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Legal and policy frameworks, including issues related to authoritative data

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Note by the Secretariat

Summary

The present paper contains the report on the legal and policy issues to be considered in developing a framework to support global geospatial information management in the public and private sectors, including issues related to authoritative data.

At its third session, held in July 2013, the Committee of Experts acknowledged that there are significant legal and policy challenges emerging related to the collection, use, storage and distribution of geospatial information. These issues include licensing, pricing, privacy, liability, security, and open data. The Committee of Experts further acknowledged the need to begin engaging with lawmakers, policymakers and lawyers on the value of geospatial information and related applications and processes, as well as the need for governance in geospatial information management, and in this context specifically requested the Secretariat to reach out to the International Bar Association regarding the Association's current work on a draft Convention on Geoinformation. The Committee of Experts also asked the Secretariat to continue its work with the Centre for Spatial Law and Policy and interested Member States, building on the work of the regional entities and other relevant forums such as the Group on Earth Observations. Prepared with the assistance of the Centre for Spatial Law and Policy, the report describes recent developments that could impact the requisite legal and policy frameworks globally and captures the Secretariat's engagement with the International Bar Association regarding its current work on a draft Convention on Geoinformation, and the Group on Earth Observations.

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I. Introduction

1. At its third session, held in July 2013, the Committee of Experts acknowledged that there are significant legal and policy challenges emerging related to the collection, use, storage and distribution of geospatial information. These issues include data licensing, pricing and open data, privacy, liability, authority, and security. The Committee further acknowledged the need to begin engaging with lawmakers, policymakers and lawyers on the value of geospatial information, and related applications and processes, as well as the need for governance in geospatial information management. The Committee specifically requested the Secretariat to reach out to the International Bar Association (IBA) regarding their proposed Convention on Geoinformation, and to continue this work with the Centre for Spatial Law and Policy and interested Member States, building on the work of the regional entities and other relevant fora.

2. This report, prepared with the assistance of the Centre for Spatial Law and Policy, updates the Committee of Experts on recent developments that could have an impact on developing legal and policy frameworks supporting geospatial information. It also captures the Secretariat's engagement with both the International Bar Association (IBA) regarding their current work on a draft Convention on Geoinformation and the Group on Earth Observations (GEO) regarding the Legal Interoperability Subgroup of the Data Sharing Task Force.

3. The Committee of Experts is invited to take note of the report and to express its views on the way forward in addressing the legal and policy frameworks for geospatial information management, including issues related to authoritative data. Points for discussion and decision are provided in paragraph 25.

II. Developments impacting existing legal and policy frameworks

4. The Committee of Experts has noted the importance of legal and policy frameworks that promote, facilitate and enable the use and dissemination of geospatial information at the local, regional, national and international levels. Since the last meeting of the Committee of Experts in Cambridge in July 2013, there have been a number of developments around the globe that could impact the development of legal and policy frameworks that support the collection, use, storage and dissemination of geospatial information.

Data Protection/Privacy

5. Data protection and privacy continue to be a major concern at both the international and national levels due to the increased availability and use of digital information. These concerns will continue to grow as Big Data becomes more prevalent. As a result, many governments are contemplating changes to data protection/privacy laws and policies. For example in the United States, the President's Committee on Science and Technology (PCAST) issued a report in May, 2014 entitled "Big Data and Privacy: A Technological Perspective" that specifically raises the potential privacy risks associated with a number of geospatial technologies, including: remote sensing satellites, unmanned aerial vehicles

(UAVs), LiDAR, radar and infra-red.[1] The report suggests that these technologies often collect more data than is necessary for the particular purpose for which they are being used, which goes against most privacy/data protection regimes. In addition, the report states that some of this information could be aggregated with other data sets in ways that could make it possible to identify an individual. Similarly, in Europe the Article 29 Data Protection Working Group recently issued an opinion on appropriate techniques to anonymize data to protect individuals.[2]

6. Many of these changes could have a significant impact, either directly or indirectly, on geospatial information management. For example, new laws and regulations could make it more difficult (and expensive) for public or private organizations to collect geospatial information. Moreover, there will likely be greater sensitivity when geospatial information is transferred or shared with other organizations. In the future it may become even harder to transfer geospatial information across borders, due to differences in data protection/privacy regimes around the world.

Open Data

7. Another trend that will likely have an impact on the availability and use of geospatial information is the growing number of agencies at all levels of government (national, regional, local) that have implemented Open Data initiatives in order to make government data more widely available to their citizens. There are a variety of purposes for these initiatives, which make government data available at little or no cost, including transparency, economic growth and drawing upon the collective resources of the local community. Many of these Open Data initiatives include geospatial information or data sets that are geo-referenced. For example, the City of Montreal recently announced that it was releasing its mapping database for public use.[3] In January of this year, the Philippines launched an open data website consisting of data from a number of government agencies.[4] Similarly, in May 2014 the Hampshire County Council (UK) released aerial imagery, including height and infrared data, under an Open Data license.[5] Although determining the ultimate success of Open Data initiatives will take time, the trend is likely to impact geospatial information management. For example, government agencies around the world will face increased pressure to make their data more available, often at no charge. In addition, since these data sets are often released under unique licenses, it may be difficult for users to aggregate data from different sources. This could result in a further push to standardize licensing terms across government agencies at both the national and international level. Also, researchers have begun to analyze certain open data sets to determine if any personal information has been released. As a

[1] http://www.whitehouse.gov/sites/default/files/microsites/ostp/PCAST/pcast_big_data_and_privacy_-_may_2014.pdf

[2] http://ec.europa.eu/justice/data-protection/article-29/documentation/opinion-recommendation/files/2014/wp216_en.pdf

[3] Montreal mapping database to be made publicly available, Montreal Gazette, (June 11, 2014) http://www.montrealgazette.com/business/Montreal+mapping+database+made+publicly+available/9929518/story.html

[4] http://data.gov.ph/

[5] Hampshire publishes Aerial Photography as open data, May 8, 2014 (http://protohub.net/hampshire-publishes-aerial-photography-as-opendata-finally/)

result, government agencies will have to closely follow and comply with evolving data protection/privacy laws.

Increased Scrutiny of Government's Use of Geospatial Technology

8. There has been increased scrutiny around the world of the use of geospatial technologies (UAVs, license plate readers, mobile phone tracking, etc.) by law enforcement and homeland/national security agencies. While these developments are not directly related to geospatial information management, any new laws, policies or regulations governing the use of geospatial technology by government agencies, could have an impact on the collection and use of geospatial information for traditional civil purposes, such as mapping.

9. There have also been a number of technological developments that will impact how geospatial information is collected and used. These developments, which could result in new laws and policies, include:

Unmanned Aerial Vehicles

10. One important technological development over the past year has been the growing interest around the globe in unmanned aerial vehicles (UAVs). Research suggests that UAVs will be valuable in numerous applications, including precision agriculture, mapping, law enforcement, emergency response and infrastructure maintenance and design. As a result, many believe that UAVs have the potential to provide numerous economic, societal and governmental benefits.

11. UAVs can be used to collect many types of geospatial information, often with a high degree of precision and at relatively low cost. However, there are also complex legal and policy challenges. One challenge is safely integrating UAVs into a nation's airspace. There have been a growing number of reports around the world of UAV accidents and several claims of near misses with airplanes. Another challenge will be to address the perceived privacy/data protection concerns associated with both governmental and commercial use of UAVs, as many of these concerns are applicable to geospatial information in general.

Remote Satellites

12. Another important technological development that could have an impact on geospatial information management is an expected increase in the number and types of remote sensing satellites. Many nations have announced plans to deploy remote sensing satellites in the next several years. In addition, there is a growing trend toward deploying smaller satellites (cubesats). Since cubesats cost significantly less to build and deploy, it is now possible to consider constellations of over one hundred (100) cubesats that will collect vast amounts of high and mid resolution imagery around the world on a regular basis.[6]

13. This increased availability of satellite imagery around the globe raises a number of potential legal and policy issues. For example, governments may try to address acceptable sensor types to be deployed as well as the resolution capabilities of such sensors. Germany and the United States have both recently relaxed resolution restrictions for commercial imaging satellites In addition, as the

[6] "Planet Labs to launch 100-satellite remote sensing fleet" SpaceflightNow (March 17, 2014) http://www.spaceflightnow.com/news/n1403/17planetlabs/#.U61-uvldX_Y

described PCAST report suggests, there may be increased pressure to restrict collection and use of satellite imagery for certain purposes due to perceived data protection/privacy concerns.

Improvements in Sensor Capabilities

14. Another technological development that could result in laws and policies that impact geospatial information management is the rapid improvements in sensor capabilities. These advancements will allow for a wide range of sensors to be deployed on smaller and more mobile devices. For example, infrared sensors are now being installed on smartphones and consumer mobile devices are being fitted with sensors for indoor mapping.

15. As a result, traditional geospatial technologies will be used by a broader group of citizens in increasingly novel ways. Broad adoption of these technologies could have a number of potential legal and policy impacts. For example, it may result in government agencies having to change policies and procedures to more actively engage citizens to collect and share geospatial information. In addition, mapping by unlicensed citizens may challenge the domains of traditional geospatial professions, such as surveying.

III. Engagement with the International Bar Association

16. At its third session, the Committee of Experts acknowledged that there is a need to engage with lawmakers, policymakers and lawyers on geospatial technology requirements, and requested the Secretariat to reach out to the International Bar Association (IBA) regarding its current work on a draft Convention on Geoinformation (the "Convention"). In light of the Committee's request, on February 27, 2014, the Secretariat participated in a workshop with the International Bar Association at the offices of Taylor Wessing, LLP in London, United Kingdom. Almost 20 expert geospatial representatives from industry, government and NGO's across Europe participated in the workshop. (A summary of the meeting is attached at Annex I).

17. The IBA is an international organization established in 1947, consisting of lawyers from around the world. Its goals include influencing the development of international law reform and shaping the future of the legal profession across the globe. Over the past few years it has focused on the increasingly important role that information plays in society. The IBA believes that currently the law relating to information is often grounded in a single jurisdiction; however information is increasingly collected and shared across boundaries. As a result, a different approach may be needed to address important legal and policy issues. The IBA developed the Convention as a "straw man" to address these issues. The Convention is intended to apply to all geospatial information, collected from whatever source, for whatever purpose. For example, it treats satellite imagery, crowd-sourced information and information collected through surveying in the same manner. The Convention tries to address in one document a number of complex issues - such as privacy, data quality, intellectual property rights and national security – that would impact the geospatial community. The IBA's goal is for nations to sign the Convention and agree to implement the terms in national legislation.

18. Following introductions and contextual presentations, the participants at the workshop discussed the relationship between geospatial information and issues such as ownership, liability, open data and security. A number of the participants agreed that these issues were applicable among most nations, but expressed concern in trying to address them within a single framework, such as the Convention. Others suggested that it would be very difficult to come up with universally agreed upon terminology and vocabulary. Some suggested that a Convention could be useful in order to develop principles, but that the draft Convention was likely to result in too many regulations and should not be escalated.

19. The participants agreed that the issues were important to the geospatial community and that dialogue should continue.

IV. Engagement with the Group on Earth Observations

20. At its third session, the Committee of Experts also advised the Secretariat that further work with regards to legal and policy frameworks should build on existing efforts. As a result, the Committee asked the Secretariat to engage the Group on Earth Observations (GEO) regarding their efforts in this area. GEO is a voluntary partnership of governments and international organizations coordinating efforts to build a Global Earth Observation System of Systems (GEOSS). Since its members include 90 governments and 77 intergovernmental, international and regional organizations GEO is familiar with the legal and policy issues associated with collecting, using and sharing geospatial information, particularly in terms of delivering GEOSS as a distributed pool of documented datasets contributed by the GEO community.

21. In light of the Committee's request to further engage GEO, the Secretariat actively participated in and contributed to the GEO-X Plenary in Geneva in January 2014. The Secretariat also attended the GEO Data Sharing Working Group meeting, participating in a panel session "Building Data Sharing Capacity at National, Regional, and Global Levels". Participants noted important common goals and objectives between the two communities to address issues related to legal and policy challenges, and developing flexible policy frameworks to ensure that a more open data environment is implemented.

22. The Centre for Spatial Law and Policy has been active in the GEO Legal Interoperability Subgroup for several years, and has contributed to a number of reports that were subsequently provided to the GEO Data Sharing Working Group, including "Legal Options for the Exchange of Data through the GEOSS Data-CORE". At the request of the Secretariat, the Centre recently entered into discussions with its Legal Interoperability Subgroup on how to further align UN-GGIM's efforts on legal and policy matters with the work of GEO. The Legal Interoperability Subgroup expressed interest in exploring ways the two organizations could work together on issues of mutual concerns and the parties discussed potential next steps. Representatives from the respective organizations agreed that in order for the issues to be more fully addressed, it was also important for the UN-GGIM and GEO Secretariats to continue to engage on strategic issues.

V. Addressing the legal and policy challenges

23. Since the global geospatial community does not operate in a vacuum, developments in both technology and law impact its ability to collect use, store and

distribute geospatial information. As a result, at the national level, stakeholders from government, industry and the research community should continue to engage their relevant legal and policy organizations on the role and value of geospatial information and the potential impact of proposed laws, regulations and policies. This will become even more important in the future because of the different ways that geospatial information will be collected and the wide variety of legal issues that arise as a result. Stakeholders should also begin to include sections on law and policy in education and training to create geospatial professionals that can understand and respond to these issues.

24. While geospatial information is often collected and used at the local level, it is also critical to address global issues, such as sustainable development. As a result, Member States should also work to address the legal and policy barriers that restrict the collection, use, storage and distribution of geospatial information across borders. The UN-GGIM can play a vital role in this process by convening forums for education and discussion and continuing to engage organizations such as GEO and the IBA to protect and promote the interests of Member States. Member States can also work within the UN-GGIM regional system to convene relevant stakeholders (including lawyers and policymakers) to address issues of particular concern to those countries and regions.

VI. Points for discussion

25. The Committee may wish to:

(a) Take note of the report and work done by the Centre for Spatial Law and Policy; and

(b) Express its views on the way forward in addressing the legal and policy frameworks for geospatial information management, including issues related to authoritative data.

ANNEX I

Summary of UN-GGIM – International Bar Association (IBA) Workshop

Date: February 27, 2014
Location: Offices of Taylor Wessing, LLP in London.

Attendees: Representatives from UN-GGIM, International Bar Association, the Centre for Spatial Law and Policy and approximately twenty (20) geospatial representatives from industry, government and NGO's across Europe participated in the workshop.

Summary: Dr. Vanessa Lawrence CB, co-Chair of the UN-GGIM began the workshop by providing some background on the role, responsibility and mandate of the UN-GGIM. She noted that the Rio+20 meeting in Brazil referenced the importance of geospatial information and summarized the results of the Cambridge Conference 2013 and the UN-GGIM3 Committee of Experts meeting. She discussed how the work of the UN-GGIM was being guided by an Inventory of Issues that had been prepared by the UN-GGIM Secretariat and that the UN-GGIM had recently published the report "Future Trends in Geospatial Information Management' which included a section on legal and policy issues.

Mr. Kevin Pomfret, from the Centre for Spatial Law and Policy discussed the work of the UN-GGIM on how policy and legal frameworks impact geospatial information management. He discussed the rapid growth of geospatial data and its uses, and stated that the geospatial community could be broadly grouped into three categories: (i) government, (ii) industry and (iii) universities, citizens, and NGOs. These groups are both users and providers of data, often simultaneously, and so are concerned with many of the same legal and policy issues, such as licensing, privacy, liability, security and open data. As a result, policies or laws that affect the collection, impact, and distribution in one segment of the community will often impact the other segments. As a result, traditional approaches are becoming obsolete and could be detrimental to the geospatial community as a whole. He also stated that the UN-GGIM could play an important role in the development of appropriate legal and policy frameworks by helping identify local solutions to these issues so that geospatial information can be used to address global issues.

Mr Christopher Rees and Mr. Kevin Madders introduced the International Bar Association (IBA) and their work on the proposed Convention on Geoinformation. They explained that the IBA, a collection of lawyers from around the globe, has been looking at the increasingly important role that information plays in society. They stated that currently the law relating to information is grounded in single jurisdictions. However information is increasingly traded across boundaries, and they believe as a result a different approach may be needed. Mr. Rees and Mr. Madders added that they believe lawyers could provide solutions to real problems in this area. However it should be remembered that this is a very new area for lawyers, and that industry is asking for lawyers to create solutions to problems which have not existed in the past. With the help of the IBA, Mr. Rees and Mr. Madders prepared the proposed Convention on Geoinformation as a "straw man". They hoped that they might work with the UN-GGIM to use the draft to craft a solution. They explained one of the biggest problems will be to define the term "geoinformation".

Lengthy discussions followed on the main legal and policy issues relating to geospatial information. Issues discussed included provenance, liability, re-use, and open data and security. A number of the participants agreed that the issues were universal, but expressed concern in trying to address them within a single framework, such as the Convention. Others stated that it would be very difficult to come up with universally agreed upon terminology and vocabulary or to map the Convention with existing legal and policy frameworks. Some believed that the Convention could lead to unnecessary regulation, but that it might be useful in developing guiding principles for the geospatial community.

The participants then discussed what trends were driving the legal and policy issues that would impact geospatial information management. The participants identified several important trends, including the growth in social/local/mobile applications, concerns over privacy/data protection and the European Union's space policy.

Mr. Greg Scott of the UN-GGIM Secretariat discussed the role the UN-GGIM could play going forward. Mr. Scott stated the first step was for the Secretariat to report back to the UN on the results and discussions of this meeting. Mr. Rees indicated that the private sector that would be interested in rationalizing these issues as well and could provide funding.

The participants then discussed potential next steps. Most agreed that dialogue on these issues should continue, particularly since these issues will be new to many nations. Dr. Lawrence stated that since the IBA's draft Convention is not an official UN document it cannot be presented to UN Member States at GGIM4. Mr. Scott stated that a summary of the meeting would be included in the report to the Committee and that a side event on legal and policy issues could be held at UN-GGIM4 to discuss these issues.