Supplementary Materials S1. code for images collection and adding NDVI band on GEE

```
function get_collection(start_date, end_date) {
    var collection = ee.ImageCollection("COPERNICUS/S2_SR_HARMONIZED")
        .filterDate(start_date, end_date)
        .filterBounds(studyarea)
        .filter(ee.Filter.lt('CLOUDY_PIXEL_PERCENTAGE', cloud_threshold))
        .map(s2mask())
        .map(function (image) {
            return image.divide(10000).copyProperties(image,['system:time_start']);
        });
    return collection.map(function(image) {
        var ndwi = image.normalizedDifference(['B4', 'B8']).rename('NDVI');
        image = image.addBands(ndwi.toFloat());
        return image.toFloat().copyProperties(image,['system:time_start']);
    })
}
```

Supplementary Materials S2. code for images collection and adding NDWI band on GEE

```
function get_collection(start_date, end_date) {
    var collection = ee.ImageCollection("COPERNICUS/S2_SR_HARMONIZED")
        .filterDate(start_date, end_date)
        .filterBounds(studyarea)
        .filter(ee.Filter.lt('CLOUDY_PIXEL_PERCENTAGE', cloud_threshold))
        .map(s2mask())
        .map(function (image) {
            return image.divide(10000).copyProperties(image,['system:time_start']);
        });
    return collection.map(function(image) {
        var ndwi = image.normalizedDifference(['B3', 'B8']).rename('NDWI');
        image = image.addBands(ndwi.toFloat());
        return image.toFloat().copyProperties(image,['system:time_start']);
    })
}
```