

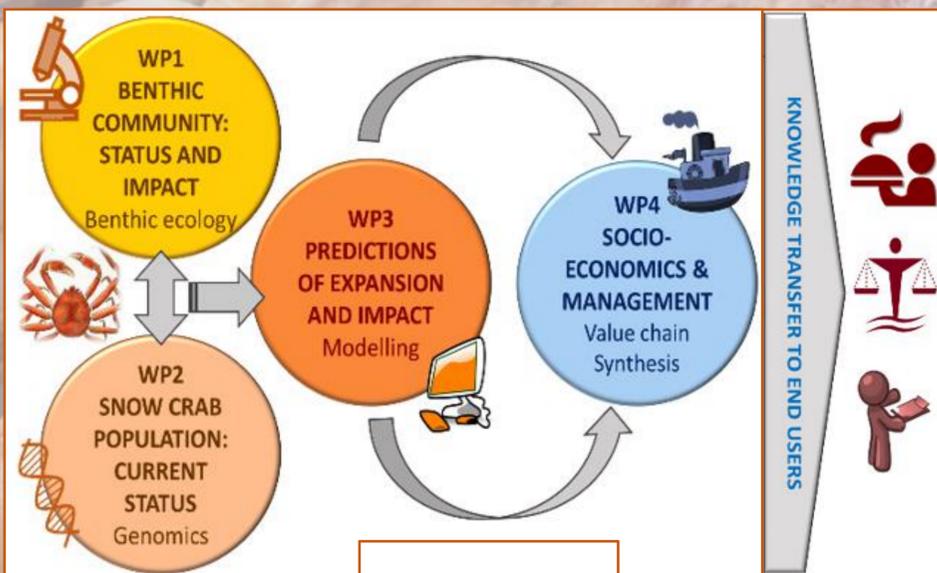
Ecology and management of the invasive snow crab: Predicting expansion, impacts and sustainability in the Arctic under climate change (EISA)

Paul E. Renaud, Sabine Cochrane, Marta Coll, Eivind Oug, and the EISA team*

/ OBJECTIVE

To evaluate and predict change in ecosystem structure and function in the Barents Sea caused by the invasive snow crab in current and future scenarios of global change, and provide the basis for sustainable management of a new biological resource in the complex bio-economic and legal context of the Barents Sea.

/ PROJECT OVERVIEW



/ WE WILL PROVIDE NEW DATA ON:

- ✓ Effects on infaunal and epifaunal communities
- ✓ Source population(s) and diets of Barents Sea crabs
- ✓ Spatial predictive models for crab spreading
- ✓ Food-web impacts under current and future distributions
- ✓ Bio-economic consequences for local businesses/communities



/ PROJECT ACTIVITIES

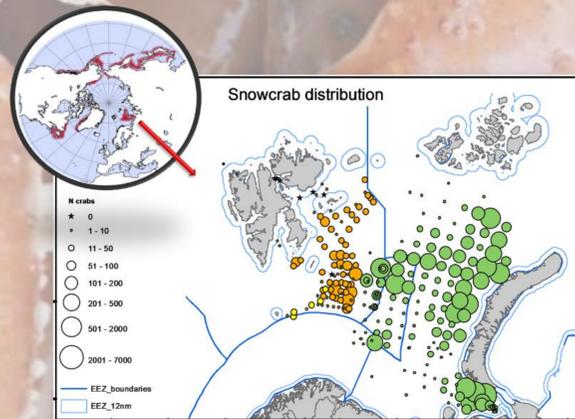
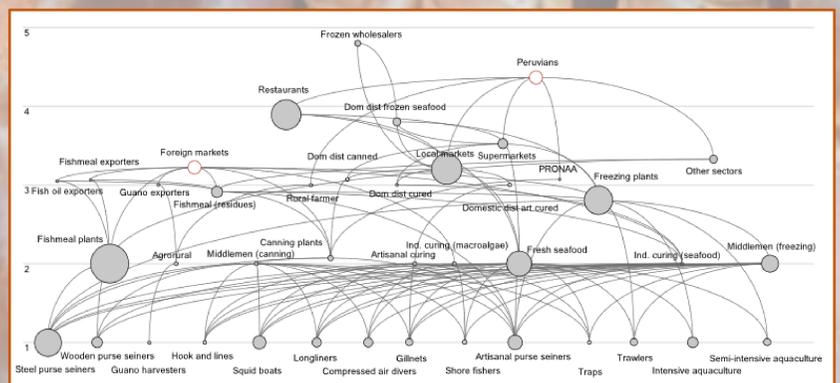


Fig. 1. Distribution of the snow crab globally (from Sokolov & Pavlov, 2016) and in the Barents Sea (IMR). Green: NOR-RUS survey 2017; Orange: Proress, 2018; Yellow: Proress, 2017.



➤ Analyse effects of crab feeding on epifaunal communities

➤ Genetic analysis of Barents Sea snow crab to predict extent of expansion



Value-chain model for the Peruvian fisheries sector (Christensen et al. 2014, Mar Policy)

➤ Assess infaunal communities and sediment structure along crab density gradient

➤ Build a spatial food-web model integrating new range of the crab (Ecospace) and assess regional bio-economic impacts (value-chain analysis)

*The EISA team includes Paul Berg, Trude Borch, Gunhild Borgersen, Villy Christensen, Geir Dahle, Santiago de la Puente, Helena Michelsen, Raul Primicerio, Jeroen Steenbeek, Nils C. Stenseth, and Hilde Trannum

