![Dalhousie University - Faculty of Management logo]

School of Information Management

INFO 6100 - Information in Public Policy and Decision Making (Winter 2020)
(Cross listed with ENVI 6100 and PUAD 6150)
Wednesdays, 2:30 pm - 5:30 pm, Room 3001, Rowe Management Building

Instructors: Dr. Suzuette Soomai and Dr. Bertrum H. MacDonald (members of the Environmental Information: Use and Influence research team will contribute to the course - www.eiui.ca)

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Office Hours: by appointment

> *Note: This syllabus may be subject to minor alteration prior to or during the term.*

COURSE DESCRIPTION
INFO 6100 (ENVI 6100 & PUAD 6150) addresses the question of how information is used in policy making at local, national, and international levels. While modern policy making prescribes the use of the best available information, evidence-based policy making is relatively new and challenging due in part to the large quantities and types of information that could inform decisions. This course will examine the role of information, arising primarily from various research domains, in policy decisions, and will give particular attention to the interface between research and policy decisions. The course will draw on research-based case studies to illustrate enablers and barriers affecting the use and influence of information.

PREREQUISITES
There are no prerequisites for this graduate course. This elective course is open to all graduate students in the Faculty of Management and related programs.

COURSE OBJECTIVES
The objectives of this course are to:
1. introduce the concept and practices of evidence-based policy and decision-making;
2. identify current-day practices in the production (types and format) and communication of research-based information;
3. outline and describe activities at the science-policy interface, particularly regarding information pathways;
4. introduce and describe methods of assessing the complex phenomenon of the use and influence of research-based information and publications;

5. identify and assess knowledge management practices applicable to policy and decision-making contexts; and
6. identify and assess best practices for promoting use of research-based evidence in policy and decision-making processes.

COURSE/LEARNING OUTCOMES
Upon completion of the course, students are expected to have gained basic knowledge or proficiency in the following areas:
1. the types of research-based information created for and/or used in policy and decision-making;
2. the contexts (e.g., governmental and intergovernmental) in which research may be used in policy and decision making and a variety of perspectives about evidence-based policy and decision-making;
3. the role(s) of research-based information in policy and decision-making contexts;
4. the challenges (enablers and barriers) in facilitating use of research-based information in policy and decision-making;
5. the complexity of measuring use and influence of information; and
6. application of best practices in promoting wider awareness and use of research-based information in policy and decision-making.

INFORMATION TECHNOLOGY
A Brightspace course site will be used to complement the in-class activities. Copies of selected course documents and discussion boards will be available at this site.

INSTRUCTIONAL METHODS
Instruction in this course will include lectures, cases, and class discussion. When appropriate, guest speakers will be featured. Students will prepare for, and engage in discussion of, concepts and ideas presented in class through readings and cases.

TEXT
The following text has been selected for this course and copies are available for purchase from the Dalhousie University Bookstore. Many of the chapters will be assigned readings.

Boaz, A., Davies, H., Fraser, A., & Nutley, S. (Eds.) (2019). *What works now? Evidence-informed policy and practice*. Bristol: The Policy Press. ISBN 978-1-4473-4548-0 (paperback).

GENERAL RESOURCES
The literature on evidence-based decision-making and the use of information and knowledge in public policy is large and growing. The following two resources may prove helpful during the course
  Alliance for Useful Evidence - www.nesta.org.uk/project/alliance-useful-evidence
  International Network for Government Science Advice (INGSA) - www.ingsa.org

METHODS OF EVALUATION
Students will be evaluated in this course in the following manner:

Paper # 1 — Seminar — 15%
Students will work in assigned teams to present a seminar based on the weekly themes of the course. Further guidelines are provided separately.
Due date: variable (beginning date depends on class registration)

Paper # 2 — Review of a Policy Document — 15%
Students will select a policy document (from an assigned list) and provide a five-page assessment of the policy noting particularly how research-based information informed the preparation of the document. Further details are provided separately.
Due date: Wednesday, 29 January 2020

Paper # 3 — Briefing Memo or Letter to Newspaper (or other Media)— 20%
Students will prepare either a two-page briefing memo for a policy context or a letter to a newspaper (or other media). The objective of either submission will be to explain a scientific issue at a level that non-experts can understand. Further guidelines will be provided separately.
Due date: Wednesday, 4 March 2020

Paper # 4 — Essay — 35%
Students will write a 4,500-word essay on a topic selected in consultation with the instructor. Further guidelines will be provided separately.
Due date: Wednesday, 8 April 2020 [one week after the last class]

Participation — 15%
This course involves considerable reading and consideration of topics about information as they relate to research-based information in policy and decision-making. Students are encouraged and expected to actively participate in the discussion of each of the themes of the course. In general, students' participation will be assessed on the following criteria: class attendance, completion of assigned readings, extent of participation in class discussions, and adherence to course deadlines. *Attendance at classes alone is not sufficient for satisfactory participation in this course*.

PARTICIPATION EVALUATION RUBRIC

Criteria	Weighting	Indicators
Preparation	40%	The student demonstrates consistent preparation for class; readings are always completed and the student is able to relate readings to each other and to other course material (discussions, presentations, guest speakers, etc.)
Quality of contributions	40%	The student's comments are relevant and reflect understanding of readings and other course material. The student's contributions move the discussion forward.
Frequency of participation	10%	The student is actively engaged in the class and/or discussions at all times.
Attendance / Punctuality	10%	The student is always punctual with no unexcused absences

CLASS POLICIES

Attendance
Class attendance is required and is included in the participation mark. Attendance records will be kept by the instructor. Students are expected to contact the instructor (preferably by e-mail) if they cannot attend a class, must arrive late, or leave early.

Late penalties for assignments
A penalty for late assignments will be assessed, unless prior permission has been given by the instructor to submit an assignment late, which normally will be for extended illness, medical, or family emergencies only (see below). Late submissions will be assessed a penalty of five percent per day, including weekends. Assignments will not normally be accepted seven days or more after the due date; in such cases the student will receive a grade of zero for each such late assignment.

Missed or Late Academic Requirements due to Student Absence
Dalhousie University recognizes that students may experience short-term physical or mental health conditions, or other extenuating circumstances that may affect their ability to attend required classes, tests, exams or submit other coursework.

Dalhousie students are asked to take responsibility for their own short-term absences (3 days or less) by contacting their instructor by phone or email prior to the academic requirement deadline or scheduled time **AND** by submitting a completed Student Declaration of Absence form to their instructor in case of missed or late academic requirements. Only two separate Student Declaration of Absence forms may be submitted per course during a term (note: faculty, college, school, instructor or course-specific guidelines may set a lower maximum).

Citation Style
This course uses APA style for bibliographic citations and references as well as rules governing the presentation of the text. See further details below.

SCHOOL OF INFORMATION MANAGEMENT GRADING POLICY

A+	90-100	Demonstrates original work of distinction.
A	85-89	Demonstrates high-level command of the subject matter and an ability for critical analysis.
A-	80-84	Demonstrates above-average command of the subject matter.
B+	77-79	Demonstrates average command of the subject matter.
B	73-76	Demonstrates acceptable command of the subject matter.
B-	70-72	Demonstrates minimally acceptable command of the subject matter.
F	<70	Unacceptable for credit towards a Master's degree.

ACCOMMODATION POLICY FOR STUDENTS
Students may request accommodation as a result of barriers experienced related to disability, religious obligation, or any characteristic protected under Canadian human rights legislation.

Students who require academic accommodation for either classroom participation or the writing of tests and exams should make their request to the Advising and Access Services Center (AASC) prior to or at the outset of the regular academic year. Please visit www.dal.ca/access for more information and to obtain the Request for Accommodation form.

A note taker may be required as part of a student's accommodation. There is an honorarium of $75/course/term (with some exceptions). If you are interested, please contact AASC at 902 494-2836 for more information or send an email to notetaking@dal.ca

Please note that your classroom may contain specialized accessible furniture and equipment. It is important that these items remain in the classroom, untouched, so that students who require their usage will be able to fully participate in the class.

ACADEMIC INTEGRITY — FACULTY OF MANAGEMENT
In general:
The commitment of the Faculty of Management is to graduate future leaders of business, government, and civil society who manage with integrity and get things done. This is non-negotiable in our community and it starts with your first class at Dalhousie University. So when you submit any work for evaluation in this course or any other, please ensure that you are

familiar with your obligations under the Faculty of Management's Academic Integrity Policies and that you understand where to go for help and advice in living up to our standards. You should be familiar with the Faculty of Management Professor and Student Contract on Academic Integrity, and it is your responsibility to ask questions if there is anything you do not understand.

Dalhousie offers many ways to learn about academic writing and presentations so that all members of the University community may acknowledge the intellectual property of others. Knowing how to find, evaluate, select, synthesize, and cite information for use in assignments is called being "information literate." Information literacy is taught by Dalhousie University Librarians in classes and through Dalhousie Libraries' online Citing & Writing tutorials.

Do not plagiarize any materials for this course. For further guidance on what constitutes plagiarism, how to avoid it, and proper methods for attributing sources, please consult the University Secretariat's Academic Integrity page.

Please note that Dalhousie now subscribes to plagiarism detection software that checks for originality in submitted papers. Any paper submitted by a student at Dalhousie University may be checked for originality to confirm that the student has not plagiarized from other sources. Plagiarism is considered a very serious academic offence that may lead to loss of credit, suspension, or expulsion from the University, or even the revocation of a degree. It is essential that there be correct attribution of authorities from which facts and opinions have been derived. At Dalhousie, there are University Regulations which deal with plagiarism and, prior to submitting any paper in a course, students should read the Policy on Academic Dishonesty contained in the Calendar.

Furthermore, the University's Senate has affirmed the right of any instructor to require that student assignments be submitted in both written and computer readable format, e.g., a text file or as an email attachment, and to submit any paper to a check such as that performed by the SafeAssign anti-plagiarism software. As a student in this class, you are to keep an electronic copy of any paper you submit, and the course instructor may require you to submit that electronic copy on demand. Use of third-party originality checking software does not preclude instructor use of alternate means to identify lapses in originality and attribution. The result of such assessment may be used as evidence in any disciplinary action taken by the Senate.

Finally: If you suspect cheating by colleagues or lapses in standards by a professor, you may use the confidential email: ManagementIntegrity@dal.ca which is read only by the Assistant Academic Integrity Officer.

Faculty of Management clarification on plagiarism versus collaboration
There are many forms of plagiarism, for instance, copying on exams and assignments. There is a clear line between group work on assignments when explicitly authorised by the professor and copying solutions from others. It is permissible to work on assignments with your friends but only when the professor gives you permission in the specific context of the assignment. University rules clearly stipulate that all assignments should be undertaken individually unless specifically authorised.

Specific examples of plagiarism include, but are not limited to, the following:
Copying a computer file from another student, and using it as a template for your own solution
- Copying text written by another student
- Submitting the work of someone else, including that of a tutor as your own.
- An example of acceptable collaboration includes the following:
  When authorised by the professor, discussing the issues and underlying factors of a case with fellow students, and then each of the students writing up their submissions individually, from start to finish.

UNIVERSITY STATEMENTS
ACCESSIBILITY
The Advising and Access Centre serves as Dalhousie's Centre for expertise on student accessibility and accommodation. Our work is governed by Dalhousie's Student Accommodation Policy, to best support the needs of Dalhousie students. Our teams work with students who request accommodation as a result of: disability, religious obligation, an experienced barrier related to any other characteristic protected under Canadian Human Rights legislation.

STUDENT CODE OF CONDUCT
Everyone at Dalhousie is expected to treat others with dignity and respect. The Code of Student Conduct allows Dalhousie to take disciplinary action if students don't follow this community expectation. When appropriate, violations of the code can be resolved in a reasonable and informal manner—perhaps through a restorative justice process. If an informal resolution can't be reached, or would be inappropriate, procedures exist for formal dispute resolution.

DIVERSITY AND INCLUSION
Every person at Dalhousie has a right to be respected and safe. We believe inclusiveness is fundamental to education. We stand for equality.
Dalhousie is strengthened in our diversity. We are a respectful and inclusive community. We are committed to being a place where everyone feels welcome and supported, which is why our Strategic Direction prioritizes fostering a culture of diversity and inclusiveness (Strategic Priority 5.2).

RECOGNITION OF MI'KMAQ TERRITORY

Dalhousie University would like to acknowledge that the University is on Traditional Mi'kmaq territory.

Elders in Residence program provides students with access to First Nations elders for guidance, counsel, and support. Visit the office in the McCain Building (room 3037) or contact the programs at elders@dal.ca or 902-494-6803 (leave a message).

INSTRUCTIONS FOR ASSIGNMENTS

Assignments are due by 5:00 pm on the dates indicated, and should be submitted in *print format*.

For all assignments, pay very close attention to the instructions provided. Assessment will be based on adherence to the instructions and on the quality of the submissions (including logical flow, critical analysis, and clear, unambiguous presentation of ideas). In addition, follow the general guidelines outlined below:

- *Always* include a title page, with an appropriate title. "Briefing memo" is not an appropriate title, for example. Do *not* place a running header and page number on the title page even though the style rules (noted below) may state this practice should be followed.
- All pages in documents (except the title page, which is *not* included in the numbering) *must* be numbered.
- As noted above, all documents submitted in this course *must* follow the style rules (text and bibliographic styles) as outlined in *Publication manual of the American Psychological Association* (6th ed.). Washington, DC: American Psychological Association, 2010, or *Publication manual of the American Psychological Association* (7th ed.). Washington, DC: American Psychological Association, 2019. ***NOTE: Failure to adhere to the rules of the selected bibliographic style will lead to a grade category deduction assigned to a submission.***

A Quick Guide for APA styles has been prepared by the Dalhousie University Libraries, which is available at the Libraries website as well as in the Brightspace site for this course. In addition, a document, titled "Writing Tips," is available in the course site to provide guidance on some common APA style matters.
- Any text or paraphrase taken from a published work must be attributed using the correct citation rules. Keep in mind that acknowledgement of another writer's ideas or arguments is needed even if you do not use the exact same words in expressing those ideas or arguments. For further information see Dalhousie's policy on Intellectual Honesty (noted above) and the School's policy on academic offenses (noted above).

COURSE SCHEDULE

Copies of readings may be accessed as follows: 1) copies of some readings are posted in the course Brightspace site; 2) journal articles are available online. Most readings are found in journals available via the licences arranged by the Dalhousie University Libraries at http://libraries.dal.ca [search for the title of the journal in "e-journals" at the search interface on the Libraries' main page], and 3) some readings are available at designated websites.

Week 1—8 January 2020—Introduction to the Course

Topics

What is the purpose of this course? What characterizes contemporary contexts for policy and decision making?

Readings

Boaz, Davies, Fraser, & Nutley (2019): chapter 1 – What works now? An introduction.

Mitchell, R. B., Clark, W. C., & Cash, D. W. (2006). Information and influences. In R. B. Mitchell, W. C. Clark, D. W. Cash, & N. M. Dickson (Eds.). *Global environmental assessments. Information and influence* (pp. 307-338). Cambridge, MA: MIT Press.

Week 2—15 January 2020—Decision Making & Policy Development. Evidence-Based Policy: History and Current Day

Topics

What is evidence-based policy and how has it been applied in national and international contexts?

Guest: Dr. Kevin Quigley, Director of the MacEachen Institute of Public Policy and Governance, Dalhousie University

Readings

Boaz, Davies, Fraser, & Nutley (2019): chapter 2 – Evidence and policy making (Cairney, P.)

Boaz, Davies, Fraser, & Nutley (2019): chapter 16 – Using evidence in Canada (Holmes, B. & Straus, S.)

Hahn, R. (2019, May 10). Building upon foundations for evidence-based policy. *Science, 364*(6440), 534–535. https://doi.org/10.1126/science.aaw9446

Howlett, M., & Wellstead, A. (2017). Policy analysts in the bureaucracy revisited: The nature of professional policy work in contemporary government. In M. Howlett, A. Wellstead, & J. Craft (Eds.). *Policy work in Canada: Professional practices and analytical capacities* (pp. 19-35). Toronto: University of Toronto Press.

Quigley, K. (2019). Truth and power in the SNC-Lavelin affair. Policy Options Politiques. Retrieved from https://policyoptions.irpp.org/magazines/march-2019/truth-and-power-in-the-snc-lavalin-affair/

Reynolds, K., & Ramakrishnan, K. (2018, October). *Evidence-based policymaking at the state level. A guide for governors*. Evidence-Based Policymaking Collaborative. Policy Brief. Retrieved from http://www.urban.org/sites/default/files/publication/99293/evidence-based_policymaking_at_the_state_level.pdf

Week 3—22 January 2020—Information Production for Development of Public Policy - Part 1: Scientific Information / Social Science Information

Topics
What characterizes scientific and social science information? How is scientific and social science information published and what characteristics (e.g., format) factor in its use in policy and decision making?

Readings
Boaz, Davies, Fraser, & Nutley (2019): chapter 8 – Using evidence in environmental and sustainability issues (Reed, M., & Meagher, L)

Aronson, J. K., Barends, E., Boruch, R., Brennan, M., Chalmers, I., Chislett, J., … Vale, L. (2019, August 15). Key concepts for making informed choices. *Nature, 572*(7769), 303–306. https://doi.org/10.1038/d41586-019-02407-9

Coulter, L., & Coudrain A. (2018). Informing decisions with climate change information. In S. M. Serrão-Neumann, A. Coudrain, and L. Coulter (Eds.). *Communicating climate change information for decision-making* (pp. 207-215). Cham: Springer.

Manfredo, M. J., Salerno, J., Sullivan, L., & Berger, J. (2019). For US wildlife management, social science needed now more than ever. *BioScience*, biz122 [2 p.]. https://doi.org/10.1093/biosci/biz122

Maxwell, K., Hubbell, B., & Eisenhauer, E. (2019). Institutional insights on integrating social and environmental science for solutions-driven research. *Environmental Science & Policy, 101*, 97–105. https://doi.org/10.1016/j.envsci.2019.08.003 [About the US Environmental Protection Agency]

Winfield, M. S. (2013). The environment, "responsible resource development," and evidence-based policy-making in Canada. In S. P. Young (Ed.), *Evidence-based policy-making in Canada* (Chapter 8, pp. 196-221). Don Mills, ON: Oxford University Press.

Week 4—29 January 2020—Information Production for Development of Public Policy - Part 2: Health Information / Local Knowledge

Topics
How is health information published and what characteristics (e.g., format) factor in its use in policy and decision making? In addition, how does local knowledge, traditional knowledge, and other experience factor into policy and decision making?

Readings
Boaz, Davies, Fraser, & Nutley (2019): chapter 4 – Using evidence in health and healthcare (Wilson P. & Sheldon, T)

Adashi, E. Y., Rajan, R. S., & Cohen, I. G. (2019, May 17). When science and politics collide: Enhancing the FDA. *Science, 364*(6441), 628–631. https://doi.org/10.1126/science.aaw8093

Arsenault, R., Diver, S., McGregor, D., Witham, A., & Bourassa, C. (2018). Shifting the framework of Canadian water governance through Indigenous research methods: Acknowledging the past with an eye on the future. *Water, 10*(1), 49. https://doi.org/10.3390/w10010049

Gracie, R. Xavier, D.R., de Souza Hacon S., Matos, V., da Silva Barros, H., de Fátima de Pina, M, & Barcellos, C. (2018). The experience of the Brazilian climate and health observatory: Seeking interaction between organizations and civil society. In S. M. Serrão-Neumann, A. Coudrain, and L. Coulter (Eds.). *Communicating climate change information for decision-making* (pp. 191-205). Cham: Springer.

Marselle, M. R., Stadler, J., Korn, H., Irvine, K. N., & Bonn, A. (2019). Biodiversity and health in the face of climate change: Perspectives for science, policy and practice. In M. R. Marselle, J. Stadler, H. Korn, K. N. Irvine, & A. Bonn (Eds.), *Biodiversity and health in the face of climate change* (pp. 451–472). Cham: Springer International Publishing. https://doi.org/10.1007/978-3-030-02318-8_20

McCambridge, J., Daube M., & McKee, M. (2018). Brussels Declaration: A vehicle for the advancement of tobacco and alcohol industry interests at the science/policy interface? *Tobacco Control*, *28*, 7-12. doi: 10.1136/tobaccocontrol-2018-054264

Week 5—5 February 2020—The Science-Policy Interface

Topics
As an example of the research-policy interface, what characterizes the science-policy interface?

Readings
Adelle, C., Pereira, L., Görgens, T., & Losch, B. (2019). Making sense together: The role of scientists in the coproduction of knowledge for policy making. *Science and Public Policy*, scz046 [11 p.]. https://doi.org/10.1093/scipol/scz046

Girling, K., & Gibbs, K. (2019). *Evidence in action: An analysis of information gathering and use by Canadian parliamentarians* (47 p.). Ottawa: Evidence for Democracy; Canadian Climate Forum. https://evidencefordemocracy.ca/sites/default/files/reports/evidence-in-action-report-final_0.pdf

Gluckman, S. P. (2018). The role of evidence and expertise in policy-making: The politics and practice science advice. *Journal & Proceedings of the Royal Society of New South Wales, 151*(part 1), 91–101. ISSN 0035-9173/18/010091-11

Sarkki, S., Heikkinen, H. I., Komu, T., Partanen, M., Vanhanen, K., & Lepy, E. (2019). How boundary objects help to perform roles of science arbiter, honest broker, and issue advocate. *Science & Public Policy,* 1-11. https// doi: 10.1093/scipol/scz055

Meah, N. (2019, April 24). Climate uncertainty and policy making—what do policy makers want to know? *Regional Environmental Change*. https://doi.org/10.1007/s10113-019-01492-w

MacDonald, B. H., Soomai, S. S., De Santo, E. M., & Wells, P. G. (2016). Understanding the science-policy interface in integrated coastal and ocean management. In B. H. MacDonald, S. S. Soomai, E. M. De Santo, & P. G. Wells (Eds.). *Science, information, and policy interface for effective coastal and ocean management* (pp. 19-43). Boca Raton, FL: CRC Press.

Week 6—12 February 2020—Communication of Research Information 1: Information Pathways & Models

Topics
What are the pathways of research-based information in policy and decision-making contexts? What models describe this activity?

Readings
Howlett, M., & Craft, J. (2013). Policy advisory systems and evidence-based policy: The location and content of evidentiary policy advice. In S. P. Young (Ed.), *Evidence-based policy-making in Canada* (pp. 27-44). Don Mills, ON: Oxford University Press.

Olesk, A., Kaal, E., & Toom, K. (2019). The possibilities of open science for knowledge transfer in the science-policy interface. *Journal of Science Communication, 18*(03), 1–17. https://doi.org/10.22323/2.18030203

Sarkki, S., Balian, E., Heink, U., Keune, H., Nesshöver, C., Niemelä, J., … Young, J. C. (2019). Managing science-policy interfaces for impact: Interactions within the environmental governance meshwork. *Environmental Science & Policy*, S146290111630332X. https://doi.org/10.1016/j.envsci.2019.05.011

Sokolovska, N., Fecher, B., & Wagner, G. G. (2019). Communication on the science-policy interface: An overview of conceptual models. *Publications, 7*(4), 64 [15 p.]. https://doi.org/10.3390/publications7040064

Wilkins, E. J., Miller, H. M., Tilak, E., & Schuster, R. M. (2018). Communicating information on nature-related topics: Preferred information channels and trust in sources. *PLOS ONE, 13(*12), e0209013. https://doi.org/10.1371/journal.pone.0209013

Wilson, L., & MacDonald, B. H. (2018). Characterizing bridger organizations and their roles in a coastal resource management network. *Ocean & Coastal Management, 153*, 59–69. https://doi.org/10.1016/j.ocecoaman.2017.11.012

Winter Term Break - 17-21 February 2020

Week 7—26 February 2020—Communication of Research Information 2: Enablers and Barriers

Topics
What factors enable or prevent the communication of research-based information in public policy contexts?

Readings

Coscieme, L., da Silva Hyldmo, H., Fernández-Llamazares, Á., Palomo, I., Mwampamba, T. H., Selomane, O., … Valle, M. (2020). Multiple conceptualizations of nature are key to inclusivity and legitimacy in global environmental governance. *Environmental Science & Policy, 104*, 36–42. https://doi.org/10.1016/j.envsci.2019.10.018

Dubois, G., Stoverinck, F., & Amelung, B. (2018). Communication climate information: Travelling through the decision-making process. In S. M. Serrão-Neumann, A. Coudrain, and L. Coulter (Eds.). *Communicating climate change information for decision-making* (pp. 139-137). Cham: Springer.

Fabian, Y., Bollmann, K., Brang, P., Heiri, C., Olschewski, R., Rigling, A., … Holderegger, R. (2019). How to close the science-practice gap in nature conservation? Information sources used by practitioners. *Biological Conservation, 235*, 93–101. https://doi.org/10.1016/j.biocon.2019.04.011

Fischhoff, B. (2019, September). Tough calls. How we make decisions in the face of incomplete knowledge and uncertainty. *Scientific American, 321*(3), 74–79. https://www.scientificamerican.com/article/when-assessing-novel-risks-facts-are-not-enough/

Galland, G. R., Nickson, A. E. M., Hopkins, R., & Miller, S. K. (2018). On the importance of clarity in scientific advice for fisheries management. *Marine Policy, 87*, 250–254. https://doi.org/10.1016/j.marpol.2017.10.029

Safford, H., & Brown, A. (2019). How to bring science into politics. *Nature, 572*(7771), 681–682. https://doi.org/10.1038/d41586-019-02372-3

Week 8—4 March 2020—Role of Public Consultations / Advisory Processes

Topics

What is the role of public consultations and other advisory processes in policy and decision making? How does research-based information factor in these activities?

Readings

Crawford, P., Beyea, W., Bode, C., Doll, J., & Menon, R. (2018). Creating climate change adaptation plans for rural coastal communities using Deliberation with Analysis as public participation for social learning. *Town Planning Review, 89*(3), 283–304. doi: 10.3828/tpr.2018.17

Ernst, A. (2019). How participation influences the perception of fairness, efficiency and effectiveness in environmental governance: An empirical analysis. *Journal of Environmental Management*, 238, 368–381. doi: 10.1016/j.jenvman.2019.03.020.

Health Canada. (2000). *Health Canada policy toolkit for public involvement in decision making*. Ottawa: Health Policy and Communications Branch. Retrieved from https://www.canada.ca/content/dam/hc-sc/migration/hc-sc/ahc-asc/alt_formats/pacrb-dgapcr/pdf/public-consult/2000decision-eng.pdf

Nascimento, S., Iglesias, J. M. R., Owen, R., Schade, S., & Shanley, L. (2018). Citizen science for policy formulation and implementation. In S. Hecker, M. Haklay, A. Bowser, Z. Makuch, J. Vogel, & A. Bonn (Eds.). *Citizen science: Innovation in open science, society, and policy* (pp. 219-240). London: UCL Press. [A free copy of the book is available as a pdf at https://www.ucl.ac.uk/ucl-press/browse-books/citizen-science]

Rasch, R. (2019). Are public meetings effective platforms for gathering environmental management preferences that most local stakeholders share? *Journal of Environmental Management*, *245*, 496-503. doi: 10.1016/j.jenvman.2019.05.060

Wedemeyer-Strombel, K. R., Peterson, M. J., Sanchez, R. N., Chavarría, S., Valle, M., Altamirano, E., … Liles, M. J. (2019). Engaging fishers' ecological knowledge for endangered species conservation: Four advantages to emphasizing voice in participatory action research. *Frontiers in Communication, 4*, 30 [13 p.]. https://doi.org/10.3389/fcomm.2019.00030

Week 9—11 March 2020—Role of News Media / Social Media

Topics
What is the role of the news media and contemporary social media in promoting awareness and use of research-based information? What happens when the information is "fake"?

Readings
Allgaier, J. (2019). Science and environmental communication on YouTube: Strategically distorted communications in online videos on climate change and climate engineering. *Frontiers in Communication, 4*, 36 [15 p.]. https://doi.org/10.3389/fcomm.2019.00036

Bergstrom, C. T., & Bak-Coleman, J. B. (2019). Gerrymandering in social networks. *Nature, 573*(7772), 40–41. https://doi.org/10.1038/d41586-019-02562-z [Online version is entitled: Information gerrymandering in social networks skews collective decision-making].

High Level Group on Fake News and Online Disinformation. (2018). *A multi-dimensional approach to disinformation. Report of the independent High Level Group on Fake News and Online Disinformation* (pp. 39). Luxembourg: European Union. Retrieved from https://ec.europa.eu/digital-single-market/en/news/final-report-high-level-expert-group-fake-news-and-online-disinformation

Scheufele, D. A., & Krause, N. M. (2019). Science audiences, misinformation, and fake news. *Proceedings of the National Academy of Sciences, 116(*16), 7662–7669. https://doi.org/10.1073/pnas.1805871115

Stier, S., Schünemann, W. J., & Steiger, S. (2018). Of activists and gatekeepers: Temporal and structural properties of policy networks on Twitter. *New Media & Society, 20*(5), 1910–1930. https://doi.org/10.1177/1461444817709282

Week 10—18 March 2020—Measuring the Use and Influence of Research-Based Information

Topics
What models describe the research-policy relationship? How can we assess research use in policy and decision making contexts?

Readings
Boaz, Davies, Fraser, & Nutley (2019): chapter 11 – Assessing and labelling evidence (Nutley, S., Davies, H., & Hughes, J.)

Boaz, Davies, Fraser, & Nutley (2019): chapter 12 – Using evidence (Boaz A., & Nutley, S.)

Bolam, F. C., Grainger, M. J., Mengersen, K. L., Stewart, G. B., Sutherland, W., Runge, M., C., & McGowan, P. K. (2019). Using the Value of Information to improve conservation decision making. *Biological Reviews, 94*, 629-647. https://doi.org/10.1111/brv.12471

Levin, B. (2013). The relationship between knowledge mobilization and research use. In S. P. Young (Ed.), *Evidence-based policy-making in Canada* (pp. 45-66). Don Mills, ON: Oxford University Press.

Heink, U., Marquard, E., Heubach, K., Jax, K., Kugel, C., Nesshöver, C., ... Vandewall, M. (2015). Conceptualizing credibility, relevance, and legitimacy for evaluating the effectiveness of science-policy interfaces: Challenges and opportunities. *Science and Public Policy, 42*, 676-689. doi:10.1093/scipol/scu082

Lehtonen, M. (2017). Operationalizing information: Measures and indicators in policy formulation. In M. Howlett & I. Mukherjee (Eds.), *Handbook of policy formulation* (pp. 161–179). Cheltenham, UK; Northampton, MA: Edward Elgar Publishing.

Week 11—25 March 2020—Improving Use of Research-Based Information in Policy Contexts

Topics
Based on the earlier themes of the course, what actions could be taken to improve the use of research-based information in policy contexts? What recommendations can be made for best practices regarding increased awareness and use of research-based information?

Note: A portion of this class will be devoted to brief presentations by students about the essays they will submit for Paper # 4

Readings
Cvitanovic, C., & Hobday, A. J. (2018). Building optimism at the environmental science-policy-practice interface through the study of bright spots. *Nature Communications, 9*(1). https://doi.org/10.1038/s41467-018-05977-w

Dinesh, D., & Downling, C. (2019, June). *Stepping up science-policy engagement to tackle environmental change: Methods & examples for achieving policy impact*. Oxford: Environmental Change Institute, Oxford University. Retrieved from https://www.eci.ox.ac.uk/publications/downloads/briefing-paper-science-policy-engagement-methods.pdf

Faehnrich, B., & Ruser, A. (2019). "Operator, please" — Connecting truth and power at the science-policy interface. *Journal of Science Communication, 18*(3), [17]. https://doi.org/10.22323/2.18030501

Schwartz, M. W., Belhabib, D., Biggs, D., Cook, C., Fitzsimons, J., Giordano, A. J., … Runge, M. C. (2019, April). A vision for documenting and sharing knowledge in conservation [Editorial]. *Conservation Science and Practice, 1*(1), e1. https://doi.org/10.1111/csp2.1

Schuck-Zöller, S., Brinkmann, C. & Rödder, S. (2018). Integrating research and practice in emerging climate services—Lessons from other transdisciplinary dialogues. In S. M. Serrão-Neumann, A. Coudrain, and L. Coulter (Eds.). *Communicating climate change information for decision-making* (pp. 105-118). Cham: Springer.

Wyborn, C., Datta, A., Montana, J., Ryan, M., Leith, P., Chaffin, B., Miller, C., & van kerkhoff, L. (2019, October). Co-producing sustainability: Reordering the governance of science, policy, and practice. *Annual Review of Environment and Resources, 44.* https://doi.org/10.1146/annurev-environ-101718-033103

Week 12—1 April 2020—Course Wrap-Up: What Have We Learned?

Topics
What has this course taught us about the role of information in public policy and decision making?

Note: A portion of this class will be devoted to brief presentations by students about the essays they will submit for Paper # 4