Caso de Aplicación

CLUSTERING

Caso de estudio: Calidad del Agua

Water quality testing is an important part of environmental monitoring, helping researchers to predict and learn from natural processes in the environment and determine human impacts on an ecosystem. These measurement efforts included all of the parameters that affect the quality of water in the environment. Specifically, can be physical, chemical or biological factors.

Dataset

ecosystem.txt is a ASCII file containing, microbiological, physical and chemical factors from different localities. Sampling locations (localities) are in rows, Microbiological factors (total coliforms, fecal coliforms, fecal streptococci), Physical variables: (mineral content, conductivity, suspended solids) and Chemistry variables :DQO-Mn* are in columns.

*(the chemical oxygen demand (COD) test is commonly used to indirectly measure the amount of organic compounds in water. It is expressed in milligrams per liter (mg/L), which indicates the mass of oxygen consumed per liter of solution)

Desarrollo:

Objectivo: Análisis de la possible existencia de grupos, para caracterizar los “patrones de contaminación de los ecosistemas” analizados con el fin de definir un protocolo específico de gestión para cada tipología de contaminación con el asesoramiento de expertos en la materia.

Resolución y elaboración del informe (guión de trabajo):

- Construir Matriz de interdistancias Poner de manifiesto:
- “estructura de grupos”
- Caracterización de los “posibles grupos” D
- Determinar el patrón de cada grupo (individuo “representante” del mismo)
- Representar los ecosistemas en un espacio de dimensión reducido (2D, 3D)