



INSTITUT
POLAIRE
FRANÇAIS
PAUL ÉMILE VICTOR



UPDATE FOR FRANCE

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Overview of existing infrastructures

THE FRENCH-GERMAN RESEARCH STATION IN SPITSBERGEN

AWIPEV^{N.67}

Arctic Research Base Ny-Ålesund



**Rabot station at Ny-Ålesund
2018**

**+ International research
unit TAKUVIK
in Canada**



**French station CORBEL close to Ny-Ålesund
2019**

Mobile infrastructure : research aircrafts



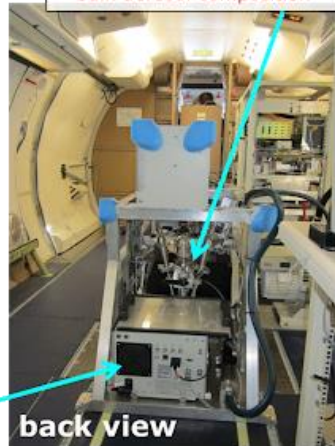
3- λ nephelometer
integrated scattering and backscattering
coefficients @ 450,550,700 nm



7- λ aethalometer
absorption coefficient
@370,470,520,590,660,
880,950 nm

side view

2 lines filter sampling
1 cascade impactor
bulk aerosol composition



back view

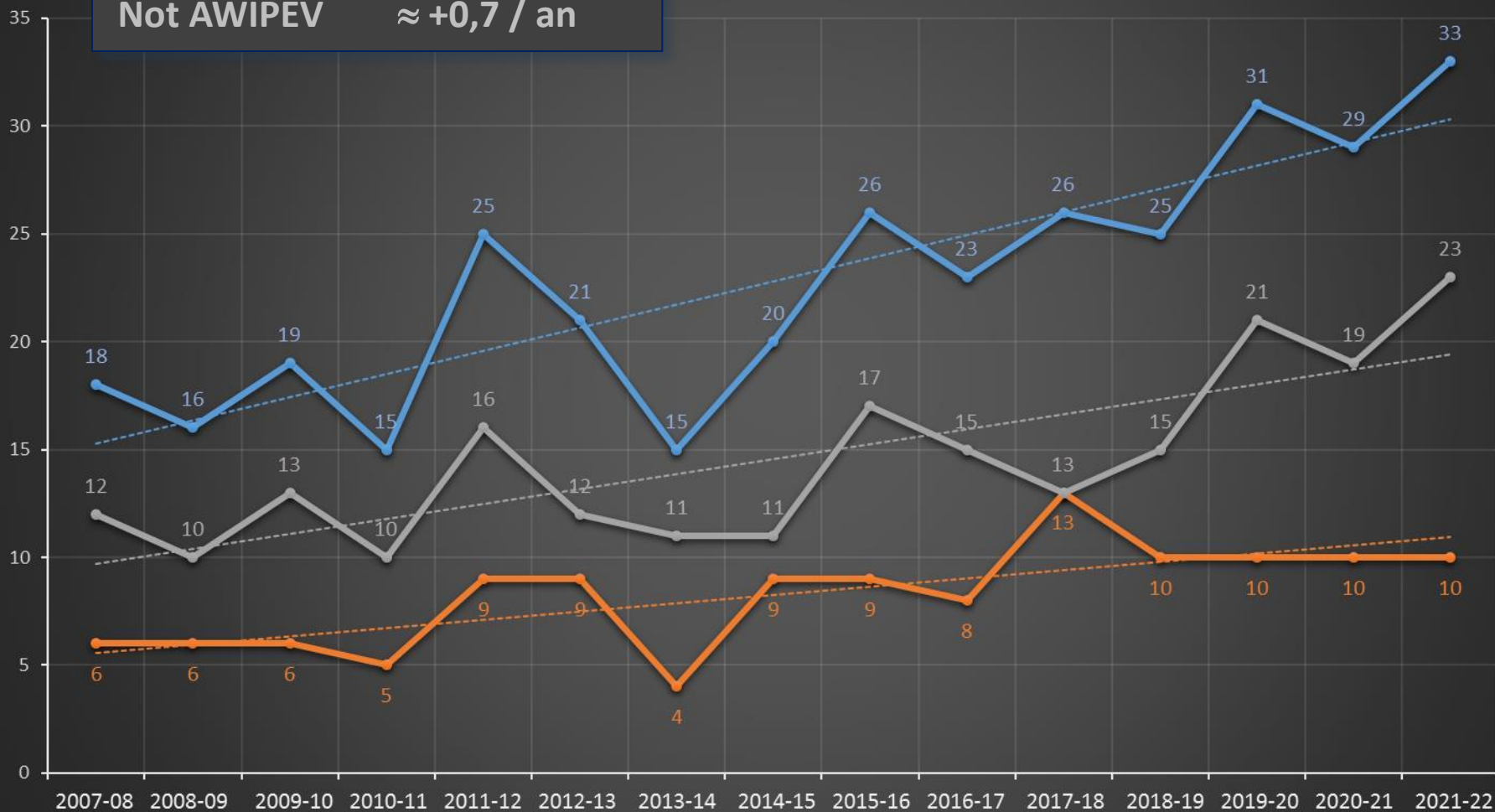
CPC (Condensation Particle Counter)
particle number concentration
4 nm-3.0 μ m diameter



Evolution of number of Arctic field campaigns 2007 to 2021



ARCTIC $\approx +1,1 / \text{an}$
AWIPEV $\approx +0,4 / \text{an}$
Not AWIPEV $\approx +0,7 / \text{an}$



ARCTIC REGION

Fairbanks

Whitehorse

Alberta Nord

Nunavik

Disko Bay

Nuuk

Aappilattoq

Westfjord

Reykjanes

Vatnajökull

Hochstetter Forland

Greenland
(DENMARK)

ICELAND

Ireland

Alaska
(U.S.)

ARCTIC OCEAN

Svalbard
(NORWAY)

NORWAY

SWEDEN

FINLAND

DENMARK

U.K.

GERMANY

POLAND

UKRAINE

EST. LAT. RUS. BELARUS

SEA OF OKHOTSK

JAPAN

Sakhalin

CHINA

RUSSIA

LAPTEV SEA

Novaya Zemlya

Severnaya Zemlya

Franz Josef Land

Jan Mayen (NORWAY)

Greenland Sea

North Pole

Barents Sea

Novaya Zemlya

Laptev Sea

Chukchi Sea

Wrangel Island

Bering Strait

Chukchi Sea

Sea of Okhotsk

Kuril Islands

Aleutian Islands

Gulf of Alaska

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Alaska (U.S.)

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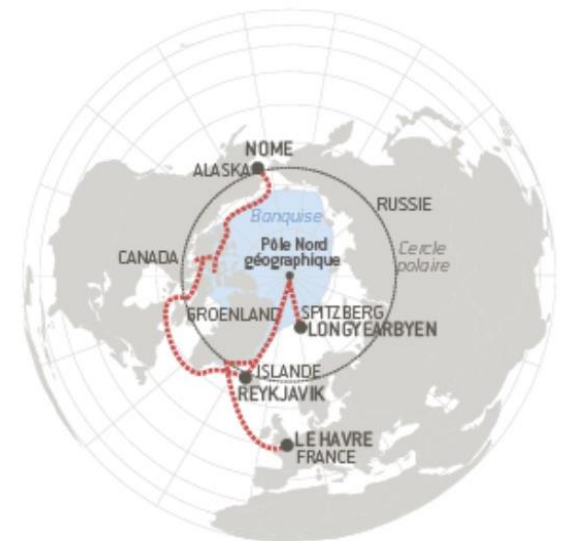
New partnership with Canada

- Exchange of services between Amundsen Science (Canada) and the French Oceanographic Fleet deployed in the Atlantic ocean
- Agreement signed in February 2022



New opportunity : the French ice breaker « Le Commandant Charcot »

- Tour operator compagny Le Ponant
- PC2 Class, equipped with dry and wet laboratories
- Up to 4 scientists onboard per cruise, free of charge



Consequences of Covid-19 in 2021

- Quarantine in the South (Antarctica, subantarctic islands)
- More expeditioners compared with business as usual, to compensate the strong reduction in 2020
- 4 dedicated charter flights for our expeditioners from Melbourne to Hobart
- In Svalbard : we sent the usual number of expeditioners

Future of French polar science

- First-ever National Polar Strategy should be released soon by our Prime Minister, based on the contribution for all involved Ministries + the French Polar Institute IPEV
- We expect / hope for more means, including the option for a better investment in the Arctic (supporting new stations ?)
- Partnership with the tour operator Le Ponant