

COMMUNICATING METOCEAN INFORMATION FOR ARCTIC MARINE TOURISM

EXPERTISE, TIMELINESS & INTERACTIONS

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“CO-PRODUCING A STRENGTHENED VALUE-CHAIN FOR SEA-ICE, WEATHER AND CLIMATE SERVICES IN THE EUROPEAN ARCTIC”

CO-PRODUCING MARINE CLIMATE SERVICES

- Nov 2017 – Nov 2020
- Funded by ERA4CS - JPI Climate
- Aims:
 - To understand mobility patterns, constraints, challenges, decision-making contexts and information needs of end-users in different European Arctic marine sectors;
 - To develop and apply participatory tools for co-producing salient climate services with Arctic marine end-users;
 - To co-develop user-relevant and sector specific marine climate services



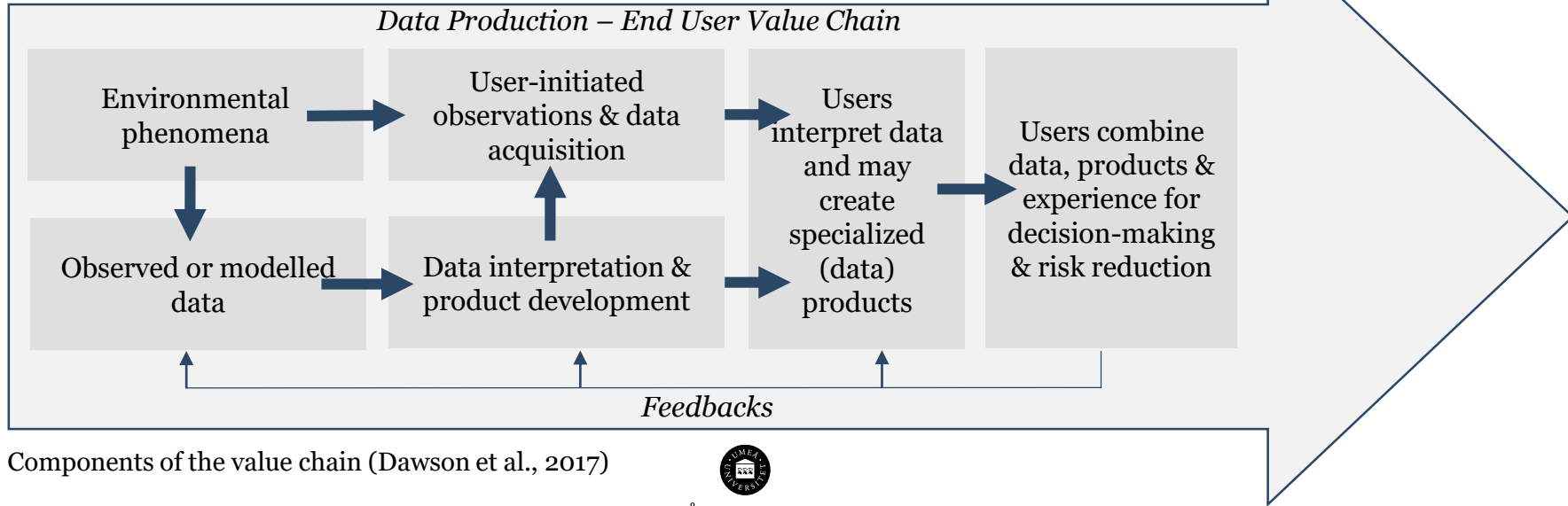
OBJECTIVE & OUTLINE

- What are challenges in communicating metocean information, from the perspective of metservice personnel?
 - Putting the ‘user-producer interface’ in practice
 - Interviews with personnel MET Norway
 - Management, operational, research
 - Preliminary findings on experiences of interacting with end-users
 - Focus here on marine tourism in Arctic, but pertains also to other sectors (e.g., fisheries)



BACKGROUND – SERVICE VALUE CHAIN

- Acknowledging ‘value’ of information: servitization of climate science (Harjanne, 2017)

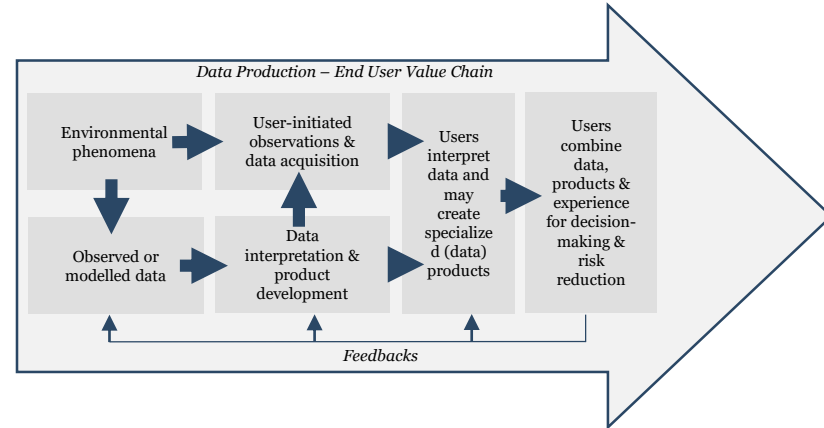


Components of the value chain (Dawson et al., 2017)



BACKGROUND – CO-PRODUCING METOCEAN KNOWLEDGE

- Co-production perspective: Value chain is *practiced through interactions* between ‘users’ and ‘producers’
 - Direct interactions (consultations via phone)
 - Indirect interactions (automated products)
 - Day-to-day interactions (weather forecasts)
 - Strategic interactions (user meetings)
- Different ‘types’ of users
 - General public (you and me)
 - Customers (commercial organizations)
 - Partners (governmental bodies)



But: lack of knowledge how co-production is operationalized in practical context of public meteorological institutes’ tasks and responsibilities.



ARCTIC MARINE TOURISM CHALLENGES

- Sea-ice (drift, concentration, age)
 - Temperature/precipitation: icing
 - Fog (visibility)
 - Wind (strength, direction)
 - Waves (height, direction)
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- Combinations of the above, having to be taking account in relation to...
 - Activity planning/execution
 - Meeting expectations of tourists
 - Maintaining safety/comfort
 - Meeting regulations (AECO, Polar Code)



ARCTIC MARINE TOURISM CHALLENGES

June 17, 2018 Svalbard No comments

Blown away: Biggest cruise ship ever in Longyearbyen makes huge waves for stores, tours – but strong winds nearly kept it from docking



As expected, the biggest cruise ship to ever dock in Longyearbyen meant a day of big crowds, big sales and big discussions. But another big – the wind – nearly made things very small.

<http://icepeople.net/2018/06/17/blown-away-biggest-cruise-ship-ever-in-longyearbyen-makes-huge-waves-for-stores-tours-but-strong-winds-nearly-kept-it-from-docking/>



Passage du nord-ouest : Bloqués, deux navires de Ponant font demi-tour

La Soléal a été le premier navire de croisière français à franchir le passage du nord-ouest, en 2013 © ETIENNE GARCIA

Facebook 2K Twitter + Plus d'options... 96

Article payant offert

Publié le 05/09/2018 par Vincent Grozeleau

Deux navires de croisière de la compagnie française Ponant sont contraints d'abandonner le franchissement de l'Arctique par le passage du nord-ouest, a-t-on appris hier. Respectivement partis de Kangerlussuak, au Groenland, le 20 et le 27 août, Le Boréal et Le Soléal, déjà bien engagés dans les chenaux du grand nord canadien, n'ont d'autre choix que de faire demi-tour. « Les autorités canadiennes nous ont informé que le passage était bloqué au niveau du détroit de Bellot, même avec un brise-glace ça ne passe pas », indique Ponant à la rédaction de Mer et Marine. Alors que la situation ne devrait pas s'arranger rapidement, « les prévisions météo et de suivi des glaces (étant) mauvaises », la compagnie française n'insiste pas. « En fait, il n'y a pas eu de décision à prendre, nous suivons les directives des autorités canadiennes », affirme-t-elle.

<https://www.meretmarine.com/fr/content/ponant-le-passage-du-nord-ouest-infranchissable>

ARCTIC MARINE TOURISM CHALLENGES

Co-producing a strengthened value-chain for sea-ice, weather and climate services in the European Arctic?

Expertise

- Cumulative local knowledge: metocean info aligning with personal skills?
- User-producer roles constantly change: iterative process of 'knowing'?

Timeliness

- User needs spatio-temporally situated: when and where info needed?
- Information availability as temporal constraint: planning vs. opportunity?

Interactions

- Which communication channels are used?
- What are objectives of interactions?
- Impact of technological innovation: blessing or curse?



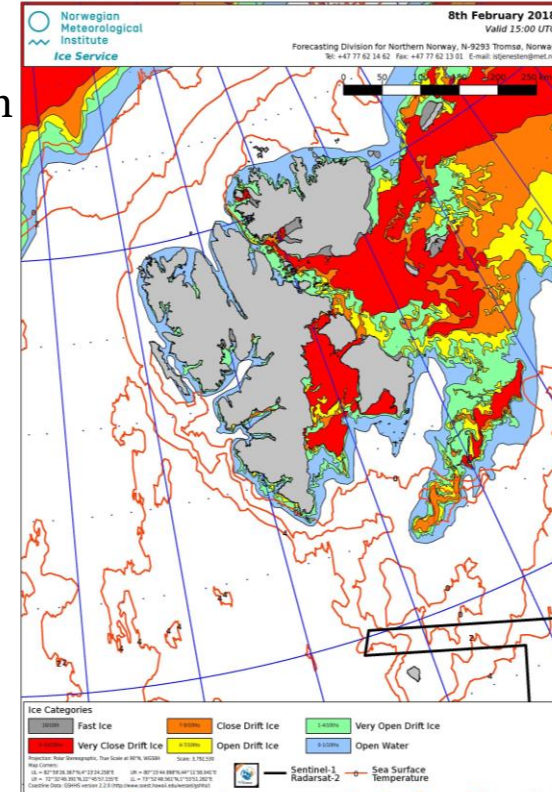
EXPERTISE

- ‘Problem of expertise’ (Daipha, 2015)
 - Need to maintain an epistemic asymmetry between lay persons and meteorologists in order to appear credible
 - Asymmetry has to dissolve in order to build meaningful relations between users and producers
 - But... meaningful relations are based on perceived credibility
- Expertise is practiced through communication, interactions
 - Forecast formats (probabilities): *‘general public does not understand probability/uncertainty information’*
 - Illusion of spatial accuracy (model resolution vs. location-based forecasts)
- Expertise is constantly negotiated
 - Sharing knowledge vs. maintaining lay-expert boundary (direct contact with meteorologists?)
 - Collage (Daipha, 2015): ‘knowing’ is achieved over time, integrating/juxtaposing multiple information sources
- Marine tourism stakeholders: experts or lay?
 - Expedition cruises: ‘often highly skilled and much experience’
 - Recreational boating: ‘lacking understanding of metocean products’
 - New kids on the block: ‘lack of expertise and/or local knowledge’



TIMELINESS

- Needs are spatio-temporally situated in activity contexts
- Availability of up-to-date/reliable metocean info might not match
 - Planning horizons of end-users: ranging from hours to years
 - Long term: cruise planning
 - Short term: ability to dock in harbor (Spitsbergen example)
- Metocean information strongly temporally contingent
 - Rhythm of model updates (3hr, 6hr) & satellite updates
 - Sea-ice charting from East to West (Eastern part ‘outdated’)
 - Limited resources for meteorologists
 - Routine patterns of day-to-day tasks & responsibilities



INTERACTIONS

- Strategic interactions
 - ‘We do not know how our forecasts are used’
 - Depends on type of public: general public, customers, partners
 - Marine tourism as general public, sometimes customers
 - User meetings not regular for (marine) tourism stakeholders
- Boundary work: bridging user-producer gaps, trigger mutual understanding
 - Meteorologists collaborate in research projects (more an opportunistic than a strategic measure)
 - Social scientists as boundary workers: integrating disciplines
 - Meteorologists as boundary workers (research to operations)



INTERACTIONS

- Day-to-day interactions
 - Science for Service paradigm
 - Foundation for metocean communication structure
 - Acknowledgment of user needs and interactions with them
 - However: increasingly automated products (YR.no: most important communication means)
 - Shift from phone calls to social media (one-to-one → one-to-many)
 - Fewer opportunities for tailored, person-to-person communication
 - Less feedback: ground truth, observations at remote locations



CLOSING REMARKS

- Lessons:
 - Need to focus on multiple types of user-producer interactions (metaservice-tourism stakeholders, research-operations).
 - Important downsides to automated communication of metocean products
 - Need to find new ways for user-producer interactions in automated world
 - Boundary work essential to bridge user-producer gaps
 - Collage: where do meteorological institutes fit in?
 - Importance of social science
 - Understand cultural importance of meteorological knowledge
 - Integrating scientific disciplines
 - Bridging lay-expert gaps
 - Translating scientific knowledge into actionable information



THANK YOU



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