



## **WP2**

# **Exploitation of existing observing systems**

## **Results of the ongoing survey & plan for the next period**

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## WP2 EXPLOITATION OF EXISTING OBSERVING SYSTEMS

### SURVEY

Questionnaire A

Questionnaire B

Questionnaire C

Task 2.1: Assessments of present Arctic observing capacities and gaps (D2.1, D2.4, D2.7)

Task 2.2: Assessments of exploited Arctic data (D2.5, D2.5, D2.8)

Task 2.3: Catalogues of Arctic data products and data services (D2.3, D2.6, D2.9)

Task 2.4: Report on synthesis and recommendations (D2.10)

Report on the maturity scores of existing observing systems in the Arctic (2.11)

M18  
31.5.2018

M24  
30.11.2018

M30  
31.5.2019

WP5 DATA INTEGRATION AND MANAGEMENT

WP6 APPLICATION OF IAOS TOWARDS STAKEHOLDERS



# Content of the survey

## QUESTIONNAIRE A: Arctic existing *in situ* observing systems

General info

Sustainability

Data management

Data usage

## QUESTIONNAIRE B: Arctic existing *in situ* data collections

General info

Uncertainty characterization

Not to be answered, if the data belong to one of the listed observing systems

Data management

Data coverage, resolution, timeliness, and format

Metadata specifications, documentation

Sustainability

Data usage

## QUESTIONNAIRE C: Arctic satellite products

General info

Data coverage, resolution, timeliness, and format

Uncertainty characterization

Metadata specifications, documentation

Data management

Data usage

|                        | <b>Received answers</b> | <b>Minimum number of expected answers</b> |
|------------------------|-------------------------|---|
| <b>Questionnaire A</b> | <b>34</b>               | <b>30</b>                                 |
| <b>Questionnaire B</b> | <b>48</b>               | <b>80</b>                                 |
| <b>Questionnaire C</b> | <b>19</b>               | <b>40</b>                                 |

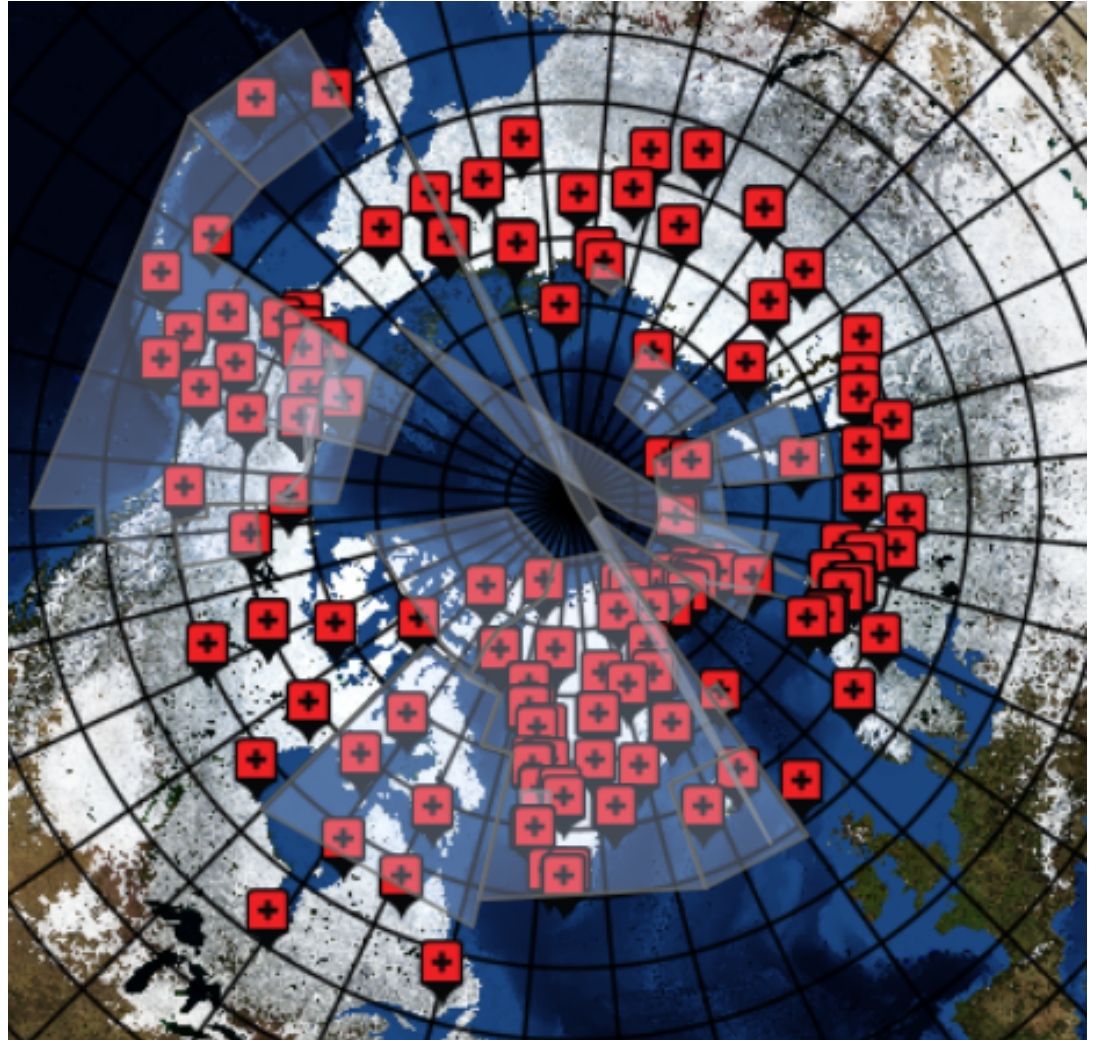
For each in situ observing system (assessed through QA) several variable should be assessed (through QB), selecting them among the most relevant and/or applied in WP6.

## Map of the addressed observing systems

(updated on 5 January 2018)

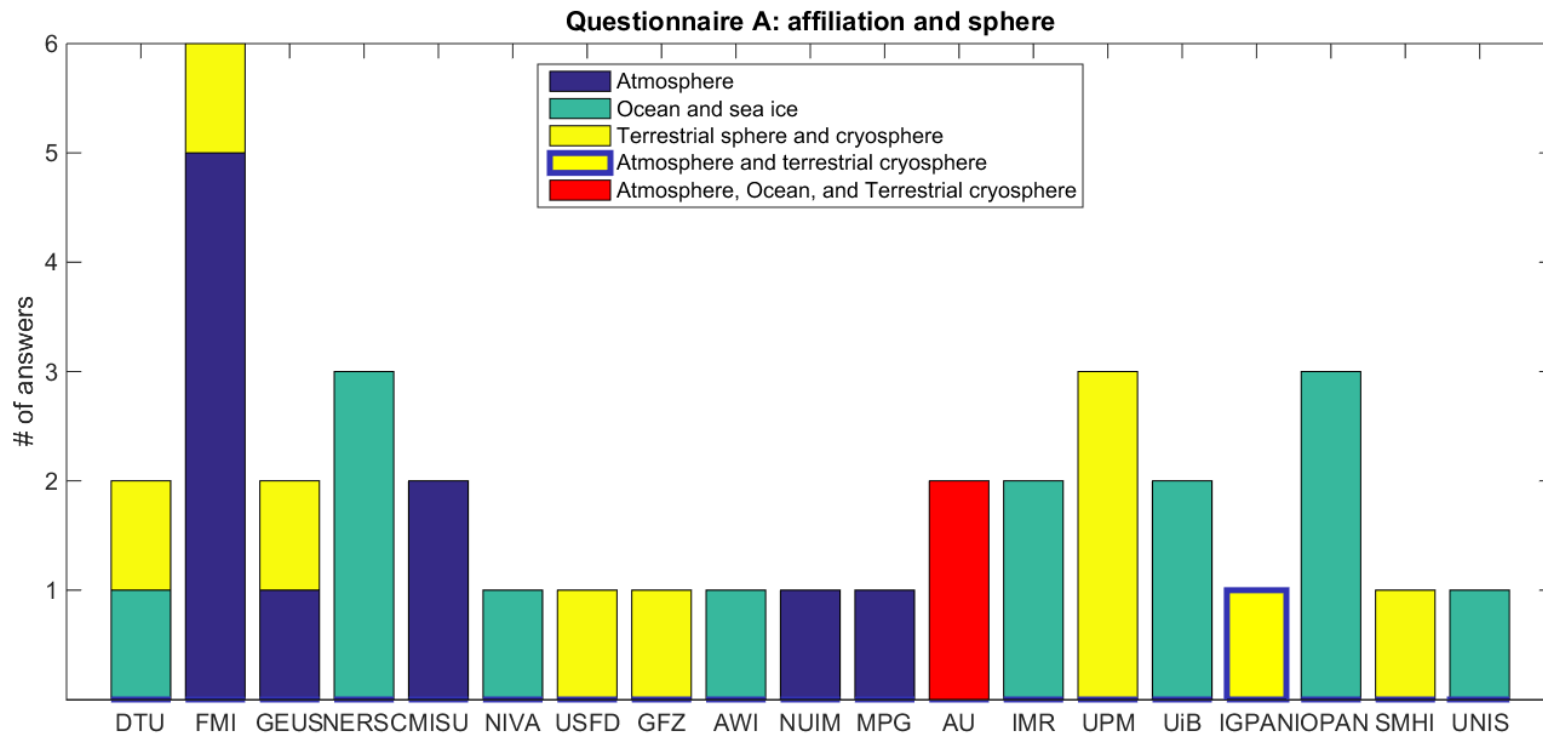
It includes:

- Atmospheric systems
- Marine systems
- Land and cryospheric systems
- CBM systems

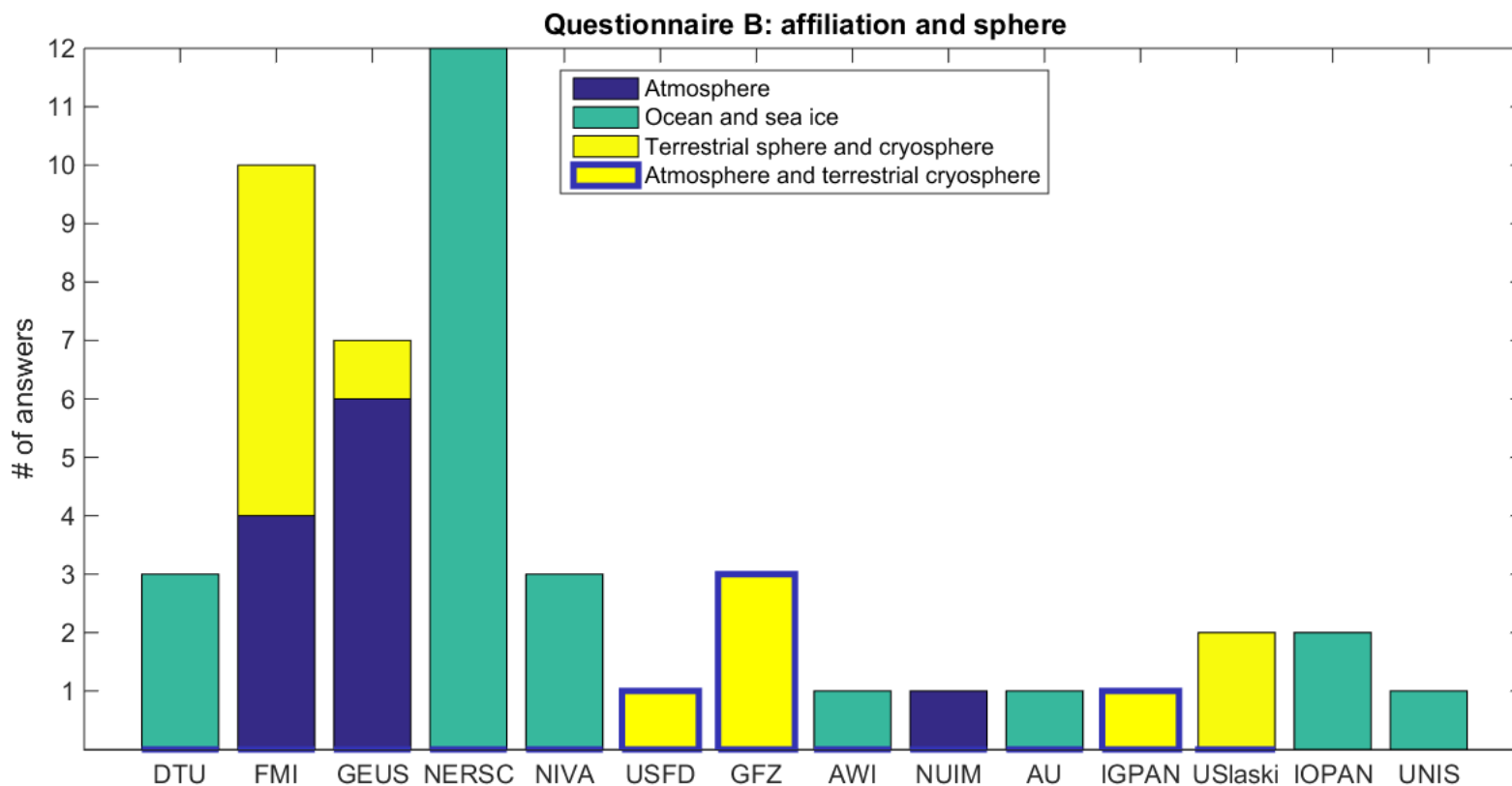




## Questionnaire A: 34 received answers

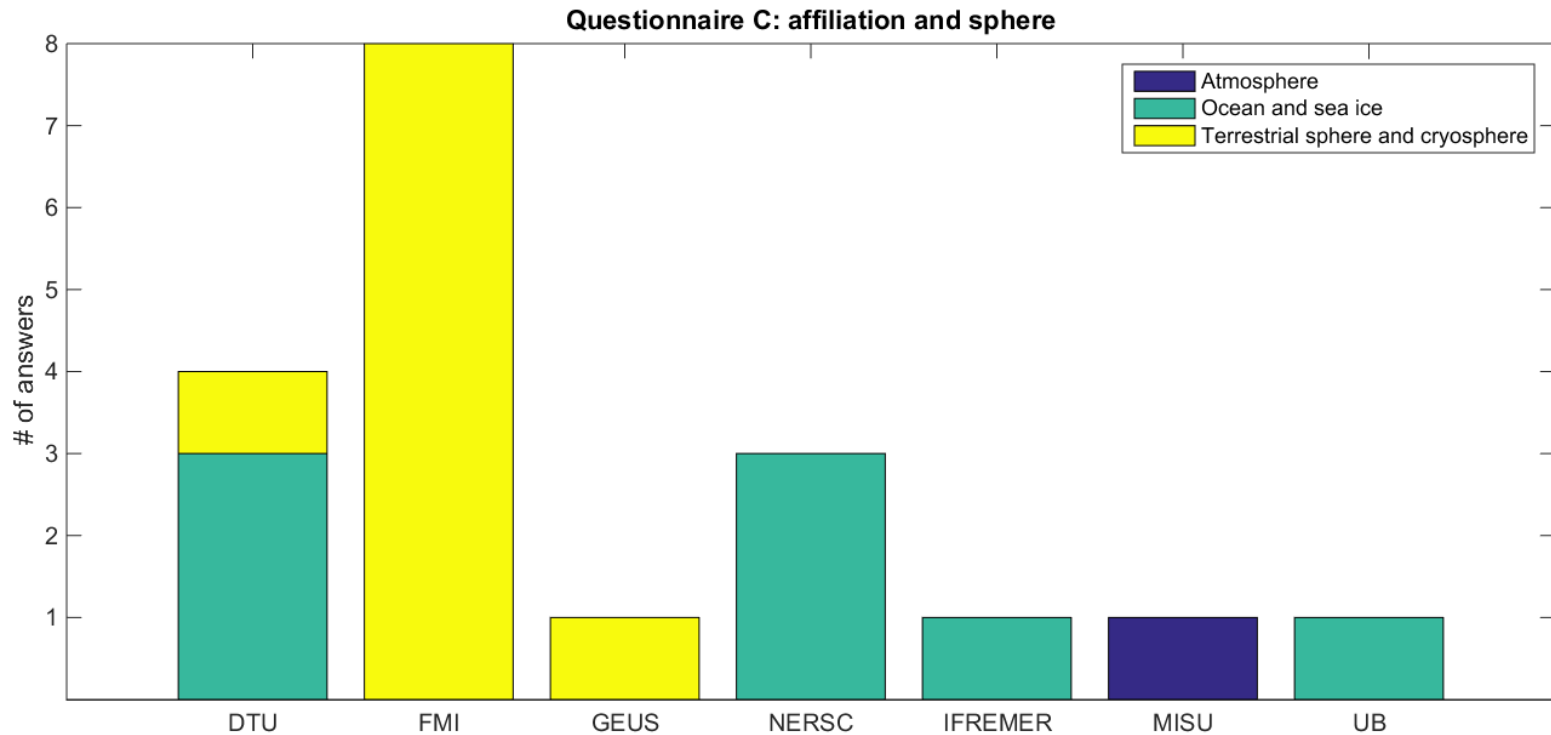


## Questionnaire B: 48 received answers





## Questionnaire C: 19 received answers





□ **Reports on present observing capacities and gaps (Task 2.1)**

**M18**

**D2.1 Ocean and sea ice**

Resp. DTU

Contributions from AWI, NERSC, IOPAN, AU, NIVA, UIB, IFREMER, UB, IMR, CERNs, NIERSC

**D2.4 Atmosphere**

Resp. MISU

Contributions from SMHI, FMI, UH, IGPAN

**D2.7 Terrestrial sphere and cryosphere**

Resp. USFD

Contributions from U Exeter, UH, GFZ, MPG, UPM, GEUS, DTU, FMI, SMHI

□ **Observational gaps revealed by model sensitivity to observations (Task 2.1)** **M24**

**D2.12** Resp. UHAM

Contributions from FMI and MPG



## □ Report on exploitation of existing data (Tasks 2.2 and 2.3)

**M18**

### **D2.2 Ocean and sea ice**

Resp. NERSC

Contributions from DTU, UB, IFREMER

### **D2.5 Atmosphere**

Resp. FMI

Contributions from MISU, DTU, NIERSC, UB

### **D2.8 Terrestrial sphere and cryosphere**

Resp. GEUS

Contributions from UPM, DTU, SMHI, OU, USFD, U Slaski, FMI, GFZ, NORUT

## ☐ Catalogue of products and services (Tasks 2.1, 2.2 and 2.3)

**M24**

### **D2.2 Ocean and sea ice**

Resp. AWI

Contributions from all WP2 partners addressing marine data

### **D2.5 Atmosphere**

Resp. SMHI

Contributions from all WP2 partners addressing atmospheric data

### **D2.8 Terrestrial sphere and cryosphere**

Resp. GFZ

Contributions from all WP2 partners addressing terrestrial and cryospheric data

## ☐ Report on synthesis and recommendation from WP2 (Task 2.4)

**M30**

### **D2.10** Resp. MISU

Contributions from WP2 leaders, Task leaders, Theme leaders, and DNVGL, M30

## ☐ Report on the maturity scores of existing observing systems (Task 2.4)

**M30**

### **D2.11** Resp. NUIM

Contributions from all WP2 partners, M30



## **1. INTRODUCTION**

## **2. DATA PREPARATION**

### **2.1 NERSC**

### **2.2 ...**

## **3. REQUIREMENT**

### **3.1 In situ observing systems**

### **3.2 In situ and satellite-based data collections**

## **4. ASSESSMENT OF PRESENT OBSERVING CAPACITIES AND GAPS**

### **4.1 In situ and airborne observing systems**

General information, Spatial and temporal gaps, Gaps in the variables,

accuracy, sustainability, management, Summary of the data usage.

### **4.2 In-situ data collections**

General information, Gaps in spatial-temporal coverage and resolution, Uncertainty characterization, Metadata and documentation, Sustainability, Summary of the data usage, Data management

### **4.3 Satellite products**

General information, Gaps in spatial and temporal coverage and resolution, Gaps in timeliness, Uncertainty characterization, Metadata and documentation, Data management

## **5. RECOMMENDATIONS**

## **6. LITERATURE**

## Each partner is responsible for:

1. Describing the work done to assess the data (Sect. 2)
2. Search/provide the requirements used to assess the data (Sect. 3)
3. Do the assessment of the data (Sect. 4)

## Deliverable leaders are responsible for:

1. Harmonizing the content of the deliverable, ensuring that each partner has provided the needed contribution

## Task leaders and Theme leaders are responsible for:

1. Overseeing the work, ensuring that the results are consistent and sound
2. Provide the final recommendations.

## Day 1 (afternoon) – plenary sessions

Overview of survey results (just shown)

Partner presentations of WP2 activities (oral and poster)

Purposes of survey (gap assessment, maturity analysis, data catalogue)

## Day 2 (full day) – plenary/working groups:

- Structure of content of the deliverables due M18
- Requirements for assessment? (WMO OSCAR, Copernicus, WP1, WP6? Other sources/own definition - depending on application)
- To which deliverable should each partner contribute?
- Timetable for finalizing deliverables.
- Issues related to Questionnaires, Deliverables, Requirements, WP2-WP6
- First overview of status of status of the inputs needed for data integration



- 31/01/2018 QA, QB, and QC completed
- 1/03/2018 2nd Draft (Sect. 2 and 3 completed)
- 15/04/2018 3rd Draft (Sect. 4 and 5 completed)
  
- 31/05/2018 Ultimate deliverable deadlines**

June 2018

1st draft of Catalogues

Nov 2018

Data catalogue

May 2019

Report on maturity scores of existing observing systems in the Arctic

Observational gap revealed by model sensitivity to observations

May 2019

Final synthesis and recommendations





## EXISTING AND FUTURE OBSERVING SYSTEMS IN THE ARCTIC

EXTERNAL COLLABORATORS



### WP2 EXPLOITATION OF EXISTING OBSERVING SYSTEMS

#### SURVEY

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- Questionnaire B
- Questionnaire C



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- Task 2.2: Assessments of exploited Arctic data (D2.5, D2.5, D2.8) M18  
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- Task 2.3: Catalogues of Arctic data products and data services (D2.3, D2.6, D2.9) M24  
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31.5.2019

INTEGRATED ARCTIC OBSERVATION SYSTEM

WP5 DATA INTEGRATION AND MANAGEMENT

WP6 APPLICATION OF IAOS TOWARDS STAKEHOLDERS

Many observing systems are not covered by the current survey.

Methods and tools of WP2-WP5 to enable future expansion.

External collaborators are essential to build an integrated Arctic observing system.

Many have expressed interest toward filling our questionnaire. When and how to open the questionnaires to them?

Constrains:

1. No resources for it
2. Questionnaire could be simplified