Observations

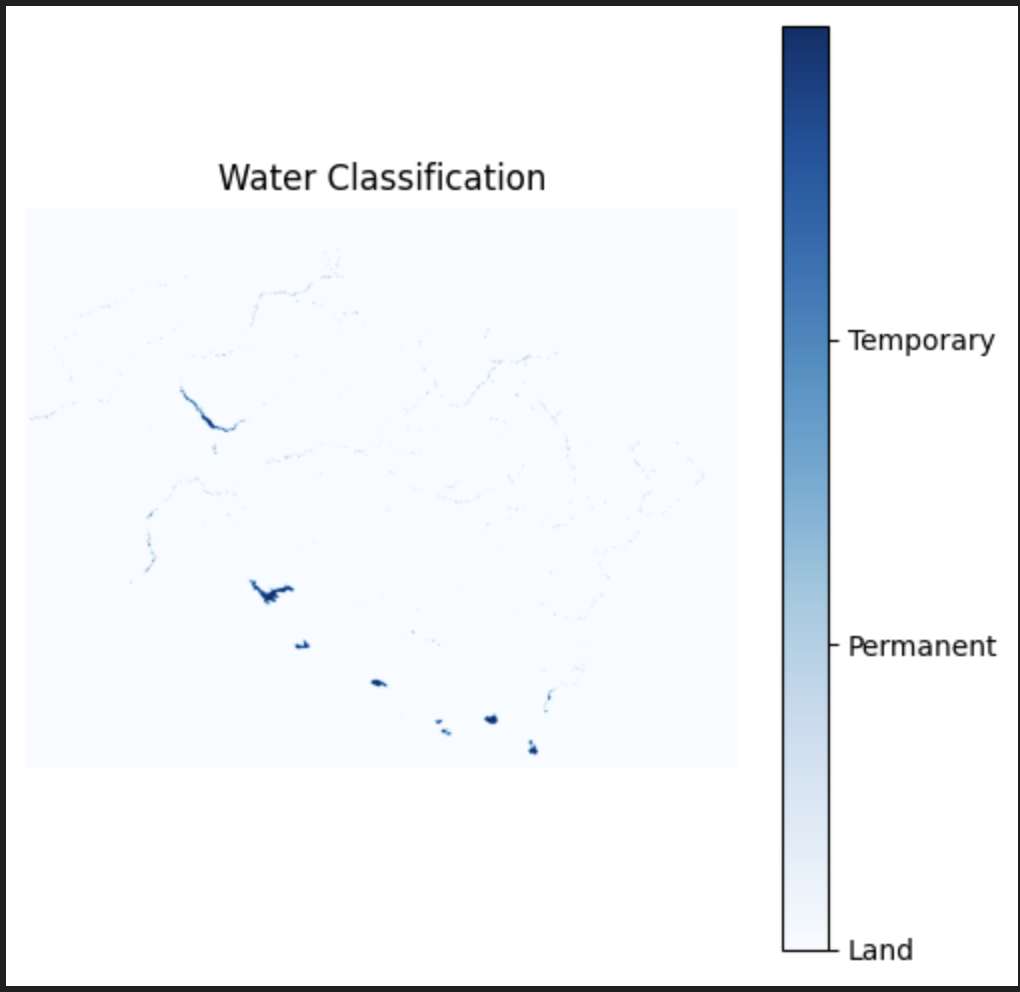


Figure 1 : Water Classification Of Uttarakhand for November 2022.

Observations :

1. Northern Region has more Permanent Water Region than Southern Region.
2. Southern Region has more Temporary Water Region than Northern Region.
3. More Area under Permanent Water Bodies than Temporary Water Bodies in Uttarakhand Region.

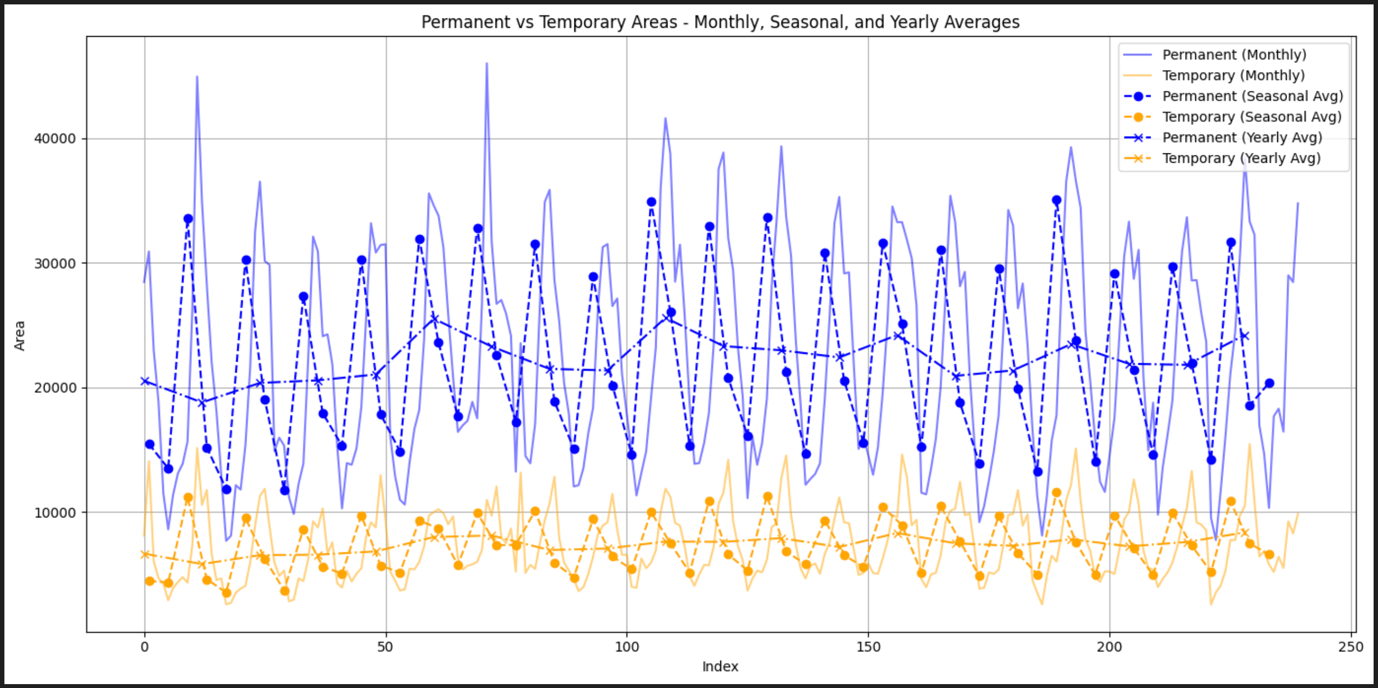


Figure 2: Area vs Month For whole Uttarakhand Region

Scale X-Axis: 0 corresponds to January 2003 and 240 corresponds December 2022

Y-Axis: 1 unit corresponds 10,000 sq m.

Observations:

Yearly:

1. The trend is periodic for both temporary and Permanent Water Bodies for yearly plots.
2. More Area is covered by Permanent Water Bodies (22,000 Units) than temporary water bodies (6,500 Units).
3. Yearly Averages for both water types nearly constant (Temporary Water Bodies – 6,500 units and Permanent Water Bodies – 22,000 units).

Seasonally:

1. The trend is periodic for both temporary and Permanent Water Bodies for Seasonal plots with dips in the dry season followed by peaks in the monsoon months.
2. More Area is covered by Permanent Water Bodies (22,000 Units) than temporary water bodies (6,500 Units).

Monthly:

1. The trend is periodic for both temporary and Permanent Water Bodies for Monthly plots.
2. More Area is covered by Permanent Water Bodies (22,000 Units) than temporary water bodies (6,500 Units).

A graph with blue and orange lines

AI-generated content may be incorrect.

Figure 3: Area vs Year for Northern Uttarakhand Region

Scale X-Axis: 0 corresponds to January 2003 and 240 corresponds December 2022

Y-Axis: 1 unit corresponds 10,000 sq m.

Observations:

Yearly:

1. The trend is periodic for both temporary and Permanent Water Bodies for yearly plots.
2. More Area is covered by Permanent Water Bodies (11,500 Units) than temporary water bodies (3,000 Units).
3. Yearly Averages for both water types nearly constant (Temporary Water Bodies – 3,000 units and Permanent Water Bodies – 11,500 units).

Seasonally:

1. The trend is periodic for both temporary and Permanent Water Bodies for Seasonally plots.
2. More Area is covered by Permanent Water Bodies (11,500 Units) than temporary water bodies (3,000 Units).

Monthly:

1. The trend is periodic for both temporary and Permanent Water Bodies for Monthly plots.
2. More Area is covered by Permanent Water Bodies (11,500 Units) than temporary water bodies (3,000 Units).

A graph with blue and orange lines

AI-generated content may be incorrect.

Figure 4: Area vs Month for Southern Uttarakhand Region

Scale X-Axis: 0 corresponds to January 2003 and 240 corresponds December 2022

Y-Axis: 1 unit corresponds 10,000 sq m.

Observations:

Yearly:

1. The trend is periodic for both temporary and Permanent Water Bodies for yearly plots.
2. More Area is covered by Permanent Water Bodies (10,500 Units) than temporary water bodies (3,500 Units).
3. Yearly Averages for both water types nearly constant (Temporary Water Bodies – 3,500 units and Permanent Water Bodies – 10,500 units).

Seasonally:

1. The trend is periodic for both temporary and Permanent Water Bodies for Seasonally plots.
2. More Area is covered by Permanent Water Bodies (10,500 Units) than temporary water bodies (3,500 Units).

Monthly:

1. The trend is periodic for both temporary and Permanent Water Bodies for Monthly plots.
2. More Area is covered by Permanent Water Bodies (10,500 Units) than temporary water bodies (3,500 Units).

Comparative study:

Yearly:

1. Total yearly Average water area increases gradually with few spikes.
2. Northern Region has more Permanent Water Area than Southern Region averaged yearly.
3. Southern Region has more Temporary Water Region than Northern Region averaged yearly.

Seasonally:

1. Northern Region has more Permanent Water Region than Southern Region Seasonally Plot.
2. Southern Region has more Temporary Water Region than Northern Region Seasonally Plot.

Monthly:

1. Northern Region has more Permanent Water Region than Southern Region Monthly Plot.
2. Southern Region has more Temporary Water Region than Northern Region Monthly Plot.
3. The peak in Fig 3 corresponds to North Uttarakhand Flood, June 2013 affecting most areas in the Northern Region, and we can observe it as the highest peak in Fig 3.