



Task Team Name

Climatology and L4 Inter-Comparison (IC-TT)

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Task Team Objectives

Compare the SST analyses and their validation, in order to provide information to producers to enable them to improve their analysis systems and to provide guidance to users in their applications.

Major Achievements from 2024 – 2025

The IC-TT underwent a major revision of ongoing tasks/activities, including establishing a collaborative online platform (SharePoint) and updating the website to enhance information flow among Task Team and GHR SST Science Team members, with support from the GHR SST PO. In 2024/2025, bi-monthly meetings focused on Science Talks covering: i) inter-comparison of L4 SST analyses for Marine Heat Waves detection; ii) using L4 SSTs and other datasets for climate studies (e.g., ocean surface warming from ESA-CCI SST CDRs); iii) mapping L3S data using the M3DFS algorithm, to produce dynamically consistent L3S maps from L2 input data; and iv) the updates to L3S and L4 SST products in the Copernicus SST Thematic Assembly Center operational products portfolio. Meeting outcomes are stored on the IC-TT SharePoint. Significant 2024/2025 progress occurred on **Task 1** (*Validate L2, L3, and L4 SST gradients in variable regions*), **Task 3** (*Develop SST calculation science and inter-comparison*), and **Task 5/6** (*Compare feature resolution/SST gradients across L4 products*). **Task 1** led to studies in the California Current, high-latitude areas, and the Mediterranean Sea (with two papers published, and one in preparation). **Task 3** explored incorporating PMW data into regional L4 SST analyses (Mediterranean and Baltic Sea), also supporting the upcoming ESA-Copernicus Imaging Microwave Radiometer mission, resulting in one publication and one article in preparation (collaboration among CNR-ISMAR and DMI). **Task 5/6** focused on inter-comparing L4 SST datasets for Copernicus Climate and Marine Services, with outcomes to be published on the Copernicus Climate Data Store and with potential for a scientific paper.

Next Steps for 2025 – 2026:

The IC-TT Chairs and members plan to consolidate ongoing activities, with the aim of finalizing the ongoing scientific studies (papers) and maximising the outcome of Task 5/6 for a broader inter-comparison study involving a part of the TT members. Continue ongoing efforts to collaborate with other Task Teams such as the High Latitude Task Team. For example, comparisons of SST products in the Arctic show major differences.

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