tagged, or unsupervised, when AI tries to find order in the information on its own, without human intervention.

Self-developed algorithms allow the machines to observe the course of the flood using images acquired from Sentinel-2 and Landsat satellites and information from the MODIS sensor. The result is very fast and accurate forecasts with much higher probabilities than the traditional models used for decades to predict hydrological phenomena. An excellent example of technology development in this area is the Sen1Floods11 project, which used 4831 chips to monitor flooding on six continents. The result was the acquisition of a dataset on surface water, on the basis of which it is possible to train, verify and test convolutional neural networks capable of in-depth image analysis based on various filters.

Unfortunately, as experts point out, machine learning - despite all its advantages - also has its overt limitations. One of the more serious is the selection of the right algorithms, closely related to the quality of the systems used to train artificial intelligence.

Artificial intelligence versus flooding - what it looks like in practice

Flood control using AI is not at all a vision straight out of science fiction movies, but an actual practice already being implemented successfully in many places around the world. We're talking about both global initiatives to assess trends in climate change and local efforts seeking to reduce flood losses in the here and now.

An interesting example is a project carried out by scientists at Texas A&M University with financial support from the National Oceanic and Atmospheric Administration (NOAA). As part of it, users send via the BluPix application photos of road signs partially submerged by rising water levels. Artificial intelligence analyzes the photos and compares them with the actual height of the poles, while assessing the depth of flooding and the extent and speed of the spreading floods. The initiative was created in response to the disaster caused by Hurricane Harvey in 2017, which resulted in the loss of more than 100 lives and property damage of 125 billion dollars.

The Irish city of Cork, on the other hand, is using an innovative model developed by researchers at the CeADAR AI Applications Center, based at the University of Dublin. In its framework, artificial intelligence takes historical data from satellites and creates maps from which it is possible to predict future floods with surprising precision.

At the University of New Orleans, researchers are combining images acquired from military drones with sensory data and using them to monitor the integrity and stability of flood control systems. The project, in which artificial intelligence and its analytical capabilities play a key role, is of tremendous importance in a region that regularly experiences flooding from hurricanes, heavy rainfall and flooding of the Mississippi River.

AI algorithms are also used in a global tool developed by Google to forecast floods around the world. Google's Flood Forecasting System is a hydrological model that predicts how water levels in rivers and streams will rise, while forecasting the scale and scope of floods. Based on in-depth analysis, warnings are prepared and can be distributed as early as 5 days before an expected disaster. Another publicly available tool, FloodHub, monitors river levels in 180 countries around the world and provides forecasts of expected floods in 1,800 locations with 450 million people, including Poland.

How does the future look?

Report published in 2023. by the Stockholm International Peace Research Institute (SIPRI), however, warns of the limitations of using AI to enhance climate security.

The quality and availability of data, without which artificial intelligence cannot create realistic models, is cited as a major problem. Experts stress that it is necessary to develop new technologies and data sources that will enable a more interdisciplinary approach to forecasting.

Further progress will help develop more efficient and stable solutions to better manage water resources and respond more quickly to flood risks. In SIPRI's view, artificial intelligence is crucial to the development of strategies for adaptation and climate change mitigation efforts, which translates into building more resilient communities and better protection of natural ecosystems. Technological advances appear to be the way forward for more efficient and effective flood risk management in a world increasingly hard-hit by a capricious climate.

WATER AND WASTEWATER MANAGEMENT. BRITONS ARE WILLING TO PAY MORE FOR NATURE-BASED SOLUTIONS

Posted on 15 February 2024 by Agata Pavlinec

A recent poll of British consumers shows that an increasingly aware public is willing to bear the cost of sustainable water management. Respondents said they would be able to pay 40 pounds a year more to have water investments built using natural resources. Nature-based solutions are expected to improve water quality and reduce the risks associated with flooding.

Categories: Business and economics, Issue 4/2024, Onet
Tags: nature, sewage, water, water management

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Understand consumer priorities

The British consumer organization Customer Council for Water (CCW), which deals with water supply and management issues, commissioned 2023. Yonder Consulting to conduct an online survey examining the public's preferences for water investments. More than 2,300 people participated in the survey conducted in late September and early October. residents of England and Wales. Respondents were presented with different types of investment scenarios and their associated financial burdens. Nature-based solutions were contrasted with so-called "nature-based" solutions. hard engineering, that is, projects based on concrete and other man-made raw materials.

The purpose of the survey was to find out what consumers' priorities are and to what extent they would be willing to participate financially in improving water infrastructure. It was no surprise to discover that the most important aspect for citizens in evaluating an investment is its overall cost, which translates into an increase in water bills. Analysts explain this choice by the general rise in prices and concern over household welfare.

Respondents, despite this parsimonious approach, however, after carefully analyzing the advantages and disadvantages of the various solutions proposed to them, declared a willingness to compromise. As a result, nature-based solutions have unquestionably triumphed over engineered alternatives. As many as 59 percent. survey participants favored pro-environmental investments, even if their impact on bill growth would be four times higher than in the other case. However, it is not an unconditional approval for all planned projects.

Nature-based solutions for water management

For the CCW study, three scenarios were prepared for possible investments in the sphere of water management, specifically regarding sewerage systems, flood control and wastewater treatment. The model based on man-made materials was identified as the fastest to finalize (up to 1 year), but at the same time having the lowest life expectancy (5-10 years). Its implementation would entail a £20 per year increase in water bills, serious interference with aquatic ecosystems, the local landscape and significant carbon emissions. However, it would be a targeted project, focused on a specific need and guaranteeing predictable costs and results.

At the other extreme, a Nature-Based Solution (NBS, or Nature-Based Solution) was proposed, which would require a much longer implementation time (2-5 years) and an increase in water bills of £40 per year. The sustainability of the results is projected for 10-20 years in this scenario, and the impact on the landscape would be minimal. Moreover, the implementation of such projects using natural raw materials would have an impact on reducing$_{CO2}$ emissions$_{and}$ bring widespread environmental benefits. Due to its novel nature, both costs and results would be more difficult to predict.

An intermediate solution was presented to respondents as a third scenario. It involved a maximum two-year lead time, a lifespan of 10-20 years, and a £20 increase in bills. The project plans to use artificial materials to a moderate degree. The entire project would involve$_{CO2}$ emissions with limited environmental benefits.

The vast majority of respondents were unequivocally in favor of NBS solutions, while the smallest portion (up to 10 percent) supported classic infrastructure projects.

Why do British people support nature-based solutions?

The aforementioned survey was supplemented by panel discussions with residents of England and Wales. Their goal was to deepen the topic of differences in approaches to water investment and open a dialogue with consumers. It turned out that the amount of the water bill is not their only concern.

Nature-based solutions were praised for their aesthetic qualities, among other reasons. Notions of wildlife-friendly green spaces clearly prevailed over the scenario of paved reservoirs and high $_{CO2}$ emissions. Most consumers seem to be genuinely concerned about climate change and the impact of pollution on the quality of rivers and lakes. NBS solutions, meanwhile, appear to meet social water and sanitation needs without increasing environmental pressure. Opportunities for citizens to get involved in green projects and prospects for supporting endangered wildlife were also cited as assets.

The economic aspect of supporting NBS solutions

Under various scenarios of water bill increases, CCW has prepared models that include an increase of £0 to £80 per year. Support for nature-based solutions held up to the £40 ceiling. Above this price, most consumers opted not to invest. Only in wealthier households, with annual incomes of more than 41,000. pounds, the tolerance range for water bill increases was higher, reaching 60 pounds.

British water companies prepare investment plans

From the panel discussions conducted as part of the CCW survey, it emerged that consumers do not place trust in water companies. There have been opinions that the interests of shareholders are placed above those of the public. They also mentioned environmental scandals publicized by the media, as well as personal experiences with long-term infrastructure leaks and bathing water contamination.

In view of the above concerns and objections, consumers are demanding clear communication from water industry representatives. They are able to accept the risks posed by innovative nature-based solutions, but only if they learn more about these risks and know the arguments for taking them. Skeptics openly talk about greenwashing and insufficient efforts to maintain the new infrastructure after completion.

CCW's study is important because it comes at a time when British water companies are preparing investment plans for 2025-2030. They submitted their proposals, along with suggestions for adequate water price increases, to regulator Ofwat back in October, which is now subjecting them to critical scrutiny. According to CCW, nature-based solutions have been significantly reduced in the current planning period in favor of the construction of concrete reservoirs and other engineered structures. The results of the study are therefore to be used to lobby for support for more "green" water projects. Ofwat has until December of this year to review all projects and approve the proposed scope of services and price limits for water.

IDEA 3W PRESENTS: THE 3W COMMUNE EDUCATIONAL PROGRAM

Posted on 15 February 2024 by Zuzanna Olender

Idea 3W is thriving on the development of communication between local governments, business and the scientific community. Its goal is to help build a modern and sustainable future using technologies from the areas of water, hydrogen and elemental carbon. One of the projects to make this happen is the Municipality 3W program. It includes an online training series that will begin as early as February 29 this year. Who can participate in the Program and what benefits will it bring to local communities?

Categories: Feedback, Issue 4/2024, Promocja
Tags: 3W, Idea 3W, Municipality 3W

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What is the 3W Commune program?

Commune 3W is an educational project aimed at representatives of local governments and municipal companies. Why? Because these are the people who have a real impact on local investment, development planning and implementation of innovations in their regions. Experts from the Municipality 3W program will give them tips on how to get financing, implement ESG solutions, innovate legally and cooperate with universities.

The project will be a valuable source of expertise for them, but not only. It aims to create a space to discuss important topics, such as the shape and direction of regional development, ways to effectively manage urban and rural development, and create increasingly better living conditions for residents. Exchanging experiences in this area will certainly accelerate positive changes in our small homelands.

What awaits the participants

Participation in the program will be facilitated by its formula. The 3W Commune is 8 online meetings, so anyone can join them from their own office or home office. They include more than a dozen thematic modules filled with knowledge and practice. Upon their completion, scheduled for November 2024, each participant will receive a 3W Leader's Certificate to confirm participation in the training series.

The entire program consists of 40 hours of training under the guidance of more than a dozen experts, as well as study visits, scheduled for June 2024. To make the program even more fulfilling, there will also be time for networking. It is worth taking advantage of the opportunity to make contact with people from all over the country. The meetings will be an excellent opportunity to exchange knowledge and experience. Also, activities interspersed with the training modules will promote conversation and the sharing of thoughts.

February's inaugural meeting will begin with a presentation of the 3W concept and technology solutions to participants in the 3W Municipality program. In March, participants in the Municipality 3W Program will learn why and how to implement ESG in a municipality, and learn about legal requirements in water and wastewater management, taking into account the new reporting obligations of local governments. In April, experts will talk about how to implement green and blue infrastructure projects in local governments.

May will be marked by the energy transition of local governments. Using examples, experts will explain how to most effectively implement hydrogen technologies as part of this transition, what challenges local governments face, and where to look not only for solutions, but also for financing to invest in local government green technologies. In June, BGK experts will conduct a workshop titled *Water and sewerage company as an entity effectively implementing local government investments*, from which participants will learn how to obtain financing for their projects and effectively implement development investments.

After a summer break, the program will return in September with the issue of using Design Thinking methodology for participatory design for local communities and the topic of a new model of development cooperation with researchers and students. In October, program participants will learn how to calculate their water footprint and carbon footprint. And the final workshop in November will bring information about the local government of the future, or smart city solutions.

pic. Idea 3W

Municipality 3W program seeks ambassadors

A pilot ambassador program called Gmina 3W was created based on the above principles. All local governments and municipal companies that are close to the activities related to the protection of water resources and the development of modern technologies, among others, are invited to join. low-carbon transportation. Representatives of sustainable development municipalities will be welcomed as the first ambassadors of the 3W Municipality Program.

Members of the 3W Initiative have developed a one-year ambassador program in cooperation with experts from Bank Gospodarstwa Krajowego and partners: SBB Energy, CMS law firm, Polish Wastewater, Arcadis, RDLS - a spin-off company of the University of Warsaw, and experts from the Agreement of Academic Technology Transfer Centers, It will last from February to November 2024.

Benefits of participating in the Program

Participants in the 3W Municipality Program will have the opportunity to benefit from workshops with recognized experts and practitioners in the field of creating modern solutions for local governments. Lecturers will present up-to-date knowledge on water, hydrogen and elemental carbon. These include key issues related to legal requirements for local governments in water and wastewater management or investment planning. But they won't stop at conveying dry facts. Each module will also feature a presentation of implemented solutions and their analysis, as well as space for discussion or questions from experts. As a result, the classes will also be practical.

Examples of practical use of cooperation

How might the activities promoted by the 3W Commune Program look in practice? Take as an example An ecological sports and educational complex with a multifunctional roof in Marki. The roof in question consists of two components: a marshmallow roof and an extensive roof with photovoltaic panels. It is the first public school built with zero-energy technology. This means that instead of just using electricity and water, it produces its own energy and obtains rainwater. And, in addition, it is able to optimize energy consumption in specific areas of the building on an ongoing basis.

A bog roof purifies the air, dampens noise, stores rainwater and regulates the temperature inside the building. A photovoltaic installation, on the other hand, increases the self-sufficiency of the facility and helps reduce electricity bills. The excess energy is returned to the power grid and used as needed.

Lublin, on the other hand, has invested in Polish-made hydrogen buses. They are quiet and emit only water vapor and therefore do not emit harmful fumes into the atmosphere . Although such vehicles are more expensive to produce than traditional ones, the cost of operating them is lower, and the environmental qualities are priceless!

Can your local government join the Municipality 3W program?

Local government, in order to gain the trust of its residents or attract investors, should show concern for the well-being of community members and develop, taking into account the needs of the region and using the endogenous potential of the region . This manifests itself, among other things. in making such decisions and implementing such investments that have a direct impact on the quality and life of residents, promote the well-being of society and support the elimination of development barriers.

However, such activities can prove challenging, as noted by experts of the 3W idea. The answer to these challenges is the preparation of an educational program called Gmina 3WThrough the implementation of the program, local community leaders, responsible for designing its development, investments, managing development challenges, will receive support on issues related to the implementation of 3W (water, hydrogen, elemental carbon) technologies. If you think your local government could benefit from this program for the good of the local community, report your participation.

Photo. main: Idea 3W

THE ANGLER'S PRINCIPLE - CATCH AND RELEASE VS. HUMANE PROTECTION OF FISH IN LIGHT OF CURRENT LEGAL SOLUTIONS

Posted on 15 February 2024 by Krzysztof Gruszecki

In the past, the main reason for fishing with a rod was to obtain fish for consumption. However, in recent years the practice of fishing just for pleasure, without taking home the fish caught, has become widespread. As a result, there have been many fisheries where the mandatory rule is to release the specimens caught. Thus, there have been claims that fishing for typical sporting purposes and re-releasing fish is no longer a form of fish harvesting, and therefore also a form of amateur fishing. Therefore, it is worth considering how such a practice relates to the regulations underpinning the practice of amateur fishing and whether it is humane fish conservation.

Categories: Feedback, Issue 4/2024, Onet
Tags: fish conservation, fishing, fishing, law

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Personally, I am an angler, without fishing I can't imagine life. I release the vast majority of the individuals I catch, but I take a few to a dozen fish with me for consumption during the year. My behavior is caused by the slimness of resources and the easy overfishing of natural fisheries. Therefore, I carry out selection, taking only those fish that I qualified for it.

The current legal arrangements, which set the rules for amateur fishing, are one of the criteria. When going fishing, however, I think about the fact that maybe one piece will be suitable for taking. I approach all fish with respect and care. Some, however, as a rule, release all individuals, without necessarily showing them respect. So it is worth considering how such behavior can be qualified from a legal perspective, and whether it really has only a bright side.

Amateur fishing

In accordance with the provisions of Art. 7 paragraph. 1 of the Law of April 18, 1985. on inland fisheries (OJ 2022, item 883) *amateur fishing is considered to be the taking of fish with a fishing rod or crossbow, while it is permitted, at the place and time of fishing with a fishing rod, to take fish for bait using a fishing jig.* Thus, it is clear from the cited definition that the key elements of amateur fishing are the harvesting of fish using a fishing rod or crossbow.

The concept of *harvesting* is not defined in the Inland Fisheries Law. Accordingly, the meaning is taken from the Polish language, in which to acquire is to become the possessor of something that has been sought. The concept can therefore be understood in different ways. However, from the point of view of its legal significance, one should also take into account the solutions provided by other regulations that may limit it.

Humane fish conservation

Fish, from the point of view of natural science, are animals classified as vertebrates. In this regard, solutions under the Law of August 21, 1997 may be most relevant to the concept of acquisition. On the Protection of Animals(Journal of Laws 2023, item 1580). In accordance with the provisions of Art. 3 of this act *The law regulates the handling of vertebrate animals, including vertebrate animals used for scientific or educational purposes, to the extent not regulated by the law of January 15, 2015. On the protection of animals used for scientific or educational purposes (OJ. of 2023. pos. 465).*

Thus, in light of the cited provision, there is no doubt that the solutions under the Law on the Protection of Animals are also applicable to fish. Thus, in accordance with the provisions of Art. 1 paragraph. 1 of this act *An animal, as a living being capable of feeling suffering, is not a thing. Man owes it respect, protection and care.* In practice, it is assumed that from this provision *follows that every animal has the right to expect due understanding, customary treatment and even respect from humans. Any legal measures taken against animals should have their welfare in mind, first and foremost the right to exist.* (Judgment of the WSA in Poznań of 6.06.2013, IV SA/Po 165/13, LEX No. 1333697).

Another solution that may be relevant in determining the proper treatment of fish is Article. 5 of the Law on Animal Protection stating that *every animal requires humane treatment*. Thus, the general principle of humane treatment of animals, including during amateur fishing, derives from this provision.

The provisions of Art. 6 of the Animal Protection Law, which bans the killing and abuse of animals. From this rule in paragraph. 1(2) of the cited provision introduced an exception relating to fishing in *accordance with fishing and inland fishing regulations*.

pic. Krzysztof Gruszecki

Harvesting fish vs. humane treatment of fish

Accordingly, if we consider that catching fish and releasing them is a form of harvesting, such behavior will be in line with the cited exception to the prohibition of killing and mistreating animals, and the hunter will have to comply with the rules of amateur fishing (e.g., have a fishing card and a fishing permit). However, if we consider that amateur fishing is not a form of harvesting, then catch and release will have to be qualified as contrary to the order to treat animals humanely and the prohibition of animal abuse.

In my opinion, catching fish for re-release is a form of harvesting. This is because the hunter comes into their possession for a short time (although not for consumption). In light of the solutions cited, however, one can reasonably doubt whether the practice of catching fish merely for pleasure, with the aim of releasing them again, is as ethical and humane as many anglers think. A lot of fish get sick after being caught on a rod and released. Probably the best example of this are the big carp from commercial fisheries.

The largest ones are caught several times in one season, and then become *elusive*. Many anglers consider this a sign of cleverness, but often it is simply the result of the demise of such a fish, triggered by catching it several times beforehand. That's why the operators of such fisheries, despite the ban on taking fish, let in new specimens all the time, thus replenishing losses. Thus, one may question whether this form of fishing is ethical and humane.

These doubts are further exacerbated by the way fish are sometimes treated before release. E.g., photographing small or protected fish can significantly affect their ability to survive. Such behavior in many cases also violates the provisions of Art. 9 paragraph. 1 of the Inland Fisheries Law, which states that. *fish caught in violation of Art. 8 paragraph. 1 points 1-3a, if they are alive, shall be immediately released into the same fishery, with the necessary care*. Thus, the obligation to handle fish humanely also derives from the quoted solution.

Conclusions

So, to summarize the above considerations, it should be said that in light of the current legislation, catching fish just for the pleasure of catching and releasing them is not necessarily always considered ethical and humane. Indeed, exactly the same rules apply to fish as to other vertebrates. And since, in light of the solutions cited, fish require dignified treatment, perhaps catching them merely for entertainment should also be questionable.

I submit this for your consideration and discussion. These doubts particularly apply to commercial fisheries, where fish must be released. Such places are somewhat reminiscent of circuses of the past, where animals were kept and trained only for the pleasure of visitors. This is currently changing. In this regard, one should consider whether also catching fish with a fishing rod and releasing them again should be reviewed from the point of view of humane treatment of animals. Undoubtedly, a partial solution to the problem could be to clarify what is meant by "acquisition" and what conditions should be observed in this case. Personally, I think that if we fish only for pleasure, we should stop doing so. This is because such behavior from an ethical point of view may be considered questionable.

Photo. main: Krzysztof Gruszecki

SAND DAMS STORE WATER AND SAVE THOUSANDS OF LIVES

Posted on 15 February 2024 by Zuzanna Olender

Worldwide, 74 percent of the The poor population lives in dry, mostly rural areas. In a climate where there are two seasons - dry and rainy - they have free access to water only during one of them. The beds of seasonal rivers then fill with a strong flow, carrying with them the valuable soil directly into the ocean. In times of drought, women and children march for days to distant water intakes to bring water home in heavy vessels. Fortunately, there is an ancient way for them to secure access to clean water all year round. These are traditional sand dams.

Categories: Feedback, Issue 4/2024, Onet
Tags: climate change, Kenya, sand dams, water

Worldwide, 74 percent of the The poor population lives in dry, mostly rural areas. In a climate where there are two seasons - dry and rainy - they have free access to water only during one of them. The beds of seasonal rivers then fill with a strong flow, carrying with them the valuable soil directly into the ocean. In times of drought, women and children march for days to distant water intakes to bring water home in heavy vessels. Fortunately, there is an ancient way for them to secure access to clean water all year round. These are traditional sand dams.

What are sand dams?

Sand dams are concrete dams built across the bed of a seasonal river. When the rainy season comes, water fills the trough, but does not flow quickly into the sea. It remains together with the sand in the channel above the dam, forming a body of water. However, it is not a total blockage of the river, because the excess water, with a slight silt, overflows above the dam. As much as 97 to 99 percent. The water continues to flow to the estuary. Sometimes after just one or at most four rainy seasons, a reservoir is created to store sand and up to 40 million liters of water, available later in the dry season. This amount is enough to meet the year-round needs of more than 1,000. individuals.

The fact that water accumulates in the sand is very beneficial, as it is a natural filter that traps impurities. It also protects it from animals and insects that can transmit malaria, reduces evaporation and allows for long-term storage. But how do you get water out of a sand dam? A pipeline built into the dam is used for this purpose. The solar-powered system pumps water to a nearby tap or sealed shallow well with a hand pump. This is the cheapest and most effective method of rainwater harvesting in dry areas. It was established as early as ancient Rome, in 400. B.C., and continues to perform admirably.

How are sand dams formed?

Dryland residents build sand dams with the hard work of their hands, only to become owners later. The project is managed by representatives of the foundations, which help to finance and smoothly carry out the entire process. These include. Polish Humanitarian Action (PAH), Unicef, Sand Dams Worldwide or the local Africa Sand Dam Foundation (ASDF). PAH with ASDF has supported the construction of 26 sand dams in Kenya, and Sand Dams Worldwide since 2002. has built 1,308 dams in ten countries, giving more than 1 million people access to clean water.

For a dam to be built, three technical site conditions must be met: the presence of a seasonal river (flowing for a few weeks a year at most), sandy river sediment, and bedrock in which to dig. Sand Dams Worldwide has established additional rules for designing sand dams. First, the dams must be built on bedrock (or, in exceptional cases, on impermeable, compacted ground), and second, the dam must allow the river to flow as it did before.

Building a sand dam costs an average of 110,000. PLN, and the time depends on local conditions, weather and the size of the investment. In most cases, a month or two is enough. It can be significantly shortened by the help of volunteers. Working together, they can build a dam in as many as four days. They talk about their impressions in a video posted on the YouTube channel of the Sand Dams Worldwide foundation.

How do sand dams save lives?

In areas where sand dams have not yet been built, water has to be carried from very far away during the drought. Usually women and children are sent to fetch the heavy canisters home. It is drawn from, among others. From shallow wells dug in the beds of seasonal rivers. However, it is quite dangerous. The wells are open, so the water may be contaminated, and deep holes in the ground threaten to collapse.

Sand dams allow you to create shots close to the village. The water is piped from the riverbed to the taps, known as the "water taps. water kiosks. Its download is safe, convenient and takes little time. The mechanism is powered by solar energy, and installations can be brought even to villages miles away from the dam. On top of that, the water filtered through the sand is clean and will not become a cause of disease.

How does the dam affect the environment and the community?

Sand dams make the local ecosystem flourish. The resource behind the sand dam raises the groundwater level in the area. This improves soil quality and creates better conditions for crops and grazing. The water stored in the sand is also available to plants and animals - the trees are green even in the dry season. More of them can be planted, which increases the amount of water infiltrating the ground and reduces soil leaching. This creates a virtuous cycle of soil and water conservation. It is again possible to cultivate land that was previously dry and barren. Access to water also allows the raising of livestock.

A supply of water can be brought home in 30-90 minutes, as the water intake is close by. This allows children to spend their time at school and women to grow fruits and vegetables. This allows you to diversify your diet and provide better nutrition for entire families. Proceeds from the sale of crops help, among other things. pay tuition. This changes the lives of the entire community for the better and gives hope for the future.

Resilience to climate change

Global warming is bringing climate change to every corner of the Earth. The rainy and dry seasons are evolving in East Africa, including Kenya. There are intense and short rainfalls, with increasingly long periods of drought in between, with high temperatures that are dangerous to people and nature.

Building sand dams in such areas helps local communities cope with climate change. The dams and associated infrastructure are a long-term solution that serves for many years. It allows drawing water in a way that is safe for people and does not burden the environment. Their mechanism of operation is simple, so they require almost no maintenance. They can quietly operate for up to 60 years, and the oldest of them is already more than 100 years old. All indications are that they will function reliably despite the changes taking place.

Education of the local community

Foundations that build sand dams in Africa also conduct educational activities among locals. Its goal is to impart knowledge on how to take care of the dam and conserve water. But not only that. For example, PAH, working in Kenya's Makueni County, is helping to establish hydroponic crops that enable more efficient and organic food production. It was planned to establish such installations in two schools and two cooperatives. They will also receive greenhouses with troughs for tomatoes and staggered box systems for vegetables.

In addition, Polish Humanitarian Action is organizing training in Makueni on food processing, compost production, crop management, business and marketing. This aid covers a total of more than 558 students and teachers, as well as 365 members of agricultural cooperatives. It will provide them with food security, regardless of the season.

Photo source: PAH

THE MOST BEAUTIFUL BAYS IN THE WORLD

Posted on 15 February 2024 by Aneta Błędowska

Bays are unique places where water meets land, creating landscapes that attract travelers with their unique beauty. They offer shelter from storms and create ideal conditions for locating ports and beaches. On the shores of the bays, you can not only enjoy the magnificent views, but also encounter the rich culture and history of the communities living there, or admire the surrounding flora and fauna. Here are examples of the world's most beautiful bays that everyone should add to their list of places worth visiting.

Categories: From the world, In this issue, Issue 4/2024, Onet
Tags: bays, most beautiful, water, world

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Bay of Kotor, Montenegro

The most famous and picturesque area on the coast of Montenegro, surrounded by mountains, located on the Adriatic Sea. The Bay of Kotor is known locally as "Boka," which means *mouth* in Italian - from a bird's eye view it is supposed to resemble it in shape. Lying on the waterfront, the medieval city of Kotor and its surroundings are a UNESCO World Heritage Site.

pic. anita_bonita/Envato Elements

Ha Long Bay, Vietnam

Ha Long Bay, or *the Bay of Descending Dragons*, is a place of extraordinary natural beauty. It is known for the thousands of limestone columns and islets that have risen from its waters. It is not only a UNESCO World Heritage Site, but also home to fishing communities that have lived there for centuries, living on the water.

San Francisco Bay, USA

The bay is a symbol of the combination of human innovation and natural beauty. It is known for its iconic Golden Gate Bridge and picturesque landscapes. The bay's catchment area covers about 40 percent. California's surface. It is also an important place for the reproduction and life of Pacific animals such as fish and crabs. It serves as a key link in the bird migration route along the Pacific coast. The bay also plays an

important role as a filter for pollution and sediment, keeping numerous endangered species alive.

Bay of Fundy, Canada

It is known for having the highest tides in the world, which can reach 21 meters. The Bay of Fundy impresses with its records, but also with its extraordinary landscape, shaped by the action of the water. Located in the Atlantic Ocean, off the coast of Canada, it forms a natural boundary between the provinces of New Brunswick and Nova Scotia. It is also a popular spot for whale and humpback whale watching, especially during their migration period. The charming coastal towns attract tourists from all over the world.

Bay of Islands, New Zealand

This is one of the most beautiful parts of New Zealand. In the waters of the bay lie 144 islands. It's a nature lover's paradise, as the area offers countless opportunities to discover wonders both on land and water. It is also important historically, because it was here that Europeans first encountered the Maori tribes.

pic. julianpetersphoto/Depositphotos

Phang Nga Bay, Thailand

Together with the island of Khao Phing Kan and the Ko Tapu sea column, they are known as *James Bond Island*. Phang Nga Bay is home to a variety of flora and fauna, as well as an exceptional place for water sports such as scuba diving and kayaking. The area is often visited by tourists from all over the world who want to enjoy its natural beauty and unique scenery.

Guanabara Bay, Brazil

Surrounded by rainforests and mountains, it provides breathtaking views, especially of Mount Corcovado, home to the famous Christ the Redeemer statue. It is home to a variety of flora and fauna, including water birds, fish and other marine animals. The waters of the bay are highly polluted, which poses a challenge for local authorities. Its preservation in the best possible condition should be on their list of priorities.

Pemba Bay, Mozambique

Pemba Bay is one of the largest natural harbors in the world. It is also one of the deepest natural bays. The surrounding landscape is characterized by beach houses and lush forests of baobab trees that grow all the way to the shoreline. It is a tropical paradise known for its crystal clear waters and white sands, ideal for water sports and diving enthusiasts.

Wineglass Bay, Tasmania

One of the most secluded bays, famous for its pristine beaches and hiking trails among Tasmania's wildlife. Wineglass Bay is located in Freycineta National Park. To get a better idea of the bay's landscape, take a boat cruise, sailing around the Freycineta peninsula, often accompanied by dolphins.

Navajo Bay, Greece

Due to the remains of the Panajotis ship on its beach, which crashed there in 1980, the bay is also known as Wreck Bay. Its white sands, towering cliffs, crystal clear waters and abundance of marine life attract the attention of many tourists from around the world. It is a popular destination for lovers of water sports and unique views.

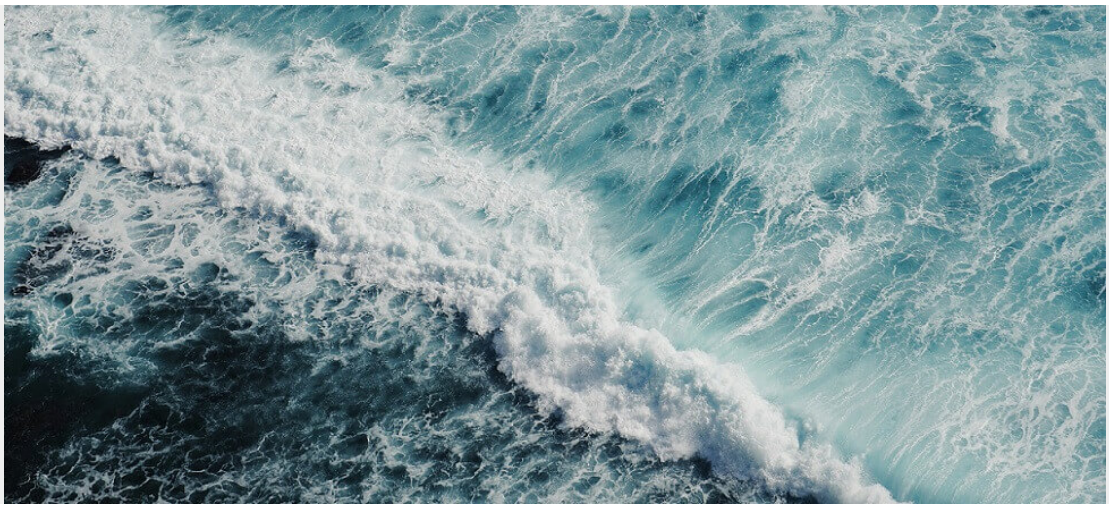
pic. Pjahr/Wikipedia Commons

Why visit the bays?

The bays offer not only the opportunity to see unforgettable landscapes and the possibility of close contact with nature. It is also a chance to explore local cultures and history. They are, like lighthouses, witnesses to many events of the past. When visiting the bays, you can choose from a wide variety of activities in the area - from relaxing on the beach, to snorkeling among the coral, to exploring historical sites. Each bay has a unique history and character, which means that traveling through them can be an unforgettable adventure.

EXTRAORDINARY DISCOVERY - UNDERWATER MOUNTAIN RANGE IN THE DEPTHS OF THE SOUTHERN OCEAN

Posted on 15 February 2024 by Iwona Szyprowska-Głodzik



Although space exploration has made it possible to discover distant planets orbiting stars tens or hundreds of light years away from us, and it might seem that mankind has explored everything, our knowledge of the ocean floor is still insufficient. This is a big gap, considering that seas and oceans cover more than 70 percent. Earth's surface. The latest discovery is the best proof of this. Researchers have come across an ancient underwater mountain range that hides within the Antarctic Circumpolar Current - the world's most powerful ocean current.

Categories: From the world, Issue 4/2024, Onet

Tags: Antarctica, mountain range, Southern Ocean, volcano

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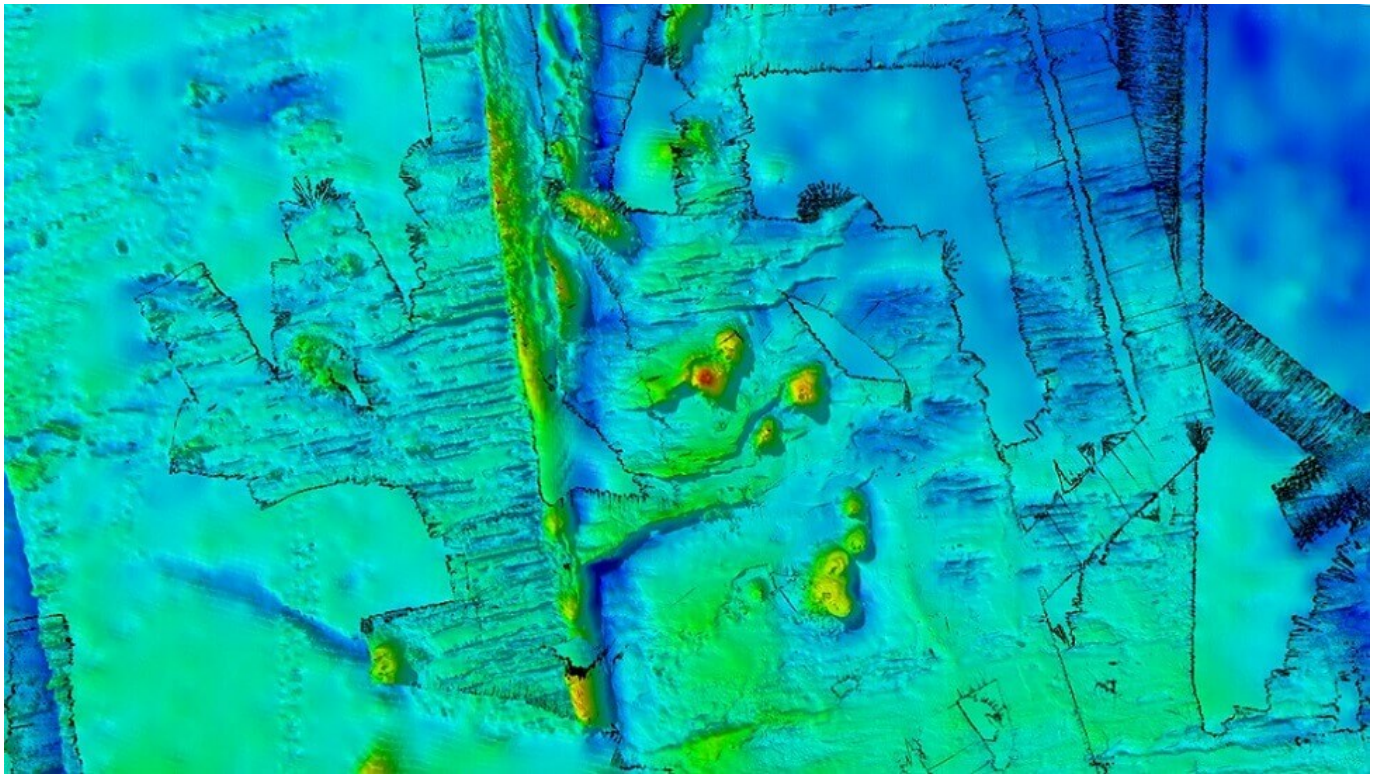
Discovery of undersea volcanoes

During the research expedition
Focus
, organized by Australia's Commonwealth Scientific and Industrial Research Organization (CSIRO) science agency, a team of 34 scientists set out aboard the Investigator research vessel to explore previously undiscovered regions of the Southern Ocean with an area of 20,000. ^{km2}, stretching between Tasmania and the cold waters surrounding Antarctica. It is in this remote part of the world that scientists have undertaken to map the seabed, which in places reaches depths of up to 4,000. m p.p.m.

Using state-of-the-art three-dimensional mapping technology, CSIRO researchers have made a groundbreaking discovery that has changed previous perceptions of the underwater landscape of this part of the globe. In the depths of the Southern Ocean, beneath strong swirling currents, stretches a spectacular mountain range that has remained hidden from the human eye for millions of years. It consists of eight long-dormant undersea volcanoes, with peaks rising almost to 1,500 meters above the ocean floor.

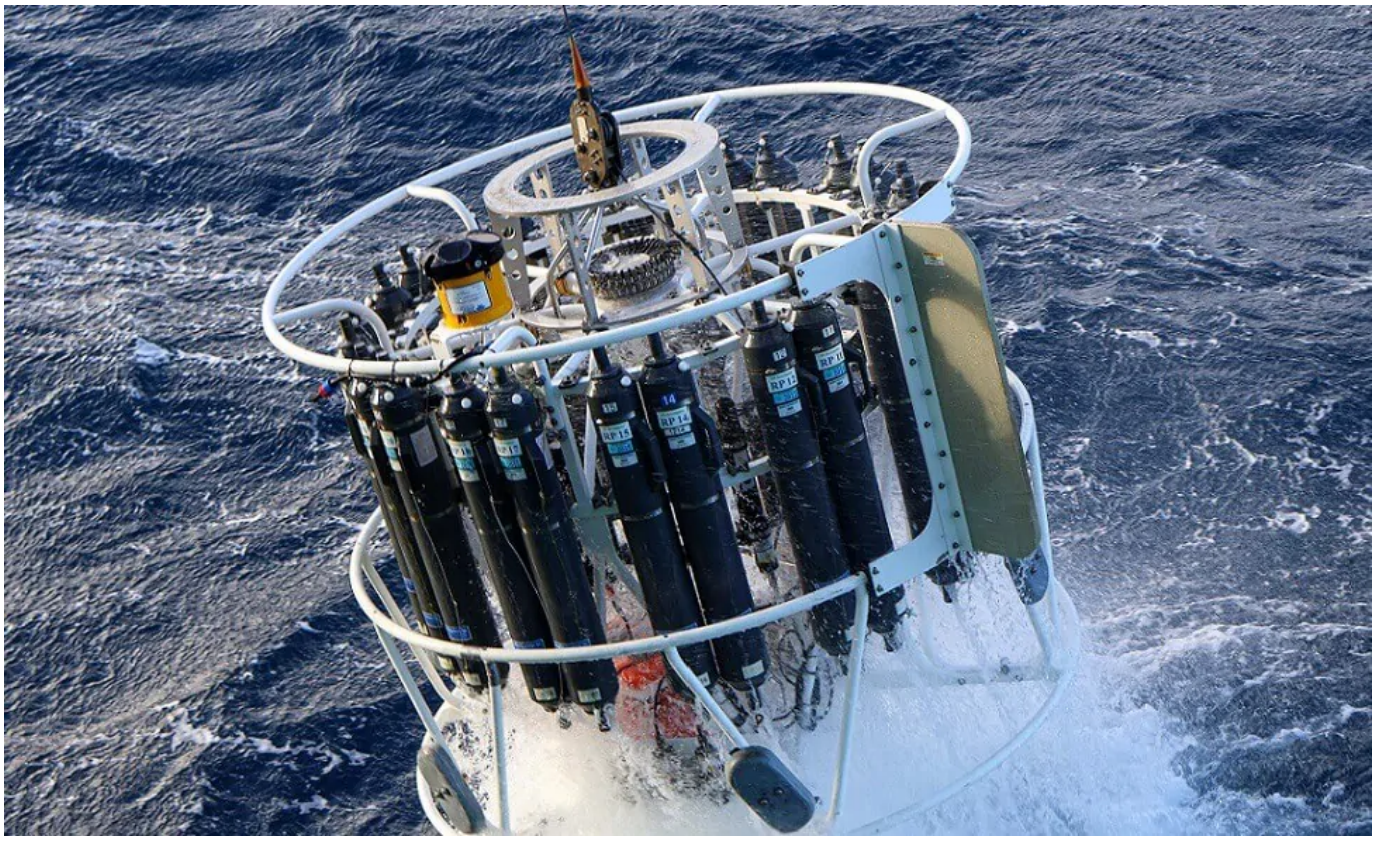


pic. CSIRO

Latest research technology

The Focus research cruise was organized in cooperation with the new Surface Water and Ocean Topography (SWOT) satellite, jointly developed by NASA and the French space agency Centre National d'Études Spatiales (CNES). This enabled simultaneous fine-scale mapping

of ocean objects from the satellite and from the ocean surface. While the ship measured the properties of water inside the current, the satellite will measure the height of the ocean surface with unprecedented resolution. The integration makes it possible to map fine oceanic features, a breakthrough in ways to observe and understand water dynamics. This synergy between satellite observations and ship-based measurements opens up new opportunities for ocean science, enabling more accurate predictions of climate change and its impact on global marine systems.



pic. CSIRO

Underwater mountain range vs. ocean currents

According to Helen Phillips, co-director of the study, the findings on how seafloor relief affects the Antarctic Circumpolar Current are crucial to understanding ocean dynamics.

The Antarctic Circumpolar Current senses the *seabed and mountains in its path, and where it encounters barriers such as ridges or seamounts,* disturbances *are created in the water flow , which form eddies. Valleys and cliffs can also accelerate deep currents on the ocean floor.*

Vortices resemble weather systems and play a major role in transporting heat and carbon from the upper layers of the ocean to deeper regions - providing a critical buffer against global warming. Knowledge of the depth and shape of the seafloor is crucial for us to quantify the influence of undersea mountains, hills and valleys on the Antarctic Circumpolar Current and heat leakage toward Antarctica.

Discoveries about the Antarctic Circumpolar Current are very important for understanding ocean dynamics. This current, flowing clockwise from west to east around Antarctica, is not only the most powerful current on earth, but also the only one that connects all the oceans. Investigating its role becomes crucial in the context of climate change, as it consumes more than 90 percent of the The heat generated by global warming, and about 25 percent. carbon dioxide emissions. This process is an important mechanism for regulating weather, acting as a shock absorber for climate shocks.

Understanding the heat and greenhouse gas pathways in the oceans is essential to dealing with the challenges of climate change. Scientists are focusing on investigating the pathways through which heat is directed toward Antarctica, which could contribute to melting ice and rising sea levels. Understanding the processes and monitoring the changes are the basis for action to counter the effects of climate change.

The discovery of the underwater mountain range is not only a fascinating geological phenomenon, but also opens new perspectives for our understanding of ocean dynamics and its role in shaping climate.

Photo source: CISIRO, photo. Mark Horstman

AQUATIC PUBLICATION REVIEW (12)

Posted on 15 February 2024 by Agnieszka Kolada

We begin with the ever-heating topic of Nature Restoration Law and an analysis of the main challenges Europe will have to face in order to implement the demand to restore free-flowing rivers. To rehabilitate rivers, you need the right tools to manage the waters. This is where remote sensing techniques and geospatial analysis come to the rescue, providing invaluable support for prioritizing activities. One of the most important conditions for the success of work directed at protecting and restoring the Earth's resources is a positive public attitude. And with this it varies, as evidenced by the results of a study of citizens' attitudes to climate change in 63 countries around the world. Our diet is not insignificant to the earth's resources either, and one measure of the impact on them can be the health-environmental performance index. His analysis along the gradient of the socio-demographic index leads to interesting conclusions. And finally, about how water saves lives even in very non-obvious ways, i.e. how rain increases the chance of survival after being struck by lightning.

Categories: Issue 4/2024, Science

Tags: environmental protection, literature review, rain, review, rivers

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1. Seven challenges in the implementation of the Nature Restoration Law to restore free-flowing rivers

Stoffers T., Altermatt F., Baldan D. et al. (2024). Reviving Europe's rivers: Seven challenges in the implementation of the Nature Restoration Law to restore free-flowing rivers. WIREs Water, e1717.

The uproar over the EU's NRL Nature Restoration Act (NRL.
Nature Restoration Law
) hasn't gone quiet, and it's hardly surprising, since the act is not only an incredible opportunity to restore (or at least improve) the environment, but it's also a huge challenge, and the difficulties associated with its implementation could realistically jeopardize its success or lower its ambitions. One of the goals of the NRL (Article 7) is to restore river ecosystems in order to increase the share of the so-called "riverine ecosystems. Free-flowing rivers, including restoration by 2030. communications and functions for 25,000. km of currently transformed watercourses. What are the challenges involved? An attempt to answer this question was made by researchers from several European centers in an issue paper published in *Wiley Interdisciplinary Reviews - Water*. The authors formulated and discussed seven major challenges to achieving this goal, including: the need for clear definitions of the concepts of rivers, free-flowing rivers, barriers and reference areas (currently, depending on the criteria adopted, the estimated total length of rivers in Europe varies from about 600,000 to more than 1.6 million kilometers), proper recognition of the structure of the river network and the state of its connectivity, the inclusion of a meta-ecosystem approach in restoration planning, or increasing awareness and involvement of citizens and stakeholder participation in the process. The challenges outlined in the article are particularly important for rivers, but also have implications for other ecosystems and may be useful for policymakers, conservationists and others involved in the Restoration Act and related policy initiatives.

We have already written about the opportunities and difficulties of this new law in our January literature review.

2. From pixels to riverscapes: how remote sensing and geospatial tools can prioritize riverscape restoration at multiple scales

Glassic H.C., McGwire K.C., Macfarlane W.W. (2024). From pixels to riverscapes: How remote sensing and geospatial tools can prioritize riverscape restoration at multiple scales. WIREs Water, e1716.

Now that we know that we can't escape from river restoration (whether we like it or not), the question of how to do it wisely so that the measures taken are effective and efficient must be answered. Priority setting may be misplaced if decision-makers rely only on monitoring data collected at the river scale, without considering the catchment and landscape context. And this is where remote sensing techniques and geospatial data analysis tools come to the rescue. In a comprehensive review paper published in *WIRES Water*, researchers from centers in Montana, Nevada and Utah are looking at how remote sensing and geospatial data can be used to assess the condition and extent of river networks in large landscape units, to evaluate their conditions, to estimate climate resilience, and to develop a conceptual framework for

prioritizing river conservation and restoration efforts based on the river landscape concept. The authors introduce the concept of *riverscape (riverscape*) to describe a planning unit that extends beyond the riverbed, including flood plains and a network of associated watercourses. The proposed approach is based on an analysis of the topography of the valley bottom (using the Valley Bottom Extraction Tool (VBET), the condition and abundance of riparian vegetation (the NDVI index, determined from imaging information from Landsat Thematic Mapper and Sentinel-2 satellites), and the location and extent of the lowest areas of the valley bottom that are most likely to exhibit lateral connectivity during flooding.

The application of these procedures and their results are presented by the authors using the example of the catchment areas of three rivers flowing in Nevada and California. As they point out, some river restoration projects in the United States have failed because they covered too small an area to restore the health of the river landscape and associated ecosystem processes. The proposed approach with river landscape units and the use of remote sensing and geospatial data can potentially improve the efficiency, effectiveness and scale of river landscape restoration activities, leading to better ecosystem conservation outcomes.

The use of remote sensing and geospatial techniques in the analysis of aquatic ecosystems is also being developed in our country (as we have written about in previous reviews) and is definitely guiding the development of the methodological workshop in water management.

3. health-environment efficiency of diets shows nonlinear trends over 1990-2011

He P., Liu Z., Baiocchi G. et al. (2024). Health-environment efficiency of diets shows nonlinear trends over 1990-2011. *Nat Food*.

Food production is one of the industries that has a very strong impact on the environment, but this impact depends largely on how people eat, as well as their consumer choices. Food supply inevitably involves the use of non-renewable natural resources and generates pollution. What is needed, therefore, is knowledge of how these limited environmental resources can be used effectively to generate measurable health benefits. Changing global dietary patterns to improve population health, but also reducing the harmful environmental impacts of food production, are becoming an increasingly important issue on global and national policy agendas. In a paper published in February this year in *Nature Food* researchers are looking at how diets in different countries support healthy living at the expense of environmental pollution and resource consumption in four key aspects, viz. greenhouse gas emissions, water abstraction, acidifying and eutrophic emissions. They based their analysis on a health-environmental efficiency index, defined as the ratio of health benefits to environmental impacts from food production and consumption, using data from 195 countries over the period 1990-2011.

It turns out that the value of the health-environmental efficiency index along the gradient of the socio-demographic index (the geometric mean of normalized per capita income, education level and fertility rate, SDI) runs non-linearly and takes the shape of the letter N. This means that efficiency first increases (for example. thanks to the elimination of child and maternal malnutrition through better food supply in countries with low SDI), then decreases as a result of additional environmental impacts (resulting from the shift to animal products as the population's wealth increases), and then shows a slow increase again in some developed countries as people shift to healthier diets. The report confirms a truth that is probably no longer new: what we eat matters for the environment, but it also depends on the wealth of the society in which we live, with the greatest negative impact coming from societies that are on the decline.

4 Addressing climate change with behavioral science: A global intervention tournament in 63 countries

Vlasceanu M., Doell K.C., Bak-Coleman J.B. *et al.* Addressing climate change with behavioral science: A global intervention tournament in 63 countries. *Sci. Adv.* 10, eadj5778(2024).

Since this is the case, as the previous work indicates, the question is how ready societies are to change their behavior in the name of

environmental protection. We have research for that too! It examined which strategies, designed to support sustainable actions, most motivate people to change their beliefs and patterns of behavior. A team of more than 250 researchers conducted a survey of nearly 60,000. people from 63 countries on 11 behavioral interventions affecting four areas: (i) belief in climate change, (ii) Support for climate change mitigation policies, (iii) willingness to share mitigation information on social media, and (iv) Willingness to make a voluntary effort to support environmentally friendly activities (here, tree planting), or what is known as "tree planting. WEPT procedure - Work for Environmental Protection Task. The effectiveness of the interventions was generally low, largely limited to climate change believers, and varied strongly depending on the factor analyzed. People's initial beliefs about climate change were also not uninfluenced (it is well known that the most easily convinced are the most convinced). These results suggest that the impact of behavioral climate interventions varies by target audience and behavior. It is interesting that it took such extensive research to establish this fact, but the article shows in detail the components of this phenomenon. Several centers from Poland participated in the study, so one can trace how the issues of attitudes to climate change are shaping up in our backyard.

5. rain may improve survival from direct lightning strikes to the human head

Machts R., Hunold A., Drebenstedt C. et al. (2024). Rain may improve survival from direct lightning strikes to the human head. *Sci Rep* 14, 1695

And finally, a somewhat humorous, perhaps, but actually deadly serious thread on how rain can increase our chances of survival after being struck by lightning. There is evidence that humans can survive a direct lightning strike to the head. But a team of biomedical scientists and physicists from the Technical University of Ilmenau in Germany asked whether rain accompanying thunderstorms contributes to increasing or decreasing the chances of surviving such an event. Using a realistic phantom of a human head, they measured the effect of the presence or absence of water on the effects of a high-energy lightning strike. The number of perforations and scarred areas near the points of lightning strike was lower and the amplitudes of the brain current were lower on the wet head phantom than on the dry one. Based on this, the authors conclude that rain on the scalp could potentially yield a survival rate of 70-90 percent, primarily due to less exposure of the brain to current and less mechanical and thermal damage. Nonetheless, we do not recommend testing this on your own skin.

FYTOPHTHORA, OR WATER MOLD - A THREAT TO CROPS, BUT ALSO WILD PLANTS

Posted on 15 February 2024 by Piotr Panek

In late 2023 and early 2024, precipitation totals in many areas of Poland not only returned to the multi-year norm, but even exceeded it. After many months of below-average groundwater, long-term recovery of groundwater supplies would require a much longer period of heavy rainfall, but local floodplains are already forming in places, reminiscent of the condition that was typical of pre-winter as recently as the second half of the last century. This, of course, pleases most naturalists, but there are also those who pay attention to the other side of the coin. Phytopathologist Wojciech Pusz notes that spillages facilitate the spread of fytophthora spores, resulting in fytophthorosis [1].

Categories: Issue 4/2024, Onet, Science
Tags: crops, Fytophthorosis, plants, threat, water mold

In late 2023 and early 2024, precipitation totals in many areas of Poland not only returned to the multi-year norm, but even exceeded it. After many months of below-average groundwater, long-term recovery of groundwater supplies would require a much longer period of heavy rainfall, but local floodplains are already forming in places, reminiscent of the condition that was typical of pre-winter as recently as the second half of the last century. This, of course, pleases most naturalists, but there are also those who pay attention to the other side of the coin. Phytopathologist Wojciech Pusz notes that spillages facilitate the spread of fytophthora spores, resulting in fytophthorosis .

Phytophthora - a disease caused by nematodes, not by fungi

Phytophthora (Phytophthora) is a genus of larvae. This group of organisms was for decades considered to be the so-called ""A" group. lower mushrooms. In customary English nomenclature, it is referred to as water *molds*, although their representatives can live on land and do not necessarily form moldy sheepskins. Practitioners of plant protection in the cultured sense of the word (more recently also called plant medicine) still categorize the diseases they cause as fungal diseases, and categorize the agents for their control as fungicides.

In fact, lungworms are very distantly related to fungi, including mold. Closer to them are algae, such as diatoms, goldworms or brown algae, and a little farther away are cryptomonads, dinoflagellates or haptophytes (the notorious golden alga is one of them), as well as periwinkles and various types of rootworms. If an agent described as a fungicide acts on both nematodes and true molds, it means that this name is an unjustified refinement, because the substance most likely kills virtually everything.

Phytophthora infestans, one of the *Phytophthora* species, is well known as a pathogen that attacks potatoes and tomatoes. As an invasive species outside Central America since the early 19th century. across the United States, and since the middle in Europe, has often caused catastrophic damage to potato crops. He was the cause of the Great Famine, which resulted in the deaths of about one million Irish and a similar number of them emigrating, resulting in a 20 percent population decline in Ireland.

Because of the role that phytophthora plays in agriculture, research on it has become the flywheel not only of phytopathology, but of mycology in general. In the first quarter of the 20th century. already distinguished twenty species of the genus, and after a century ten times as many are known. An avalanche of newly described species has occurred in the last two decades. That's when its evolutionary history, which dates back 140 million years and is closely linked to the history of vascular plants, was better understood. Coevolution has led to a peculiar synchronization of some molecular mechanisms .

Water carries pathogens, including potato blight

Phytophthora spores are in the form of a swimmer, or a cell with a tendril. Their spread requires the presence of water, although sometimes moist soil is sufficient, and the spores of the most resistant species, such as just *Phytophthora infestans*, can be carried by the wind. Therefore, phytophthora affects potatoes and tomatoes, which are not wetland plants. Nevertheless, the presence of water on the soil surface facilitates the survival and transport of tides.

Fytophthora threatens not only crops, but also wild plants

Potato blight is the best known, but not the only phytophthora. The second edition of the *Polish Names of Crop Diseases* gives half a hundred more diseases of this genesis. *Phytophthora infestans* is responsible for two of them, but Phytophthora *cactorum* and *Phytophthora cryptogea* have seven each to their credit. As the name suggests, *Phytophthora cactorum* is known to infect cacti, but in Poland it also attacks fruit trees and shrubs, strawberries, rhubarb and rhododendrons. At least when it comes to species familiar to farmers or gardeners.

However, since it attacks currants growing in orchards, wild shrubs growing in Polish alder forests, i.e., periodically waterlogged alder forests, may just as well suffer. The alder forests are also home to scythe trees, the garden varieties of which, known as irises, are infected by *Phytophthora cryptogea* and *Phytophthora nicotianae*. In swamp forests, as in crops, various species of phytophthora can attack blueberries and cranberries.

Foresters are also familiar with *Phytophthora cactorum*, as it infects birches, beeches, oaks, rowans, maples, larches, lindens, alders, pines and spruces in Polish conditions. Of course, other species of this louse are also capable of this, especially *Phytophthora citricola*. As you can see, among the listed undergrowth and stand plants, quite a few are found in alder, riparian or swamp forests that are at least periodically wet. Their root zone is surrounded by water where tides can reside, and under such conditions phytophthora will develop rapidly.

Infected water is a source of pathogens

Many fungi have trouble breaking through the barriers created by plants, but phytophthora floaters can penetrate quite healthy roots, starting from their youngest parts. The roots must take up water, so they must not be too tight a barrier. In addition, *Phytophthora infestans* can also penetrate the stomata of leaves. Once it succeeds in infecting the roots, its shreds spread, which can open the way for other parasites, such as the fireworm.

Fytophthora will develop even more easily when the plant is weakened. Therefore, it is favored by extreme weather events. When it's overburdened by drought, it begins to produce new roots after rainfall, an easy target for attack. When the rains are intense, they lead to flooding. Perhaps this is the main reason for the increasing number of phytophthorae observed.

In addition, watering crops with water taken straight from a river, lake, ditch or puddle is riskier than using disinfected tap water, though of course much more expensive. And against the recommended saving of treated water. Threats to the safety of food produced by the agricultural sector from pathogen-infected waters are also highlighted in a report by the United Nations Food and Agriculture Organization. Food and Agriculture Organization (FAO).

Global warming is thought to favor microbial growth, and phytophthora physiology is adapted to weather extremes. Currently, human spread of the pest with agricultural products is still considered the main factor responsible for the increase in recorded phytophthora. However, it affects more than just crops. Since the 1990s. last century is also intensifying in forest ecosystems and, for example, in heathlands .

In the article, I used, among other things. From the works:

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ALIEN SPECIES, INVASIVE SPECIES: CHANGING PARADIGMS IN THE FACE OF CLIMATE CHANGE?

Posted on 15 February 2024 by Andrzej Mikulski

Dynamic climate change should encourage a critical look at the environmental paradigms that were obvious until recently. This includes a rather rigid approach to how alien species are defined and the associated algorithms for dealing with their spread. According to the regulations, an alien species is one that has expanded its range as a result of human activity. Implicitly - it took place during the historical period.

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Dynamic climate change should encourage a critical look at the environmental paradigms that were obvious until recently. This includes a rather rigid approach to how alien species are defined and the associated algorithms for dealing with their spread. According to the regulations, an alien species is one that has expanded its range as a result of human activity. Implicitly - it took place during the historical period.

From the point of view of a researcher-ecologist, such an accepted explanation is not useful. Its assumptions mean that assigning the label of invasive species to some taxon says nothing about its characteristics and possible role in the ecosystem in which it appeared. In addition, in most cases the assumptions made are unverifiable. The most important problem, however, is the danger of uncritically applying this definition to ecosystem management planning.

Alien species - non-functional definition

The definition of invasive species adds nothing to the functional approach to the organisms thus described. They can pose a real threat to local populations, their impact can be neutral or even significantly positive for the local biocenosis, if only by increasing its taxonomic and functional diversity and redundancy, thus providing greater stability and resilience of the system to disturbances.

Assigning the epithet "alien" to a species says nothing about whether it should be eliminated or protected. It is clear that its role in the new area must be watched closely, but this is true for any species expanding its range, including those considered native. In the case of the recent Oder disaster, it didn't matter whether the so-called " disaster" was a "disaster. The golden alga*(Prymnesium parvum*) was transferred to the river naturally - on the feathers of waterfowl, or artificially - in the ballast water of the Oder fleet. Verifying the information, whether it represented alien species or not (we will probably never know), was of no importance.

Unverifiability of definition assumptions

Difficulties in verifying the assumptions of the accepted definition describing alien species can arise for a great many reasons. First, the degree of human transformation of virtually all habitats means that any change in a species' range can be attributed to some degree to anthropogenicity. Whether by removing or reshaping migration barriers, anthropogenic alteration of the migration routes of vector organisms, or possible direct entanglement of humans or their means of transportation. Accordingly, any new species in an area should, by definition, be treated as alien.

On the other hand, as the example of the Oder River disaster cited earlier shows, this has virtually no relevance to assessing the observed range expansion and its effects. Another problem with the definition under consideration is the contractual timing of settlement of new areas. It is worth noting that the vast majority of organisms treated as native in Poland did not occur in our area several thousand years ago, waiting for the next interglacial in the refugia. Looking back, we see the slow colonization of our country by numerous new species, species that are foreign at the time.

It is also worth noting that during this time Europe was also settled by humans, whose contribution to shifting the ranges of other species was probably important. And not just in the prehistoric period. In many cases, no one is able to determine to what extent their dispersion was entangled with at least the mass migrations of merchants along the amber route, documented since the 5th century. BC. It is likely that a sizable portion of the so-called ""B.C. native species have been imported by humans during the historical period.

Local classification of native species as invasive alien species

In the excellent description of the current definition of an alien species on the IOP PAN website, it is clearly stated that "even short-distance movements of individuals within the same country, to areas adjacent to the limits of the natural range, should be considered introductions." This is logical, since national boundaries are arbitrarily drawn and do not coincide with either habitat or climate zone boundaries. An alien invasive species under this definition is perch, which is displacing trout from Bieszczady streams.

It can feed effectively in fast-flowing streams, but does not appear there in large numbers due to the lack of places to spawn effectively. Such places, studies show, are provided by man-made mountain dam reservoirs. The artificial lake enables the mass reproduction of perch, which migrate up the streams flowing into it, effectively competing for resources with the native brook trout population. It is worth mentioning that quite recently, during a conference discussion, a significant part of the assembled, recognized specialists in water protection, objected to the qualification of this example as an illustration of the action of an alien invasive species.

Naturalness of species range shifts and invasions

The last million years in the Northern Hemisphere have been characterized by the cyclical appearance of glacial periods and interglacials. Each time, this involved huge shifts in the ranges of species - their escape to interglacial refugia and the gradual repopulation of areas from which the glacier receded. It is clear that organisms differ significantly in their dispersion capabilities. The resting forms of some of them, such as plankton rowers, can travel hundreds of kilometers in a short period of time on bird feathers. Others, such as clams, are much less mobile.

It may have taken some as many as many thousands of years to reach the refugia to the habitats restored after the glacier receded. A good example is the bivalve mollusk *Corbicula* sp., which managed to return to the territory of present-day Poland during the Robbery and Lublin interglacials, which lasted several tens of thousands of years, and did not appear during the shortest, about 10,000 years long, Eemian interglacial.

According to many researchers, our ecosystems are still not "saturated" with species returning after the cessation of the last glaciation, so we are still in the phase of the natural return of species present with us during interglacial periods. More importantly, the emergence of *Corbicula* sp. in subsequent interglacials probably had the character of an invasion that died out after the biocenosis stabilized in the new structure.

The first appearance of the slender goby(*Neogobius fluviatilis*) in Lake Roś followed a similar pattern, locally dominating the littoral, displacing native demersal species such as goatfish and piscivores. After a few years, the grandmother's dominance was suddenly broken. Perches appeared in large numbers in the littoral, which probably learned to hunt gobies successfully. This was accompanied by the return of native species. Thus, we observed a rather smooth transfer of the gobies, formally representing alien species, into the local trophic network from the Pontocaspian refugium, to which they retreated during the last glaciation.

Impact of climate change on species range shifts

The effect of Europe's changing climate over the last million years is not only the flight of warm-loving species to the refugia of the ice ages, but also the migration of cold-loving species in the wake of the shifting tundra frontier to the north. The current, very dynamic climate change brings similar consequences. We are facing a natural disappearance of species in Poland, whose ranges are moving northward. The lack of an influx of thermophilic species from the south would mean a drastic reduction in biodiversity. Leaving aside the demand, raised by many scientists, that biodiversity should not be treated as a goal in environmental management (after all, in many habitats we are just

protecting low biodiversity), a strong reduction in biodiversity would probably make our ecosystems much less stable and less resilient to expected climatic disturbances and anthropopressure.

In summary, we should consider accepting the complete reconstruction of our biocenoses, that is, both the local disappearance of cold-loving species and the influx of "foreign" warm-loving species. Which ones? Certainly those occurring in the last, exceptionally warm Eemian interglacial and returning from glacial refugia, so, for example, from the most controversial examples, the thermophilic cyanobacteria such as *Raphidiopsis raciborskii* or the aforementioned *Corbicula* bivalves. There is a lack of reliable work on this, but perhaps species moving into areas they inhabited in their past, which were once part of a similar trophic network, show less tendency to invade than by appearing in areas where they did not occur in recent interglacials.

An example is the variegated crayfish *Dreissena polymorpha*, which causes dangerous invasions in North America and, returning to Europe from the Pontocaspian refugium, has been recognized as an admittedly alien but non-invasive species, and in places even considered useful and locally introduced to effectively control phytoplankton biomass.

In order to better realize the need to accept the fundamental reconstruction of biocenoses associated with climate change, it is useful to look at climate predictions for areas of Poland. In the near future, from occurring in our country back in the 20th century. climate, defined according to Köppen's categories as continental humid with mild summers, will move to subtropical humid climate. It has so far been found on a small portion of the Azure coast in Europe, in addition to large areas in the southern United States, southeastern China and eastern Australia, among others. It is easy to see that the nature of the flora and fauna of these areas, including the aquatic ones, is far from what we still observe in Poland.

In conclusion

The purpose of these brief reflections was by no means to call for a sudden change of paradigms in environmental protection, but only to try to signal the need for a "refreshing" discussion of them. A dynamically changing world requires a change of perspective on many fundamental issues, including those describing alien species. Most worrisome in this context is the tendency to unreflectively use recognized definitions and concepts, without awareness of the substantive content they carry. It is fully understood in an administrative environment that expects scientists to provide simple and unambiguous definitions and algorithms for proceeding. In the scientific community, however, it should not be right.

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