Piston corer trials on board
R.V. James Cook
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R.V. James Cook in Vigo
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- **History diameter core barrel at NIOZ**
  - 1976 Outside diameter core barrel: 76 mm
  - Channel corer inner diameter 58 mm
  - 1993 Outside diameter core barrel: 106 mm
  - Channel corer inner diameter 75 mm
  - 1995 Outside diameter core barrel: 127 mm
  - Channel corer inner diameter still 75 mm
  - 2009 Channel corer inner diameter 86 mm + extra holes
2008: NIOZ built a new piston core system
Possibility to make some changes to the main weight and core catchers
- First core catcher used by NIOZ
- Cooperation with the technical college
- Goal: to design a new type of core catcher
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- The simple core catcher

- Advantage, easy to produce, cheap, can be used in combination with “normal” core catcher, catcher is already open by penetration sediment

- Disadvantage, single use, lost after each sample
• Complex core catcher

• Advantage, catcher is already open by penetration sediment

• Disadvantage, difficult to prepare before sampling
- In total we have taken 11 piston cores, 10 with a length of 12 meter and 1 with a length of 18 meter.
- We used the following main weights:
  - The SOC weight with a water outlet of 86 mm
  - The NIOZ main weight with a 86 mm water outlet + extra holes.
  - The NIOZ main weight with a restrictor in the water outlet.
- We used different core catchers as well:
  - The normal core catcher with the spring fingers
  - The special core catcher with the open spring fingers that had to be closed after sampling
  - The simple open core catcher
- At NIOZ we believe that the extra holes in the water outlet have a positive influence on the quality of the samples. The cores taken with the NIOZ corer with the extra water outlet were of the best quality and gave the longest cores.
In our opinion the idea of a trial cruise with different people from different countries would be worth repeating in the future. And I want say thank you to the SOC group for letting us join them.

Thank you