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ABSTRACT

Because of the rapidly increasing pollution in Lake Uluabat, which is one of the significant shallow lakes of Turkey and has been announced to be a Ramsar Area, eutrophic state evaluation based on geographic information system was performed. The eutrophication level of the lake is determined with the help of a 0 – 100 scale based on TSI calculations and secchi disc depth (SD), chlorophyll-a (Chl-a), total phosphorus (TP) and total nitrogen (TN) parameters. Between 0 - 30 represents oligotrophic level, 30 – 40 represents lower mesotrophic level 40 – 50 mesotrophic, 50 – 60 upper mesotrophic, 60 – 70 eutrophic, 70 – 80 hypereutrophic and 80 – 100 extremely hypereutrophic. The TSI maps of four parameters were created using the Inverse Distance Weight (IDW) interpolation method. The final map showing the spatial distribution of trophic level was generated by synthesising the thematic maps of each indicator on the cell basis with the overlay technique. From the final map, the trophic level of the entire lake was characterised as eutrophic or more in all seasons studied during the year.