JOURNAL OF MULTIDISCIPLINARY SCIENCES AND INNOVATIONS
VOLUME 04, ISSUE 10
MOPNTHLY JOURNALS
ISSN NUMBER: 2751-4390
IMPACT FACTOR: 9,08

GROUNDWATER PRODUCTION AND HYDROGEOLOGICAL ASPECTS

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Аннотация: В данной статье представлена научная информация об экологическом состоянии подземных вод на поверхности земли, о работах, которые следует провести по их очистке и использованию для питьевых и ирригационных целей.
Ключевые слова: грунтовые воды, корка, загрязненная вода, пористые породы, болезнетворные бактерии, механический состав, диарея, фильтрация.
Annotation: This article provides scientific information on the ecological status of ground water on the surface of the earth, the work that should be done on cleaning it and using it for drinking and irrigation purposes.
Key words: ground water, crust, polluted water, porous rocks, disease-spreading bacteria, mechanical composition, diarrhea, filtration

Introduction

Groundwater is water that is stored below the surface of the earth, in the pores of the first water-bearing rocks. Groundwater is located above a second layer that is impermeable to water. This layer can consist of clay soil, solid limestone, sedimentary and metamorphic rocks. Groundwater is formed when water from the surface of the earth, from canals, rivers, rainwater, and atmospheric water vapor (after condensation) flows down through the pores of rocks and collects in an impermeable layer.

Groundwater fills the pores of alluvial deposits (sand, loam, gravel) in river valleys and rocks deposited by glaciers and dune deposits in deserts. Groundwater sometimes serves as the main source of clean water for cities and industries. The occurrence, distribution, and methods of searching and using groundwater in the territory of Uzbekistan were developed by G. O. Mavlonov, O. K. Lange, N. A. Kenesarin, U. M. Ahmedsafin, etc. The area of saturation of groundwater corresponds to the area of distribution. Under natural conditions, groundwater, unlike surface water, exists for a long time. The part of the aquifer that holds groundwater is called the aquifer. The surface of groundwater is called the aquifer. The distance from the groundwater level to the impermeable layer is called the thickness of the aquifer, and the distance from the surface of the earth to the groundwater level is called the depth of their surface. Groundwater differs from surface waters in the following features:

1) Since groundwater is inextricably linked with the atmosphere, its surface is a free surface without pressure. The water level opened by drilling wells remains in place without rising. Therefore, the groundwater level relatively repeats the relief of the earth's surface;

2) Groundwater is hydraulically connected to surface water bodies, rivers, lakes, swamps, and artificial seas

3) The flow, level, and chemical composition of groundwater changes depending on the state of surface water bodies and changes in climatic factors;

4) Since the flow, chemical composition, and physical properties of groundwater remain almost unchanged throughout the year, it is considered suitable for constant water supply to cities and villages.

Groundwater moves along the slope of the impermeable layer, seeps to the surface of the earth in ravines and riverbeds, and forms springs. Since groundwater moves between rocks, its speed also varies. Groundwater lies at different depths depending on the structure of the earth's surface. For

example, in lowlands it can be from 1-2m to 5-10m, and in foothill zones it can be from 15-20m to 40-50m.

In conclusion, as we can see, as the relief on the earth's surface increases, the groundwater level decreases. As a result, groundwater located deep in the ground is the main factor in the low salinity of the earth's surface. If groundwater is located close to the surface of the earth in hydrogeological terms, the salinity of the land increases. As a result, soil fertility decreases. To prevent this, it is necessary to irrigate the land properly.

Timely implementation of agrotechnical measures, as well as the gradual increase in the area of cultivated land, are key factors for sustainable development.

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