Steps to run the code:

1) Run the **demo of the code** to generate matrices A and A5. Matrix A is the training and input data of the training model, and matrix A5 is the input data for the data whose class is predicted.

2) Run code **XGB.ipynb** in Python.

3) In this code, x in line 4 is the time series of the word features, which in this case are the data of the 15 Khordad Dam in the first 5 intervals. y is the data class (water or land).

4) This code up to line 8 is related to evaluating the accuracy of the model.

5) In line 7, the input data for the time we want to predict its class is entered into the algorithm in the form of an A5 matrix.

6) The predicted classes of the input data are stored in the form of a PD.tex.

7) Run code **read**.

8) In code **read**, the results of predicting the classes for the input data are seen visually. Its area has also been calculated.

9) This code was run one by one for all input data.

10) In-situ data for evaluating accuracies are available in matrix in-situ.

11) Functions norms, and kgef, which were the criteria for evaluating the accuracy of this study, are also available.

12) Due to the large volume of data, it was not possible to upload the data. The names of some of them are in the dataset.txt

13) To run the codes, you can either put the data in the desired file and run it, or for testing, two matrices A and A5 are attached to this file.