

# Bug Report: Geofences Spontaneously Clear on Android, Breaking Detection

We have detected an anomaly when using react-native-background-geolocation SDK. We are using the SDK to follow geofences and run React Native code on foreground and background. We have had this issue especially on the background use, that the SDK seems to clear all the followed geofences and that it does not recover without launching the application.

## Environment

Platform: Android

react-native-background-geolocation version: 4.19.2

React Native version: 0.82.1

Device: Multiple device models

Android OS version: Multiple Android versions

Battery optimization: Disabled for the app

## SDK settings

```
const defaultSettings: Config = {
  geofenceProximityRadius: 100000,
  desiredAccuracy: BackgroundGeolocation.DESIRED_ACCURACY_HIGH,
  distanceFilter: 10,
  disableElasticity: false,
  startOnBoot: true,
  isMoving: true,
  autoSync: false,
  reset: true,
  geofenceInitialTriggerEntry: true,
  debug: false,
  maxDaysToPersist: 3,
  maxRecordsToPersist: GEOFENCE_LOG_MAX_LIMIT,

  // Battery optimizations
  stopOnTerminate: false,
  disableStopDetection: false,
  stopOnStationary: true,
  heartbeatInterval: 120, // Android only as we have preventSuspend false

  // Android only
```

```

enableHeadless: true,
geofenceModeHighAccuracy: true,
speedJumpFilter: 50,
locationUpdateInterval: 1000, // Android only. Ignored if distanceFilter > 0.

// iOS only
pausesLocationUpdatesAutomatically: undefined,
preventSuspend: false,
stationaryRadius: 100,

// Misc things that make sense to provide
logLevel: isProduction
    ? BackgroundGeolocation.LOG_LEVEL_ERROR
    : BackgroundGeolocation.LOG_LEVEL_DEBUG,
disableLocationAuthorizationAlert: false,
locationAuthorizationRequest: "Always"
};

```

## Expected Behavior

Geofences should remain active and monitored by the SDK. The `onGeofencesChange` event should only fire when geofences are explicitly added or removed via the API. The `getGeofences()` method should return all currently monitored geofences.

## Actual Behavior

The SDK spontaneously clears all geofences without any explicit API call to remove them. When this occurs:

The `onGeofencesChange` event fires with empty arrays:

```
----- GENERIC - 2025-12-10 09:33:07 -----
```

Changed followed geofences:

Start following: []

Stop following: []

The same log can appear several times on a row. After this occurs, geofence detection becomes unreliable or stops working entirely - geofence enter/exit events are not triggered even when the device physically enters/exits geofenced areas

Calling `BackgroundGeolocation.getGeofences()` immediately after returns an empty array [] and this happens also on the foreground.

This happens seemingly at random during runtime, not at app startup or after any specific user action. It happens more on some devices than on others.

## Impact

This is a critical issue as it breaks the core geofencing functionality of our app. Users rely on automatic check-in/check-out at monitored locations, and when geofences are cleared, the app fails to detect location changes.

## Code Context

We initialize geofences and set up the event listener:

```
BackgroundGeolocation.onGeofence(geofencingCallback);
BackgroundGeolocation.onProviderChange(locationProviderChangeCallback);
BackgroundGeolocation.onHeartbeat(heartbeatCallback);

// Start geofencing
await BackgroundGeolocation.ready(effectiveSettings);
await BackgroundGeolocation.startGeofences();
```

Our **tracking function that reveals the issue:**

```
const geofences = await BackgroundGeolocation.getGeofences();
const state = await BackgroundGeolocation.getState();
const storageGeofences = await getStoredGeofences();
// geofences array is unexpectedly empty after the issue occurs, but the geofences
are correctly stored on our own getStoredGeofences function
```

## Additional Context

- We maintain our own storage of geofences that should be monitored, and the count in our storage doesn't match what the SDK reports after this issue occurs
- Battery optimization is explicitly disabled in device settings for our app
- The issue has been observed on multiple devices and Android versions
- `state.trackingMode === 0` && `state.enabled` returns true even when geofences are cleared

## SDK Logs

Seems that this SDK destroys all the geofences directly after creation. Also, then there is a blank timeslot on the end that it just did nothing.

12-10 09:33:06.530 WARN [TSGeofence\$Builder build]

✓ Dev Bergshamra.1

12-10 09:33:06.621 INFO [GeofenceDAO create]

✓ Dev Bergshamra.1

12-10 09:33:06.621 INFO [GeofenceDAO destroy]

✓ Dev Bergshamra.2

12-10 09:33:06.622 INFO [GeofenceDAO destroy]

✓ Dev Bergshamra.2

12-10 09:33:06.623 INFO [GeofenceDAO create]

✓ Dev Bergshamra.3

12-10 09:33:06.624 INFO [GeofenceDAO destroy]

✓ Dev Bergshamra.4

12-10 09:33:06.625 INFO [GeofenceDAO destroy]

✓ Dev Bergshamra.3

12-10 09:33:06.625 INFO [GeofenceDAO create]

✓ Dev Bergshamra.4

12-10 09:33:06.626 INFO [GeofenceDAO create]

✓ Dev Bergshamra.5

12-10 09:33:06.627 INFO [GeofenceDAO create]

✓ Dev Bergshamra.5

12-10 09:33:06.627 INFO [GeofenceDAO destroy]

✓ Dev Bergshamra.6

12-10 09:33:06.628 INFO [GeofenceDAO destroy]

✓ Dev Bergshamra.6

12-10 09:33:06.629 INFO [GeofenceDAO create]

✓ Dev Bergshamra.7

12-10 09:33:06.630 INFO [GeofenceDAO destroy]

✓ Dev Bergshamra.7

12-10 09:33:06.631 INFO [GeofenceDAO create]

✓ Dev Bergshamra.8

12-10 09:33:06.632 INFO [GeofenceDAO create]

✓ Dev Bergshamra.8

12-10 09:33:06.632 INFO [GeofenceDAO destroy]

✓ Dev Heikki

12-10 09:33:06.633 INFO [GeofenceDAO destroy]

✓ Dev Heikki

12-10 09:33:06.634 INFO [GeofenceDAO create]

✓ Dev Peter

12-10 09:33:06.635 INFO [GeofenceDAO create]

✅ Dev Peter

12-10 09:33:06.635 INFO [GeofenceDAO destroy]

✅ Dev Peter 1

12-10 09:33:06.636 INFO [GeofenceDAO destroy]

🟡 start [ActivityRecognitionService startId: 1, eventCount: 1]

12-10 09:33:06.636 DEBUG [AbstractService a]

🚗 DetectedActivity [type=UNKNOWN, confidence=40]

12-10 09:33:06.637 DEBUG [ActivityRecognitionService a]

✅ Dev Peter 1

12-10 09:33:06.637 INFO [GeofenceDAO create]

✅ Dev Peter 2

12-10 09:33:06.638 INFO [GeofenceDAO create]

✅ Dev Peter 2

12-10 09:33:06.638 INFO [GeofenceDAO destroy]

✅ Dev Peter 3

12-10 09:33:06.639 INFO [GeofenceDAO destroy]

✅ Dev Peter 3

12-10 09:33:06.640 INFO [GeofenceDAO create]

✅ Dev Peter 4.1

12-10 09:33:06.641 INFO [GeofenceDAO create]

✓ Dev Peter 4.1

12-10 09:33:06.641 INFO [GeofenceDAO destroy]

✓ Dev Peter 4.3

12-10 09:33:06.642 INFO [GeofenceDAO destroy]

✓ Dev Peter 4.2

12-10 09:33:06.643 INFO [GeofenceDAO destroy]

✓ Dev Peter 4.3

12-10 09:33:06.643 INFO [GeofenceDAO create]

✓ Dev Peter 4.2

12-10 09:33:06.644 INFO [GeofenceDAO create]

✓ Dev Peter 5

12-10 09:33:06.645 INFO [GeofenceDAO create]

⚙️ ☐ FINISH [ActivityRecognitionService startId: 1, eventCount: 0, sticky: false]

12-10 09:33:06.646 DEBUG [AbstractService a]

✓ Dev Peter 6

12-10 09:33:06.646 INFO [GeofenceDAO destroy]

✓ Dev Peter 7

12-10 09:33:06.647 INFO [GeofenceDAO destroy]

✓ Dev Peter 6

12-10 09:33:06.647 INFO [GeofenceDAO create]

✓ Dev Peter 7

12-10 09:33:06.648 INFO [GeofenceDAO create]

✓ Dev Peter 8

12-10 09:33:06.649 INFO [GeofenceDAO create]

✓ Dev Peter 8

12-10 09:33:06.649 INFO [GeofenceDAO destroy]

✓ Dev Peter W

12-10 09:33:06.650 INFO [GeofenceDAO create]

✓ Dev Peter W

12-10 09:33:06.650 INFO [GeofenceDAO destroy]

✓ Dev Sidney

12-10 09:33:06.651 INFO [GeofenceDAO create]

✓ Dev Sidney

12-10 09:33:06.651 INFO [GeofenceDAO destroy]

✓ Dev Solna United

12-10 09:33:06.652 INFO [GeofenceDAO create]

✓ Dev Solna United 2x.2

12-10 09:33:06.652 INFO [GeofenceDAO destroy]

✓ Dev Solna United

12-10 09:33:06.652 INFO [GeofenceDAO destroy]



✓ Dev Solna United 2x.1

12-10 09:33:06.653 INFO [GeofenceDAO destroy]

✓ Dev Solna United 2x.2

12-10 09:33:06.653 INFO [GeofenceDAO create]

✓ Dev Solna United 2x.1

12-10 09:33:06.654 INFO [GeofenceDAO create]

✓ Dev-JM

12-10 09:33:06.655 INFO [GeofenceDAO create]

✓ Dev-JM

12-10 09:33:06.655 INFO [GeofenceDAO destroy]

✓ Dev-TM

12-10 09:33:06.656 INFO [GeofenceDAO create]

✓ Dev-TM

12-10 09:33:06.656 INFO [GeofenceDAO destroy]

✓ Dev-TM1

12-10 09:33:06.657 INFO [GeofenceDAO create]

✓ Dev-TM1

12-10 09:33:06.657 INFO [GeofenceDAO destroy]

✓ Dev-TM3

12-10 09:33:06.658 INFO [GeofenceDAO destroy]

✓ Dev-TM2

12-10 09:33:06.658 INFO [GeofenceDAO create]

✓ Dev-TM2

12-10 09:33:06.658 INFO [GeofenceDAO destroy]

🟡 start [ActivityRecognitionService startId: 2, eventCount: 1]

12-10 09:33:06.797 DEBUG [AbstractService a]

12-10 09:33:06.799 DEBUG [TSConfig e] ⓘ Persist config, dirty: [isMoving]

12-10 09:33:06.799 DEBUG [ActivityRecognitionService a] \*\*\* wasMoving: false, nowMoving: true, startedMoving: true, justStopped; false

🔴 Stop heartbeat

12-10 09:33:06.801 INFO [HeartbeatService stop]

🕒 Cancel OneShot: HEARTBEAT

12-10 09:33:06.803 INFO [TSScheduleManager cancelOneShot]

🟡 Start monitoring significant location changes

12-10 09:33:06.810 INFO [TSGeofenceManager\$a run]

⚙️ □ FINISH [ActivityRecognitionService startId: 2, eventCount: 0, sticky: false]

12-10 09:33:06.810 DEBUG [AbstractService a]

|| 🟡 ENTER: in\_vehicle


|| Motion Transition Result

12-10 09:33:06.810 INFO [ActivityRecognitionService a]

12-10 09:33:06.811 DEBUG [TSConfig translateDesiredAccuracy]  
translateDesiredAccuracy (true): -1

 LocationAuthorization: Permission granted

12-10 09:33:06.816 DEBUG [LocationAuthorization withBackgroundPermission]

12-10 09:33:06.982 DEBUG [TSGeofenceManager b]  GeofencingClient  
removeGeofences SUCCESS

12-10 09:33:06.983 DEBUG [TSGeofenceManager d]  Persist monitored geofences: []


12-10 09:33:07.001 INFO [GeofenceDAO destroyAll] 

  ActivityRecognitionService.stopSelfResult(2): true

12-10 09:33:07.014 DEBUG [AbstractService f]

 ActivityRecognitionService stopped

12-10 09:33:07.015 DEBUG [AbstractService onDestroy]

12-10 09:33:07.039 DEBUG [TSGeofenceManager b]  GeofencingClient  
removeGeofences SUCCESS

12-10 09:33:07.040 DEBUG [TSGeofenceManager d]  Persist monitored geofences: []

 Location[**HIDDEN**]

 motionchange LocationResult: 14 (5111ms old)

12-10 09:33:07.066 INFO [TSLocationManager a]

 Acquired motionchange position, isMoving: true

12-10 09:33:07.069 INFO [TSLocationManager onSingleLocationResult]

12-10 09:33:07.070 DEBUG [TSLocationManager a] Median accuracy: 10.0


 start [GeofencingService startId: 1, eventCount: 1]

12-10 09:33:07.147 DEBUG [AbstractService a]


  FINISH [GeofencingService startId: 1, eventCount: 0, sticky: false]

12-10 09:33:07.148 DEBUG [AbstractService a]

12-10 09:33:07.291 DEBUG [TSGeofenceManager\$d run] evaluation buffer timer elapsed

 Stop motion-activity updates

12-10 09:33:07.303 INFO [ActivityRecognitionService stop]

 Stop monitoring stationary region


12-10 09:33:07.306 DEBUG [TSGeofenceManager stopMonitoringStationaryRegion]

 Stop monitoring significant location changes

12-10 09:33:07.308 INFO [TSGeofenceManager stopMonitoringSignificantLocationChanges]

|| TSGeofenceManager monitoring 0/0

12-10 09:33:07.310 DEBUG [TSGeofenceManager\$e run]

  GeofencingService.stopSelfResult(1): true

12-10 09:33:07.353 DEBUG [AbstractService f]

 GeofencingService stopped

12-10 09:33:07.354 DEBUG [AbstractService onDestroy]

||  OneShot event fired: TERMINATE\_EVENT

12-10 09:33:12.376 INFO [ScheduleEvent a]

 TERMINATE\_EVENT ignored (MainActivity is still active).

12-10 09:33:12.377 DEBUG [TerminateEvent\$a onChange]

 Scheduled OneShot: TERMINATE\_EVENT in 10000ms (jobID: -1708771588)

12-10 09:35:04.379 INFO [TSScheduleManager oneShot]

12-10 09:35:05.061 DEBUG [LifecycleManager onPause]  onPause

12-10 09:35:05.062 DEBUG [LifecycleManager onStop]  onStop

||  OneShot event fired: TERMINATE\_EVENT


12-10 09:35:14.474 INFO [ScheduleEvent a]


 TERMINATE\_EVENT ignored (MainActivity is still active).

12-10 09:35:14.475 DEBUG [TerminateEvent\$a onChange]


12-10 12:52:53.796 DEBUG [LifecycleManager onStart]  onStart

12-10 12:52:53.978 DEBUG [LifecycleManager onResume]  onResume


12-10 12:52:54.479 DEBUG [TSConfig e]  Persist config, dirty: [isMoving]

 Clear last odometer location


12-10 12:52:54.506 DEBUG [TSLocationManager a]

 Stop motion-activity updates

12-10 12:52:54.522 INFO [ActivityRecognitionService stop]

 Stop heartbeat

12-10 12:52:54.524 INFO [HeartbeatService stop]

 Stop monitoring connectivity changes

12-10 12:52:54.526 DEBUG [HttpService stopMonitoringConnectivityChanges]

 Stop monitoring geofences

## Questions

Under what circumstances would the SDK internally clear all geofences directly after creation?

Is there a way to be notified before geofences are cleared so we can prevent it or immediately restore them?

Could this be related to Android's background execution limits or Doze mode despite battery optimization being disabled?

Are there any SDK configuration options that might prevent this behavior?