

ICELAND – A LAND OF FIRE, ICE AND CLIMATE CHANGE

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Climate change is a global phenomenon that affects local marine ecosystems via a cascading range of physical, chemical and biological processes acting at different scales. Although Iceland is a relatively small island in the midst of a large ocean and one of the world's smallest polluters, it is highly affected by the consequences of climate change such as illustrated by a rise in temperatures, shifts in fish stocks and declines in recruitment success of seabirds. These local environmental changes may be backfiring to the mainland. Last year, for example, the ash cloud produced by the volcano under the glacier Eyjafjallajökull forced a temporary closure of north-western European airspace. The supply of the iron-rich volcanic ash to the Atlantic Ocean may also have lengthened the spring bloom of phytoplankton in the sub-polar regions of the North Atlantic. Such interactions between events at one location such as Iceland and the rest of the world indicate that climate change science requires the dominant processes across all scales in time and space to be identified in order to further understand and predict the inevitable impacts of climate change on our environment and to develop truly integrated and complete adaptation responses.