In situ

The principal objective of in situ calibration and validation activities is to use observations from tide gauges and other sensors directly on (or near) satellite ground tracks to calibrate the sea-surface height and ancillary measurements made by the satellite as it passes (nearly) overhead.

The comparisons with tide gauges can be made

- locally at dedicated **calibration sites** in order to determine absolute bias or
- **globally** including as much as possible tide gauges near the ground tracks.

There are four **calibration sites:** Bass Strait (Australia), Harvest (USA), Corsica (France), and Crete (Greece) which are located along the T/P, Jason-1 and Jason-2 ground tracks. They allow determining the absolute bias of the altimeters. The methodology and results can be found here.

Concerning the **global** statistics, the main interest of tide gauge measurements lies in the detection of possible jumps or drifts in the MSL evolution as one of the main indicators for climate warming studies. But it has been demonstrated that the comparison of altimeter data with external and independent measurements is also useful to measure improvements of new altimeter standards such as the orbit. Finally, this cross-comparison underlines the need of computing relevant in-situ data time series, which supports the idea of performing a quality control on the in-situ measurements. You will find here, the individual comparisons of tide gauges with altimetry.

Further information: for annual cal/val presentations and reports see here