

Fonds de recherche du Québec

Nature et Technologies • *Santé* • *Société et Culture*

INGSA East African Government Science Advice Workshop

Science Advice Across Borders

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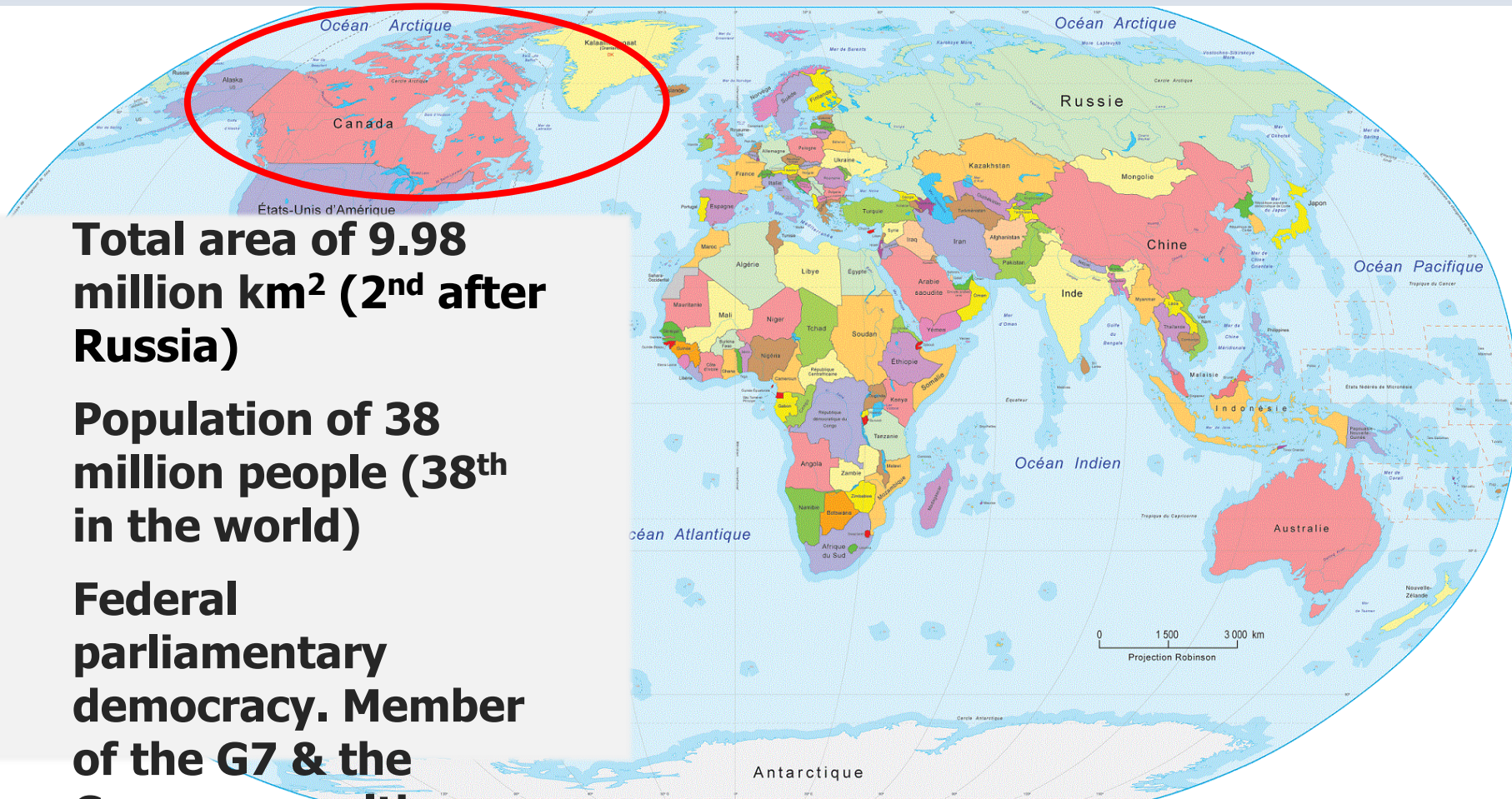
Kigali, August 22, 2018

Québec 



A brief introduction to Québec, Canada

Canada



Total area of 9.98 million km² (2nd after Russia)

Population of 38 million people (38th in the world)

Federal parliamentary democracy. Member of the G7 & the Commonwealth

Québec – An overview



- **Population of 8 million**
- **Montreal as its major city. Quebec city its capital**
- **Highest %PIB (2.4) in R&D in Canada. Major university network-International collaboration is essential**
- **Clean energy, AI, ITC, water, aerospace, the artic & health research as niches**
- **Sustainable development as major priority. Global AI hub**
- **Open to the world but a rapidly aging population. Immigration is key**

Mandate of the chief scientist of Québec

Mandate of Québec's Chief Scientist

A somewhat unique model. An advisory role to the government on science and innovation:

- To advise the Minister of Economy, Science and Innovation on any matters pertaining to the development of research, science & innovation. But more global since Day 1 (PMO, Health, Education, Environment, Agriculture, Public Security, International Affairs...). Aim for science-informed decisions & practices
- To promote international research partnerships and science diplomacy (missions with the PM & various ministers; INGSA)
- To promote scientific literacy & partnerships with the civil society and elected officials

As well as Chair of the board of directors and CEO of the three main research funding councils (FRQNT, FRQS, FRQSC):

- To develop intersectoral research linked to major societal challenges (demographic & climate changes; creativity & entrepreneurship). Innovative research programs including high risk projects-AUDACE
- To promote careers in research (trainees at all levels)

September 4th, 2011

- **My first day of the job!**
- **From a neuroscientist enjoying working on dementia and mental illnesses at McGill University to Chief Scientist...**
- **What do it do? How to tackle such a broad mandate? Who can I talk to and ask for advice and support?**
- **Is there a book on Chief Scientists for Dummy?**
- **There must be someone out there. Indeed, outside Québec's borders, a few of them exist including Sir Peter in New Zealand (great, I know him!!), John Beddington in the UK & Ann Glover at the EU.**

.....but first few examples of actions at home that were essential to built credibility & help me cross borders

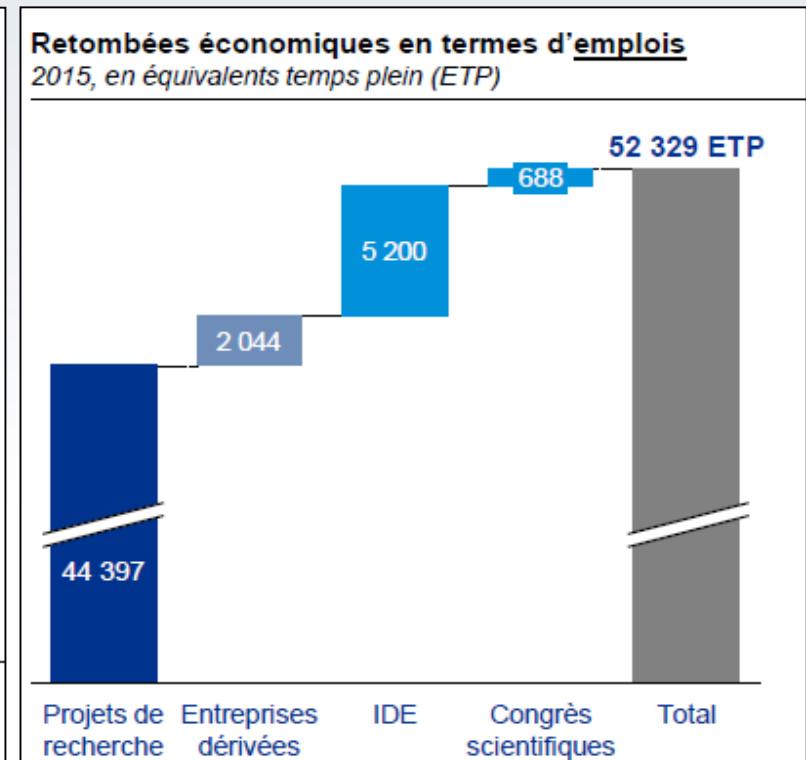
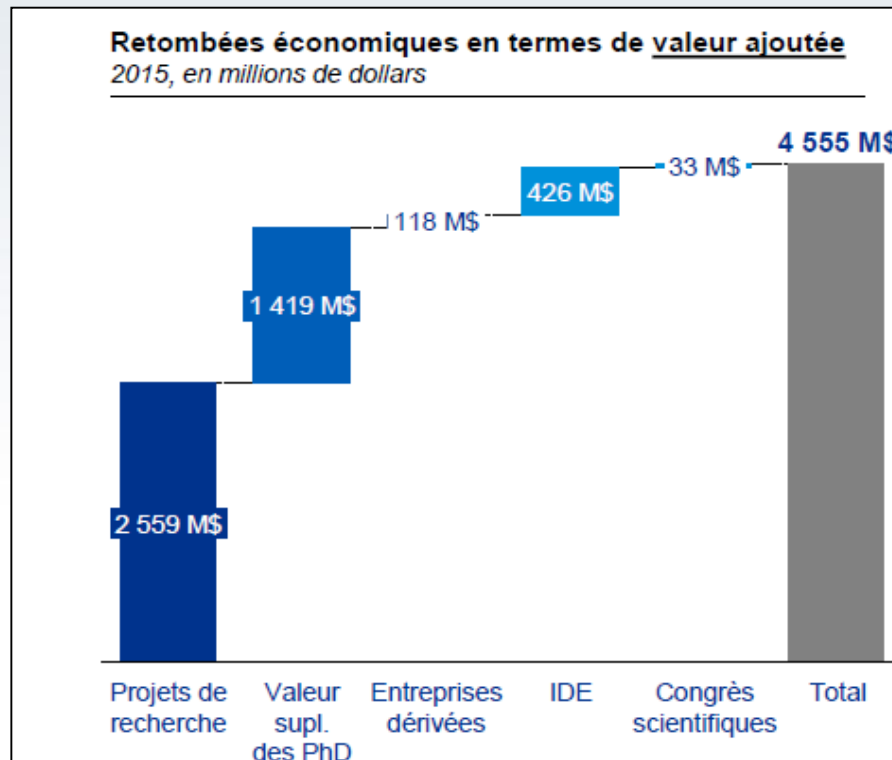
Mandate

Advisor to elected officials, policy makers and high level bureaucrats

An early comment: you will see, it is only about the economy (It's the economy stupid!!) ..key but not true

Economic impacts of \$ 4,6B and close to 53,000 jobs in 2015

Public research conducted in our universities, colleges and institutions has an impact on Québec's economy. « It can therefore be counted among the main sectors of Québec's knowledge-based economy at the same level as aeronautics or life sciences.»



Source : KPMG

Advices to elected members & high level officials

- **Regular requests for advices (for next day if lucky!) from various ministries & departments.**
- **Frequent one-on-one meetings with elected officials from the Premier to junior ministers, MPPs, deputy ministers & others.**
- **Organization of scientific breakfasts with elected officials.**
- **Consultation, early on, with multiple ministries and officials about the new strategic plans of the Fonds de Recherche du Québec (FRQ).**
- **Participation in parliamentary committees (e.g. access to administrative data, economy and work, international affairs...).**
- **Massachusetts-Québec research program led by elected officials.**
- **Attraction of the head office of Future Earth to Montreal....**

Recent strategies of Québec's Government

As Chief Scientist of Québec, active participation in several strategies of the Québec government

- 1. Life Science Strategy – To be among the top 5 in the world; 2017-2022**
- 2. Research & Innovation Strategy (SQRI; 2017-2022) – Over \$2.8 billion in total investment (a significant reinvestment to increase the share of R & D as a percentage of GDP)**
- 3. International Policy (2017-2022) – Investments to promote new offices around the world and increase research outreach**
- 4. Digital Strategy (Dec. 2017) – Significant investments in AI. Access to large government databases**
- 5. Leadership in Entrepreneurship (2018-2022)**
- 6. Maritime (2015-2020); Aluminum Development Strategy (2015-2025); Aerospace Strategy (2016-2026); Agriculture (2018-2025)...**

Promoting science to elected officials

Scientific breakfasts at the National Assembly with elected officials and deputy ministers from all parties. Topics selected by the elected members with the aim to inform and support the legislative process.



Short presentations (7 min max.) by 2-3 researchers on various topics: gene editing, AI, radicalisation, climate change, flooding, urban resilience....

Partnership-based research that informs public policy

Positive impact of a joint FRQSC academia-government research project.

The recent education policy of the government relies heavily and explicitly on research conducted in the field of education, including the FRQSC concerted action programs about school perseverance and success; reading and writing;...



Programme Actions Concertées :
Persévérance et réussite scolaire et Lecture
et écriture (FRQSC – Ministère de
l'Éducation, des Loisirs & des sports)

Political decision on a hot issue: it is the scientific argument that was decisive

« Quand on fait des lois, il faut quand même que ce soit basé sur des faits objectifs. Alors quand je n'ai pas de corroborateur scientifique pour aller dans le sens de l'interdiction d'une race [...] je pense que c'est notre devoir d'en tenir compte. »

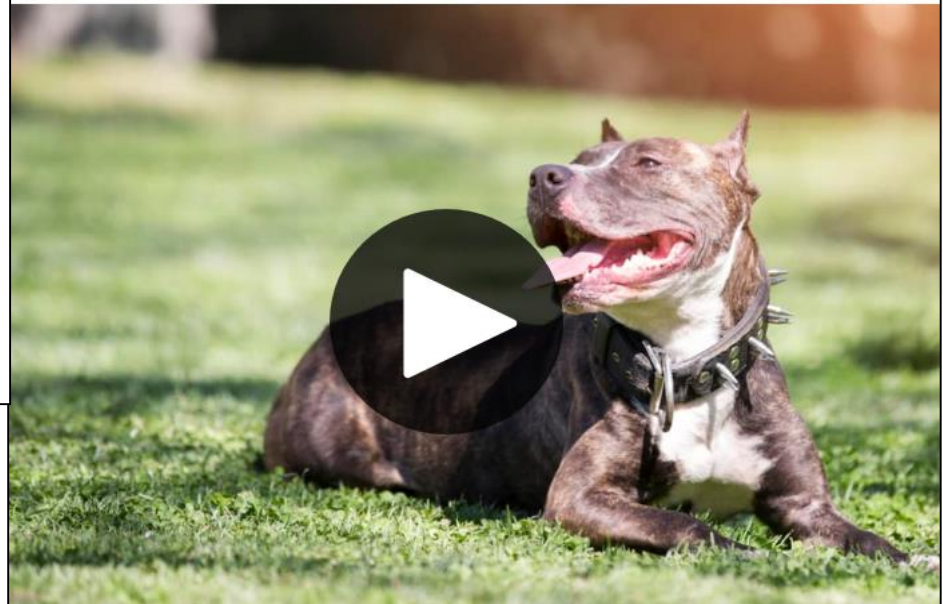
— Martin Coiteux, ministre de la Sécurité publique

ICI  grand montréal
+ DE RÉGIONS ▾

ACCUEIL | SOCIÉTÉ

La science l'a emporté sur la volonté d'interdire les pitbulls, reconnaît Coiteux

Publié aujourd'hui à 11 h 21
Mis à jour il y a 3 minutes



Science-informed policy & political decision: sometimes it works, sometimes it does not!!!



Prohibit live baitfish to control the proliferation of grass carp. the Ministry of Wildlife takes into account the researchers' recommendations. Impact on fishing & tourism.



Migration of woodland caribous in the Val-D'Or region: government bureaucrats & university experts recommended an alternative path for a forest road (2016-17). Rejected by minister & caribous moved to a zoo.

Scientific results-part of a myriad of considerations in the political decision-making process



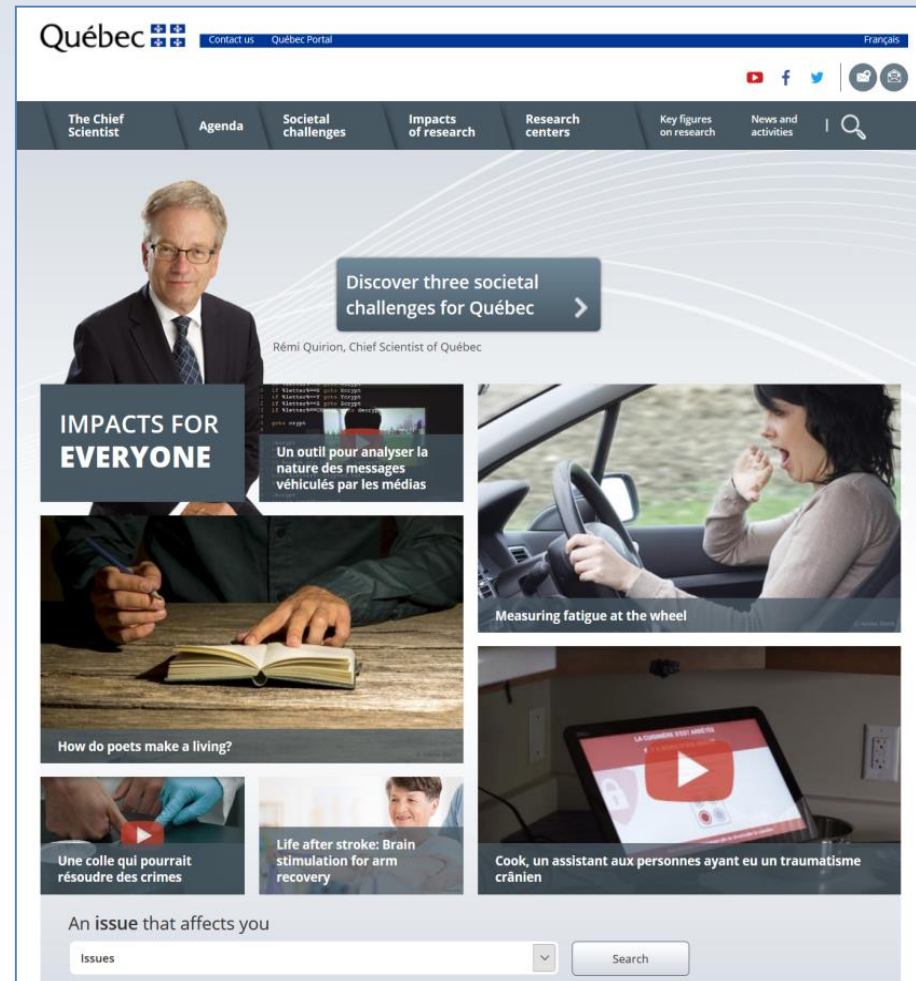
Image : Dana Fradon – Filing cabinets labelled – New Yorker 7 mars 17

Mandate

Science and the 'Public'

Chief Scientist Web Site---General Public

- **Short impact stories and videos on various research topics sorted by impact, regions, challenges...**
- **Consultations (Facebook-live) about the new FRQ strategic plans 18-22.**
- **And in this era of 'Fake News': Fact-checking project (*Détecteur de rumeurs*), a partnership with Agence Science Presse and universities called a tool to develop critical thinking (short web capsules)**



The Voice of the New Generation

The Intersectoral Student Committee is a statutory committee of the FRQ boards of directors & an advisory group to the Chief Scientist. Three students on FRQ boards



- **Mandate: Promote the accessibility of graduate studies, work towards excellence in student researchers, participate in efforts to promote research & science in civil society. Strategy to counteract fake-false news & Alternative facts.**
- **Very involved, very dynamic group (very active on social media), concrete input (consultations, publications)**
- **Unique in Canada**

Lessons learned: Key elements to consider as chief scientist and advisor to government

- **Must establish trust – always just a phone call away!**
- **An advisor does not make decisions – a hard one for me!**
- **Understand the decision-making environment (science, data, politics)**
- **Understand the political decision-making process – hours!**
- **Do not act alone – critical to have supporters!**
- **Do not let facts speak for themselves – do not assume anything!**
- **Clearly convey the message – the famous elevator speech!**
- **Maintain scientific credibility (with politicians & scientists)**
- **Adopt a cross-cutting vision (broad based approach)**
- **And above all... be resilient! (3 Prime Ministers, 6 Ministers, 6 DM!)**

TWO KEY WORDS: TRUST & RESILIENCE

Working across borders

Canada

- **Multiple actions and activities focusing on the re-establishment of a Chief Scientist. Canada had one (A. Carty) for a few years in the late 1990s-early 2000s)**
- **An historical perspective on science advice in Canada (Quirion, Carty, Dufour & Jarb. Palgrave Comm. 2016). Guidelines on science advice (Quirion, Univ Affairs 2017)**
- **Mandated by Prime Minister Trudeau, the honorable K. Duncan, minister of science created a committee chaired by D. Naylor to report on investments in fundamental research in Canada (Naylor's report, April 2017). A key recommendation was the creation of the post of chief scientist.**
- **Dr Mona Nemer appointed as Chief Scientist last september. Hourrah! I have known her for more than 30 years! Mandate distinct from mine but already multiple collaborations on best practices, civil society....**

Canada (2)

- Canadian Science Policy Conference (CSPC). Official partner as of 2017. Participation at the annual conference in the Fall. Increased presence of Québec's leaders at the CSPC but also of the CSPC in Québec.**
- Multiple partnerships of the FRQ with the 3 federal research funding councils.**
- Canadian Institute for Advance Research (CIFAR). Official partner as of 2014. Joint venture in various research fields with a recent focus on artificial intelligence (impacts on society).**

Canada (3)

G7 Research Summit on Arctic sustainability

- **In partnership with the Royal Society of Canada.**
- **Followed by a meeting of INGSA, focusing on the possible development of a North American chapter.**

These events brought together national and international leaders on the Arctic and on science diplomacy.



Science across borders : International partnerships (1)

- **As a major part of my mandate, I have been involved in many missions abroad of our Premier and various ministers (France, China, Mexico, USA, Cuba, Israel & Palestine...I also led missions in various European countries & the EU, India, Japan, Senegal, Brazil....). Always multiple opportunities to exchanges with about best practices in science advice & diplomacy.**
- **Example of Palestine is interesting. Science is opening doors & facilitating political discussion between Palestine, Québec & Canada**
- **Multiple collaborations on science advice with various academies and societies in Canada & abroad (AAAS, NAS, ...)**
- **Early on, contact with fellow science advisors in various parts of the world leading to the organisation of a small meeting of chief scientists in Montréal in June 2014. Main objective: open exchange on the main challenges of the job & learning from each other.**
- **And in Aug-Sept 2014, the organisation in Auckland by Sir Peter of an international gathering of science advisors & the likes. Led to the creation of INGSA....félicitations et bravo!!**

Science across borders: International partnerships (2)



- **Founding member of INGSA, important network that allows us to discuss our role within the government, initiated by Sir Peter Gluckman, James Wilsdon & others. Major role in increasing capacities, globally**
- **Second meeting of INGSA held in collaboration with the EU on principles & guidelines for government science advice in Brussels in 09-16. Third meeting soon in Tokyo (11-18).**
- **In the context of INGSA, we decided in Québec to focus on increasing capacities in science advices in French-speaking African countries & the Middle-east. Training workshop in Senegal (Dakar, 03-17). Future activities planned in Burkina Faso & Morocco.**
- **Also led to the creation of a French-arm of the African INGSA chapter**
- **Now exploring the creation of a North American chapter as a follow-up to a recent INGSA meeting held in Montreal (05-18)**

In summary

- **As science advisors (across or without borders), it is absolutely essential first to maintain credibility at home...with elected officials, policy makers, scientists and the 'public'.**
- **At the global level, exchanging with colleagues is essential to learn about best (or different) practices, to develop better strategies and models.....**
- **Organisations such as INGSA are essential in order to increase capacities. Critically important in an era of alternative facts and fake news.**
- **The young generation is the key to future success... but, of course, we are ready to help.**

Thank you!

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