

Background

The coastal oceans are under increased pressure from human population growth and associated activities in their watersheds as well as large scale global climatic change. Phytoplankton are the base of coastal food webs. Phytoplankton community activity and composition are directly impacted by these pressures and as such are critically-important indicators of marine ecosystem change, resilience and sustainability. Long time series data are essential for characterizing and quantifying these changes. Over the past 5 years, SCOR WG137 has conducted syntheses and cross-system comparisons of these changes, using long-term (decadal) time series data sets obtained from geographically- and climatically-diverse regions around the globe. WG 137's activities culminated in 2015 with the publication of a set of 16 peer reviewed publications in a special issue of *Estuarine Coastal Shelf Science* 2015 163:1-160]. These efforts and products have led to strong momentum and desire by WG137 members to expand syntheses, incorporate evolving data sets and link results to larger-scale, cross-system monitoring efforts being undertaken by a variety of collaborative investigators and working groups, including IGMETS, GlobalHAB, N-CIRP, OBIS and the GOOS Bio-Eco Panel. Accordingly, the WG wishes to further explore and complete comprehensive, systematic and novel analyses of the compiled data sets by the new IOC Group members and by the scientific community at large.

Specific objectives are: 1) to continue to work on representative phytoplankton data sets in order to develop greater scientific understanding of underlying processes and pressures mediating ecological change; 2) to move beyond the WG and understand better the connectivity of phytoplankton with other environmental changes by interactions with other IOC sponsored programs and groups; 3) to move forward to promote IPCC to examine phytoplankton variability in the ocean and coastal ecosystems under various climate change scenarios; 4) to train young career scientists under the mentorship of the Group's senior scientists.

Travel to and from Bremerhaven

Bremerhaven is located in Northern Germany approximately one hours' journey from the town of Bremen and two hours from Hamburg. Here is some information to help you prepare for the trip.

1. Getting to Germany:

The major hubs for international flights to and from Germany are Frankfurt and Munich, from where you can catch a connecting flight to Bremen or Hamburg.

For flights from Europe it is also worth checking direct flights to Hamburg or Bremen. These two airports are also served by low cost carriers (ryan air in Bremen and easyjet in Hamburg).

2. Onward travel to Bremerhaven

a. From Hamburg

At Hamburg airport you can either take a cab to Hamburg central station (Hamburg Hauptbahnhof (Hbf) or take public transport (S1 train). You can access the local transport station from the Arrivals hall. Just look out for sign showing a white s in a green circle. There are ticket machines before you get to the platform. Hamburg is divided into several zones. You will need a ticket for zones A and B. This should cost 3.20 €

From Hamburg central stations you will take a train to Bremen and from there catch a train to Bremerhaven Hbf. The trains are quite frequent and you can check train times at bahn.de;

b. From Bremen.

Bremen airport has a direct tram connection to Bremen's main station. Just leave the airport and cross the road to catch [tram No 6](#) in the direction of 'University' (Universität). This tram will take you to the train station (called 'Hauptbahnhof') in about 20 minutes. From there you can catch a train to Bremerhaven. You can buy tickets either at the ticket machine or the ticket office

One more thing about trains from Bremen: If you get the ticket from the ticket machine in Bremen you might get a ticket that looks just like a little strip of paper without any data on it. You will need to get these stamped in a little machine (normally blue in colour). If you don't do this you essentially travel without a ticket!!!!

When you arrive in Bremerhaven (please make sure you go to **Bremerhaven Hauptbahnhof** and not to **Bremerhaven Lehe**) you can either catch a cab (it's only a 5 minute ride) or a bus to

Useful links:

bahn.de : The main website for booking rail travel in Germany.

[Tram line 6 Bremen time table](#)

[local transport map \(trains\) Hamburg](#)

'Hochschule Bremerhaven'.

The Address of the meeting location is: Alfred Wegener Institut, Am Halten Hafen 26.