

Climate Change and Public Communication

**How to create public awareness and
political pressure?**

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Stört das Klima den Sex der Korallen?

Neue Serie „Forschung in Australien“: Wissenschaftler studieren am Barrier Reef die Vermehrung der Korallen

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Cairns – Die Korallenblüte am Great Barrier Reef vor der Ostküste Australiens fand in diesem November nicht zum gewohnten Zeitpunkt statt. Dabei halten sich doch die Korallen sonst sehr genau an einen strengen Zeitplan. Der Korallensex findet jährlich zwei bis sechs Tage nach dem Vollmond im November statt. Doch diesmal fiel er aus. Was ist also am Riff, fragen die Meeresforscher.

„Wie in einem von unten wehenden Schneesturm mit bunten Flocken kommt man sich vor“, beschreibt der australische Meeresbiologe und Paläontologe Russell Kelley begeistert die zehnmündige Massenvermehrung der Riffbewohner. Sie ermöglicht den Korallen, sich trotz ihrer sesshaften Lebensweise fortzupflanzen und neue Lebensräume zu besiedeln.

Der Zeitpunkt der Korallenblüte wird durch Wassertemperatur, Tageslänge und eben den lunaren Kreislauf bestimmt. Wenn die Tage länger werden, das Wasser sich über 27 Grad Celsius erwärmt und die Mondphase

weise lässt sich der Zeitpunkt der Fortpflanzung bei Korallen bis auf 20 Minuten genau vorhersagen. In manchen Jahren – wie in diesem – fällt die Blüte aus. Die Prognose aber

er Vollmond im November statt, als die Wassertemperatur noch nicht für alle Korallen oberhalb der erforderlichen Temperatur lag. Dem größten Teil der Korallen raubte die Kälte jede Lust auf Sex. Andere waren nur halb bei der Sache: Einige der im flachen, sich schneller erwärmenden Wasser angesiedelten Korallen blühten halberzig. Bei ihren Verwandten in den tieferen und kälteren Wasserschichten geschah gar nichts.

Dieses als „Split Spawning“ bekannte Phänomen wurde bereits in der Vergangenheit in der Umgebung der Magnetic Island beobachtet, einer Insel im zentralen Barrier Reef. „Dies hat vollkommen natürliche Ursachen und nichts mit Klimaveränderungen zu tun“, erklärt Kelley, „doch wir erforschen durchaus, wie eine zunehmende Erwärmung des Wassers die Fortpflanzungsfähigkeit der Korallen beeinflusst.“ Es sei immer wahrscheinlicher, dass durch den Klimawandel ganze Riffkomplexe und die Korallenbleiche geschädigt werden. Bis hier belastbare Erkenntnisse vorlägen, so Kelley, sei es aber noch ein weiter Weg.

Viele Zusammenhänge sind noch immer unbekannt. Überhaupt



Does the climate disturb the sex of corals?



Forschung in AUSTRALIEN

1. TEIL

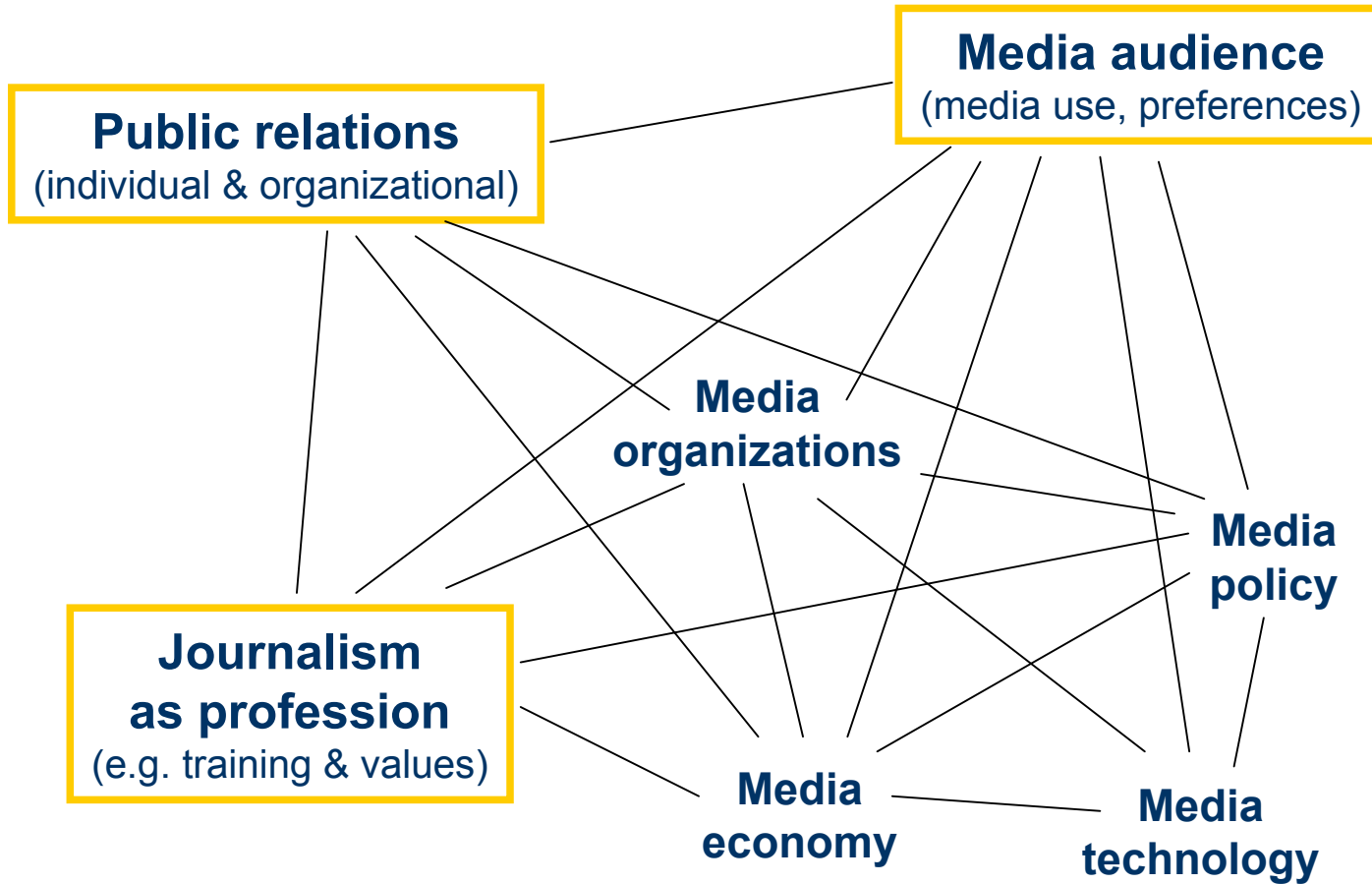
us erwärmt und die Mondphase

Living in a media society:

Average media consumption in Germany

	average time per day
TV	185 minutes
Radio	206 minutes
Newspaper	30 minutes
Magazines	10 minutes
Books	18 minutes
Audio (CD, records, tapes)	36 minutes
Video	4 minutes
Internet	13 minutes
Total	502 minutes (= 8.3 hours)

Media communication system



Protagonist: Science (national + international)

- **Phase 1** (1975-1985): demand for financial resources in order to analyze systematically the CO₂ hypotheses and the climate system
- **Phase 2** (1986-1990): preliminary closure of discourse; provision of policy-relevant knowledge (Enquete-Commission)
- **Phase 3** (1991-1995): institutionalization of scientific discourse, diversification of policy advice (Weingart et al. 2001)
- **Current developments**: despite broad consensus, that climate is changing, still uncertainty regarding consequences (reliability of computer-simulation etc.)

Media relevance: public expert controversy

Protagonist: Politics (national + international)

- Climate change became a political problem, when science stated, that global warming is a societal risk
But: cognitive uncertainty (knowledge), normative ambivalence (evaluation) and complexity allows for problem-denying as political strategy
- **Phase 1** (1975-1985): climate change at first no topic; 1984 national climate change program
- **Phase 2** (1986-1992): Topic in parliament: Enquete-Commission; interpretation of weather events as climate change
- **Phase 3** (1992-1995): Beginning of political regulation (Kyoto-Protocoll); establishment of political discourse - from catastrophism to sustainable development; (Weingart et al. 2001)
- **Current developments:** next to climate protection raising adaptation discourse; driven by US politics

Media relevance: chances and risks of political regulation

Protagonist: Business (national + international)

- No unified opinion: pluralism of economic associations and enterprises due to heterogeneity of interests:
 - fundamental climate skeptics
 - critics of climate change instruments
 - supporter of climate protection
 - climate protection activists
- All actors driven by economic perspective

Media relevance: chances and risks for economic development and employment

Protagonist: NGO's (national +international)

- Social-ecological perspective: climate change threatens nature and society
- Urgency for action (mitigation and adaptation)
- Broad range of aspects:
 - development policy,
 - lobbying,
 - PR / opinion building,
 - education,
 - nature conservation,
 - business partnerships, technology innovation

Media relevance: (global) ecological risks and societal consequences; inequality and justice

Citizens: Resonance to climate change discourse

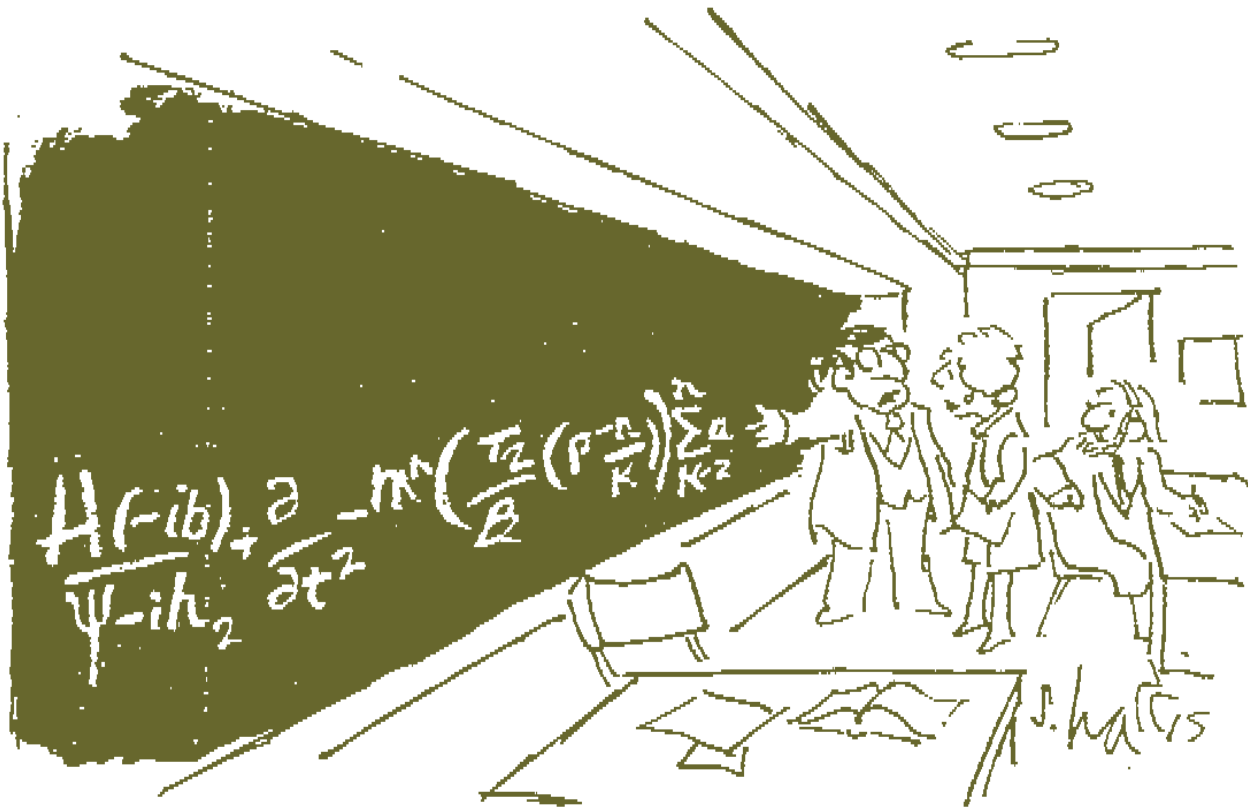
Opinion polls in 2002: Forsa / German Energy Agency; UBA-Survey 2002; Risk Survey 2001

Large parts of the German population say,

- that they feel (well) informed about climate change
- that climate change is an important (future) topic, because its personal and general threatening
- that climate protection is an important societal goal
- that they are opportunities for mitigation and adaptation (at least in Germany)
- that business and politics are responsible
- **BUT:** the perceived benefit of the modern lifestyle and -standards, the perceived time-space distance of consequences as well as lack of concrete options for action limit willingness to act

Climate Change in media coverage

- (Scientific) experts unusual often quoted
- Unequal distribution of media contacts: visible scientist
- Selection of sources not determined by scientific criteria
- Experts are expected to assess situations, to deliver prognoses and to offer options for action beyond mere factual knowledge (competence of NGO's)
- Selection and contextualization in accordance with news criteria



“But this *is* the simplified version for the general public.”

Media impact of climate change coverage on audience

- Re-production of the 'symbolic environment'; frame of reference for individuals, political institutions and other actors ("issue culture")
- Media-stories central for the contact of the broader public with this issue (interpretations of climate change are based on communication not immediate perception)
- Media impact depends on interpretative processes: 'sense-making' instead of 'message learning'
- Media stories stimulate cognitive activities regarding climate change, but do not determine the thoughts

Climate Change in the Public Sphere: new findings

Project aims

- Empirical knowledge about the symbolic environment regarding climate change and coastal protection
- Empirical knowledge about interpretative processes in the production of media stories - especially the integration of (scientific) expertise
- Empirical knowledge about the interpretative processes by which the (media-based) 'symbolic context' is transformed in subjective knowledge, risk-beliefs and attitudes ('sense-making')

Databasis

- 1200 media products (TV, Radio, Print); Survey with 362 experts and journalists; 183 quasi-experimental survey-sessions with citizens at the North Sea Coast

Coverage on climate impact management underdeveloped?

Media stories represent a broad spectrum on climate change topics:

- climate research (natural climate variability vs. human influence)
- climate policy (e.g. Kyoto protocol)
- risks for nature and humans (environmental change, extreme weather events, increase of infectious diseases etc.)

significant less: adaptation (e.g. challenges for coastal protection)

Symbiosis between Journalists and Experts?

Models of communication

- Experts reclaim influence in media coverage vs. journalists see themselves as (autonomous) authors and experts as 'information sources'
- Journalists support stronger than experts the opinion, that journalists should be critical with environmental experts and that the media should not pursue pedagogic goals

Character of environmental science and role of experts

- Almost no difference in agreement/disagreement about statements regarding orientation towards non-scientific/societal questions
- Fundamental agreement between experts and journalists that experts should focus on their expertise and try to be objective (supported stronger by experts)
- But too, that experts should seek contact to journalists by themselves and that experts should not answer only scientific/technical questions (supported stronger by journalists)

Perception of climate change

- Almost no difference in perception of climate change: both groups are convinced that the climate will change; but experts are more decisive than journalists

Citizens: trust in Science, Mistrust in Politics?

Perception of climate change

- Similar to experts and journalists the test persons are convinced that the climate will change: 86% ,completely agree‘ or ,agree‘; 66% are ,not‘ or ,not at all‘ convinced that the problems caused by climate change can be managed (in Germany)

Perception of coastal protection

- Test persons have faith in current coastal protection: median 2.7 (scale: 1 (very high trust) - 7 (no trust at all))
- Expected, future coastal protection under climate change: median 3.4;
 - High concerns regarding climate change in general vs. medium concerns regarding local consequences

Trust in Science

- Science is the most trusted social sub-system: 42% have very high trust in science, but only 4% in government, 4% in parliament, 6% in administration, 1% in political parties, 5% in media, 6% in industry

How to create public awareness and political pressure?

- Co-operation between science and NGO's: reliable knowledge & action orientation (network of high-trust-actors)
- Communications training for environmental experts / actors
- Take into account pop-cultural aesthetics in environment and sustainability communication (www.nachhaltiger-flimblick.de)
- Take into account, that solidarity as prerequisite to support global activities like climate funds etc. can not be based on rationality and cognitive insight alone

How to create public awareness and political pressure?

- Media communication as means to create transnational emotional bonds need human touch stories
(international NGO-Journalist networks; stories: e.g. tourist places, 'German' technology, 'comparison TV': coping of extreme weather events in different countries)
- Decision-supportive media communication: solution-oriented vs. catastrophism
- Take into account Internet as means for individualized mass communication as tool to communicate complex information (current US campaign)

Contextualization of index needed!