



ARCTIC OCEAN
SCIENTIFIC ADVENTURES

EDUCATIONNAL PACKAGE

NO.07

How to go back to study
Arctic ecosystems?

Hints

Use Internet
to find
answers to the above
questions, but don't
forget to site your
information sources.

Use keywords:
- paleoceanography
- proxies
- past climate
- sedimentation

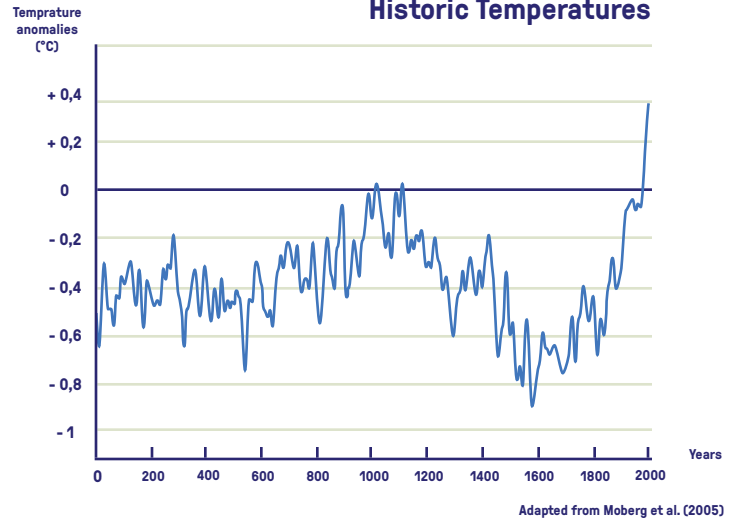
PAST CLIMATE CHANGES:

The Arctic climate, like that of the Earth, has undergone numerous variations throughout its history. Paleontologists have observed 4 major climatic periods over the last 2000 years:

- Middle Ages (cold)
- Medieval Warm Period (warm)
- Little Ice Age (cold)
- Present Global Warming (warm)

Circle the periods on
this graph of recon-
structed temperatures.

Reconstituted Northern Hemisphere Historic Temperatures



CLIMATIC PROXIES

To understand proxies
and their usefulness,
complete the following
text with words from
the list.

In _____
proxies are physical,
chemical or biological

_____ that provide _____
measurements of

_____ parameters. The
presence and quantity
of these markers in
_____ cores or
_____ give infor-
mation about phyto-
plankton _____
over time and their
_____ during
_____ and
_____ periods.

- glacial
- indicators
- ice
- biomass
- paleoceanography
- indirect
- environmental
- sediments
- interglacial
- adaptation

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SEDIMENTATION

Scientists collect
sediment cores from
the floor of the Arctic
Ocean to reconstruct
past climate.

Illustrate the process
of oceanic sedimenta-
tion on the diagram
below.

