1. **Introduction**

- Water quality (WQ) refers to the chemical, physical, and biological characteristics of water.
- In the past few decades, WQ has been deteriorated due to human and non-human activities.
- Therefore, regular and continuous monitoring and assessing WQ is a major concern.

2. **Research Problems**

- The use of the Landsat TM/ETM and MODIS data has been used in previous studies; however, they are not from the recently launched earth observation satellite sensors.
- However, RS estimation of dissolved oxygen (DO) concentrations has not been performed.

3. **Proposed Methodology**

   - Water sampling was performed at the same time of the Landsat8 over pass.
   - Landsat8 spectral data is very efficient because its multi-spectral bands were designed to support coastal studies.
   - The use of the Landsat8 surface reflectance is essential to represent only the water-leaving reflectance.

4. **Results**

   - **Fig. 3.** Correlation between Landsat8 and TSS (a) and DO (b) based on calibration dataset.
   - **Fig. 4.** Accuracy measures between measured and predicted concentrations of TSS (a) and DO (b) based on validation dataset.

5. **Conclusions**

   - The Landsat8-based-SWR models could be obtained to retrieve concentrations of SWQPs with accurate results and the main bases are:
     - Water sampling was performed at the same time of the Landsat8 over pass.
     - Landsat8 spectral data is very efficient because its multi-spectral bands were designed to support coastal studies.
     - The use of the Landsat8 surface reflectance is essential to represent only the water-leaving reflectance.

   **Acknowledgement**