Abstract: Although considerable research is required on the impact of global climate change on fisheries the general expectation is that climate warming in the Arctic will improve conditions for many fish stocks. Climate warming is taking place faster in the Arctic than elsewhere on the planet. The reduction in sea ice should enhance production and recruitment. Habitat areas could expand and species composition change. The diminishing ice cover and new habitat areas will attract those wishing to exploit the increasingly available fish stocks. However, the current international management and policy framework for Arctic fisheries management is not regarded as adequate for the large challenges looming. Revised and new agreements are necessary. Fisheries management in the Arctic is complicated by changing environmental conditions as the impacts of climate warming continue to be felt, the evolving territorial claims of Arctic states, the attractiveness of the Arctic as a source of oil and gas and a transportation route, and the lack of infrastructure. The Arctic could play a pioneering role in fisheries management by establishing a management organization that avoids rent dissipation through excessive fishing effort, has the ability to adapt to a changing natural environment, protects the rights of indigenous peoples, and anticipates changes rather than reacting to them. This paper will review the likely impacts of climate changing on Arctic fisheries, the current status of management agreements in the Arctic, the difficulties in formulating new management agreements, and principles on which new management agreements could be based.