

new product developments, and customer data, demand a strong focus on security management; the protection of and leveraging of data/information/knowledge. The threat of invasion by cyber criminals (e.g., governments, competitors, individuals) continues to grow.

No one can escape cyber-attacks, and the fact that it is hard to find trusted people who are expert in this new art of war has driven the demand for security professionals to an all-time high. Many companies are starting to address this issue with the new understanding that constant and ongoing vigilance is the only way to protect infrastructure and data in the long term.

The purpose of these exemplary certificates is to help organizations meet this increased demand for information security and data/analytics professionals by preparing attendees via a comprehensive, in-depth, practical set of courses addressing the entire infrastructure (e.g., data, network, web, applications, systems), as well as the management, organizational, and legal issues.

ENVIRONMENTAL MONITORING

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Annotation. The subject of environmental monitoring is the organization and operation of a monitoring system for assessing and forecasting the state of ecological systems in future, their elements, and the biosphere, the nature of the impact on them of natural and anthropogenic factors. Objects of environmental monitoring, depending on the level and purpose of research, are the environment, its elements and sources of influence on them, in particular, atmospheric air, underground and surface water, soils, waste, adverse natural processes. This work considers three main areas: soil, water, air and compares the structure of environmental monitoring in Ukraine and Europe, problems and prospects of their development in our country.

Key words: Environmental monitoring, ecologic awareness, air, land, water.

Аннотация. Предметом мониторинга окружающей среды является организация и функционирование системы мониторинга, оценки и прогнозирования состояния экологических систем, их элементов, биосферы, характера воздействия на них природных и антропогенных факторов. Объектами мониторинга окружающей среды в зависимости от уровня и цели исследований является окружающая среда, его элементы и источники воздействия на него, в частности, атмосферный воздух, подземные и поверхностные воды, почвы, отходы, неблагоприятные природные процессы. В работе рассмотрен мониторинг по трем основным направлениям: почва, вода, воздух и приведено сравнение структуры мониторинга окружающей среды в Украине и Европе, проблемы и перспективы их развития в нашей стране.

Ключевые слова: Мониторинг окружающей среды, экологическое обязательство, воздух, земля, вода.

Анотація. Предметом моніторингу навколишнього середовища є організація та функціонування системи моніторингу, оцінювання та прогнозування стану екологічних систем, їх елементів, біосфери, характеру впливу на них природних та антропогенних факторів. Об'єктами моніторингу навколишнього середовища залежно від рівня та мети досліджень є

навколишнє середовище, його елементи і джерела впливу на нього, зокрема, атмосферне повітря, підземні та поверхневі води, ґрунти, відходи, несприятливі природні процеси. У роботі розглянутий моніторинг за трьома основними напрямками: ґрунт, вода, повітря та приведені порівняння структури моніторингу навколишнього середовища в Україні і Європі, проблеми та перспективи їх розвитку в нашій країні.

Ключові слова: Моніторинг навколишнього середовища, екологічна обізнаність, повітря, ґрунт, вода.

Due to the rapid development of technologies and incensement of the environmental awareness among the citizens, there emerged a new form of assessment, which is called environmental monitoring. The purpose of environmental monitoring is to assess the progress made to achieve given environmental objectives and to help detect new environmental issues.

It is said that it is easier to destroy than to create, that is why nowadays our planet suffers from the human activity. Ukraine is in a real danger, having destroyed its soil, land, and air by constant pollution from plants, production, melioration and other anthropogenic-based actions. Moreover, “Provisions on the state system of monitoring of the environment” were deactivated by the Cabinet of Ministers, leaving Ministry of Environmental Protection to be responsible and to deal with current situation. In comparison, in European Union (EU) there exist the European Earth Observation Program involved in numerous environmental monitoring activities that survey a steadily increasing number of environmental pollutants in our ecosystems, the shortage of food and water supplies, the rapidly evolving state of climate change, and natural disasters and hazards. Furthermore, it supports implementation of the global policies, contributes to the exchange of best practice, and develops implements and harmonizes methods of testing.

In general, environmental monitoring specialists focus on four major areas – air, soil, water and biota. Talking in more detail about all of them, we need to specify that air pollution is a growing concern in both developed and non-developed countries across the globe. So much so that the EU has even introduced air pollution standards that it expects all its member states to meet. Not only does polluted air affect the health of the planet, but it also has detrimental consequences for the well-being of the population. As air pollution concentration is heavily influenced by the wind, anemometer data is always taken into account when carrying out environmental monitoring of air quality. Topography is also considered as natural landscape features such as valleys and mountain ranges can hinder the process of lateral atmospheric mixing. When combined with inversion triggered atmospheric mixing, this can lead to abnormally high levels of air pollution.

Talking about soil pollution in Ukraine, we state that farming is an integral part of the world’s food production while the regeneration of forests and jungles is central to keeping the

air clean and free of CO₂. Ukraine, being the leader of agricultural production, suffer the most. As such, a large number of environmental monitoring projects shine the spotlight on soil quality. This includes looking at factors such as erosion, soil contamination and salt levels.

Needless to say that water is our life. Gathering and analyzing information on water quality in Ukraine is an essential part of making sure lakes, rivers, oceans, estuaries and other bodies of water are safe and sanitary. Chemical condition is of key importance, with specialists focusing on the presence of oxygen, nutrients, oils, pesticides and metals. Physical conditions such as flow, temperature, sediments and erosion are taken into account while biological measurements of plant and animal life is also used to determine quality.

Recommendations on the development of the sphere of environmental monitoring were based on the idea of creating innovative department, specialized in search of new technologies to improve ecological situations in Ukraine, strict control and implementation of new standards for the producers, making contracts with European ecological groups along with gaining their experience and technologies in this sphere. However, ahead of all these steps, appropriate and modern legislation basis in order to eventually reflect these norms in Law.

LITERATURE

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ГЕОХІМІЧНЕ ЗАБРУДНЕННЯ ПРИДОРОЖНІХ ҐРУНТІВ ТА ПОВЕРХНЕВИХ ВОД GEOCHEMICAL POLLUTION OF THE ROADSIDE SOILS AND SURFACE WATERS

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Анотація. У дослідженні розглянуто та проаналізовано геохімічне забруднення придорожніх ґрунтів та поверхневих вод, спричинене впливом автотранспортного комплексу. Розглянуто проблеми, що виникають на високоурбанізованих територіях внаслідок цього.