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**GWSP IPO**

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**Minutes**  
**2<sup>nd</sup> GWSP SSC Meeting**  
1-2 September 2005, Kyoto, Japan  
(Version 1.0)

## 2nd GWSP SSC Meeting

The second meeting of the scientific steering committee (SSC) of the Global Water System Project (GWSP) was held on 1-2 September 2005, in Kyoto, Japan, where the Research Institute for Humanity and Nature (RIHN) hosted the meeting. Eight out of 15 SSC members, the Executive and Deputy Executive Officer from the International Project office (IPO), and the liaison scientists from IGBP and GWSP Japan participated in the meeting (see list of participants).

The following table summarises the main decisions, recommendations, and actions resulting from the discussion at the meeting.

### Summary of Decisions, Recommendations, and Actions

	Decisions / Recommendations / Actions	Responsible
#	Fast-Track Activities	
	<p><b>GWSP Lexicon:</b> The overall aim of the lexicon is to provide a coherent description of the elements of the Global Water System (GWS) and a platform for interdisciplinary communication. A first version of the Wiki-based lexicon implementation is available at a password-protected website (<a href="http://wikilgwsp.org">wikilgwsp.org</a>). The concept and implementation will be reviewed again at the next SSC meeting</p>	
1	<i>Marcel Endejan will send subsets of the identified important terms to SSC members before mid February 2006; each term will be sent to at least two SSC members from different scientific disciplines.</i>	Endejan
2	<i>The SSC Members will provide definitions of terms and revise the list of important terms before March 2006.</i>	SSC
3	<i>Marcel Endejan will identify terms which need further discussion at the next SSC meeting before mid March 2006.</i>	Endejan
	<p><b>GWS Atlas:</b> The idea of the atlas is to map present, historical and possible future states of the GWS, and anticipated changes as well as those that have already occurred. The atlas will focus on basic elements and indicators and important links and feedbacks of the GWS. A prototype will be developed before the next SSC meeting.</p> <p>The concept and implementation of the Atlas and the tentative list of desired datasets will be reviewed again at the next SSC meeting.</p> <p>The activities related to the development of indicators, and the water balance have been split from the Atlas FTA and become separate FTAs.</p>	
3	<i>Marcel Endejan will contact the SSC members individually to set up the tentative list of desired datasets.</i>	Endejan
4	<i>The desired datasets for the next atlas version (i.e. the first open access atlas) should be discussed during a workshop after March (Northern Hemisphere spring 2006).</i>	Endejan
	<p><b>Water Indicators Effort:</b> The key objectives of this work are to: 1) develop a new class of Indicators depicting the Global Water System, built on geospatial data including the integrated GWSP database (Atlas); go well beyond administrative units 2) Build liaison activities with interested partners 3) Quantify system and sub-system states 4) Engage the policy community w/ understandable "distillates" of more complex bio-geophysical information.</p> <p>A workshop about indicators of water, poverty and food security has been conducted already. A workshop reports will follow (as first issue of the GWSP series "Issues in Global Water System Research").</p> <p>It was suggested that the GWSP should bring together results/efforts in relation to the World Water Assessment Programme and the Cooperative Programme on Water and Climate.</p>	Vörösmarty
	<p><b>Environmental Flows:</b> A joint workshop with the Global River Sustainability Project on Hydro-ecology/Environmental Flows has been conducted (Estes Park, Colorado USA, June 2005). A workshop report will appear in the next issue of the GWSP newsletter.</p>	Naiman Hunn
5	<i>Water Balance: Workshops will be planned to bring datasets and models together and to compare different estimates (and uncertainties) of hydrological parameters, such as runoff; the focus will be on comparisons on continental or global scale.</i>	Alcamo

GWSP IPO	Minutes: 2nd GWSP SSC Meeting (Version 1.0)	Page 3
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	Decisions / Recommendations / Actions	Responsible
6	<i>José Marengo will participate in the GEWEX meeting in Australia at the end of September and will present the idea of the FTA.</i>	Marengo
7	<i>Eric Craswell and Charles Vörösmarty will together with Rick Lawford follow up on José's feedbacks in November 2005 when they will meet with NASA in Washington.</i>	Craswell Vörösmarty
8	<b>Governance Workshop:</b> One aim of the governance workshop is to identify needs for further research on global-level governance structures. <i>A first planning meeting will be held at the HDP Open Meeting in October 2005 in Bonn. The intended time for the workshop is May/June 2006.</i>	Pahl-Wostl
9	<b>GWSP-LOICZ Partnerships:</b> The following potential areas for collaboration between the GWSP and Land Ocean Interaction in Coastal Zones (LOICZ) project have been identified: 1) comparing governance of freshwater and coastal systems; 2) improving scientific understanding of saltwater intrusion to coastal aquifers; 3) assessing the impacts of river diversions and climate change on coastal processes; 4) analyzing the impact of land use change, and particularly of mega-city growth, on coastal processes; 5) identifying and comparing environmental flows of freshwater and estuarine systems; 6) characterizing large-scale nutrient cycles. <i>GWSP should start working with LOICZ on the topic of the joint governance workshop. As a follow up from the GWSP Asia meeting a more specific discussion about mega cities may follow. Felino Lansigan could act as a liaison person to the joint LOICZ-GWSP activity.</i>	Alcanto Vörösmarty  Lansigan
10	<b>Advanced Institute:</b> The SSC felt that GWSP-specific topics are not included adequately in the current version of the proposal. The institute must be relevant to GWSP in terms of the key issues, curriculum development, and student involvement. <i>The IPO will help to focus the agenda more on the GWSP community of young researchers. Eric Craswell will pass the SSC's view on to Hassan Virji.</i>	Craswell IPO
11	<b>Case Studies / Generic Description:</b> GWSP has to draw knowledge from case studies. Experiences with case studies should be used to build up a methodology of making case studies. <i>Guidelines for setting up case studies should be discussed at the next SSC meeting in March. Until March the general description provided by Charles Vörösmarty will be used as a working document for case study development.</i> <b>Case Studies / NEESPI:</b> NEESPI (Northern Eurasia Earth Science Planning Initiative) is a regional case study. It is thematically in harmony with the GWSP (but a regional rather than a global project). Charles Vörösmarty will represent the GWSP at the first NEESPI Science Team Meeting in Vienna, Austria, Feb/March 2006.	SSC
12	<b>Science Article:</b> <i>A paper on key questions and different aspects of the Global Water System is in preparation ('policy forum article' for Science). The final draft will be provided to the SSC for comments.</i>	Alcanto Vörösmarty & Executive Committee
13	<b>CSD Activity:</b> <i>A group for reviewing the World Water Assessment reports will be established in late 2005. The group will begin its work early 2006.</i> The GWSP Framework document was distributed at the preceding CSD meeting.	Vörösmarty
	<b>Project co-ordination / IPO-related issues</b>	
14	<b>Finances:</b> IPO has 3.5 years-funding, scheduled to finish at the end of 2006. <i>Eric Craswell will discuss funding issues with the donors (no-cost extension, process, schedule, etc.). Since the IPO also needs some external funds going through the IPO's accounts, subcontracts for the IPO are welcomed.</i>	Craswell SSC
	<b>Staffing:</b> A "fast-track co-ordinator" will be hired to get the FTAs going and strengthen the links to the US and Japan. Eric Craswell's contract will end December 2006 (may be extended until early 2007 if overlap with the incoming Executive Officer is necessary).	
	<b>GWSP Report Series:</b> An informal, internal report series with the series title "Issues in Global Water System Research" will be established. Issues in Global Water System Research is a report series designed to review and record scientific knowledge about the global water system, and to stimulate discussion amongst researchers, practitioners and decision makers in this field. The papers undergo reviews arranged by the Global Water System Project, but do not present final research results and should be considered as works in progress.	

Decisions / Recommendations / Actions		Responsible
15	<p>A form for reviewing/commenting on reports (report of the review process) should be designed (including 'strengths' etc.). Reports should get an ISSN.</p> <p><b>GWSP Information System:</b> The GWSP Information System is based on a Wiki-System (see <a href="http://wiki.gwsp.org">http://wiki.gwsp.org</a>). The SSC agreed on the development. Access to the information system should be restricted to SSC members by now but will be (partly) opened to the whole GWSP community in a later stage.</p>	IPO  Endejan
	<p><b>Re-imbursment:</b> In order to get funds for GWSP-related travel, a written report of at least half a page is considered to be sufficient. These reports might also be used for reporting via the electronic briefing notes.</p>	SSC
16	<p>The information about allowances for different countries/cities should be provided through the GWSP Information System (Wiki).</p>	IPO
<b>Project Endorsements</b>		
	<p><b>General:</b> It is to know we don't have any <i>endorsed</i> projects. The delimitation between "endorsed projects" and "fast-track activities" (or just "activities") is not yet clear. Discussion planned for the next SSC meeting.</p>	
	<p><b>Enforcement 1:</b> José Marengo presented the funded project "Using Regional Climate Change Scenarios for Studies on Vulnerability and Adaptation in Brazil and South America". The project has been approved by the SSC.</p>	
17	<p><i>José Marengo will format the document as needed for endorsement and send it to the IPO.</i></p> <p><b>Enforcement 2:</b> Charles Vörösmarty introduced the idea of using and enhancing the TYGRIS database for GWSP purposes. The SSC encouraged the submission of a proposal for the TYGRIS-related project endorsement.</p>	Marengo
18	<p><i>Charles Vörösmarty will send a TYGRIS-related request for endorsement (including detailed budget needed for potential financial support) to the IPO.</i></p>	Vörösmarty
<b>Project Organisation</b>		
19	<p><b>Japanese Committee:</b> A GWSP Committee has been established last year. The committee currently has 27 members. The contact person for GWSP Japan is Makoto Taniguchi. <i>The committee is currently applying for funds from GEOSS and other agencies.</i></p>	Taniguchi Vörösmarty
	<p><b>Chinese Committee:</b> A Chinese National Committee of GWSP has been established early this year. The committee currently consists of 30 members. The committee already met two times. Interactions with GWSP have been established via Charles Vörösmarty. Co-operation with Japan has been established via Makoto Taniguchi. The contact person for GWSP China is Changming Liu.</p>	
20	<p><i>The question of how to document and benchmark national committees was raised. Further discussion on that topic is needed.</i></p>	SSC IPO
	<p><b>U.S. GWSP:</b> A "Global Water Science Working Group" (WG) of the National Center for Hydrology Science (NCHS) has been established mid 2005. The WG currently has 5 core-members, including the GWSP Executive Committee members Charles Vörösmarty (WG chair), Dennis Lettenmaier, and Robert Naiman. The WG will serve as the U.S. node for the GWSP (U.S. GWSP). The contact person for U.S. GWSP is Charles Vörösmarty.</p>	
	<p><b>Discussion on project organisation:</b> The question whether GWSP should (or needs to) have various committees was discussed (as well as the question whether we should push network building or project endorsements). Following the GWSP consultation meeting, it was agreed that the terms "GWSP China" and "GWSP Japan" should be used instead of Chinese/Japanese National Committee. The term "National Association of the GWSP" was suggested to be used in the GWSP context to refer to GWSP China etc. ("National Committees" are already established and co-ordinated by the ESSP.)</p>	
21	<p><i>"Terms of References" for "National Committees"/"National Associations" are needed. The IPO should consider the best ways to organise the relationships between different "committees" and to encourage international research, and prepare a recommendation for terminology and Terms of Reference (TORs).</i></p>	IPO

GWSP HQ	Minutes: 2nd GWSP SSC Meeting (Version 1.0)	Page 5
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22	The next GWSP Newsletter should focus on GWSP China, GWSP Japan, GWSP Asia, and U.S. GWSP to show the international networking of the project. <i>Changning Liu, Makoto Taniguchi, and Charles Vörösmarty will provide information (members, activities, etc) about the committees in China, Japan, and the U.S., respectively.</i>	IPO Liu Taniguchi Vörösmarty
23	The issue of 'Calls for Proposals' needs to be discussed further. A draft 'Call for Proposals' will be discussed at the next teleconference. Further discussion/decision during the next SSC meeting (March 2006).	SSC IPO
24	Proposals for small projects will be made from José Marengo, Charles Vörösmarty/Changning Liu, and Changning Liu/Makoto Taniguchi (China-Japan project).	Marengo Vörösmarty Liu Taniguchi
Co-operation		
	UNESCO: Co-operation with UNESO has already been established through the Bonn Conference held in February 2005; further cooperation is planned in relation to the planned review of the report of World Water Assessment Programme and the support by UNESCO of a post-doc on environmental flows.	
25	<i>IPO should organize a conference call with Robert Naiman, Charles Vörösmarty and András Székely-Nagy for further discussion.</i>	IPO Naiman Vörösmarty
26	ESSP: There is a need for a more concerted effort with the African network. Wandera Ogana and Eric Odada are considered to be GWSP contact persons for Africa. <i>Jay O'Keefe will follow up to make connections to the African research network.</i>	O'Keefe Odada
	WCRP: Following a note from David Carson (executive director, World Climate Research Programme) WCRP calls for more interaction with the GWSP. <i>In addition to existing GEOSS-related interactions with Rick Lawford (Director, GEWEX International Project Office) through Charles Vörösmarty and Eric Craswell, Dennis Lettenmaier and José Marengo should strengthen the links to WCRP (see also FTA Water Balance). (Gilles Sommeria, WCRP liaison to GWSP, was invited but unable to participate the first two SSC meetings. Prof. Tetsuzo Yasunari, WCRP JSC liaison to GWSP, participated the GWSP Asia meeting, held prior the 2nd SSC meeting, 29-31 August 2005.)</i>	Lettenmaier Marengo
	GCP: The description of the "workshop on water and carbon" at hand, planned by the Global Carbon Project (March 2006), was considered to be too broad for GWSP purposes.	
27	<i>Eric Craswell will discuss this issue with GCP.</i>	Craswell
28	<i>A GWSP representative (possibly José Marengo) will attend the workshop.</i>	Marengo
Working Groups		
	Issues related to the structure and establishment of working groups have been discussed.	
29	<i>The IPO will 1) conduct an executive committee teleconference to discuss the issue of task forces and 2) come up with a proposal for the policy on task forces for whatever they are called them for the next SSC meeting.</i>	IPO
Funding Opportunities		
	EU-proposal: Claudia Pahl-Wostl reported on the plan to write a proposal for a Specific Targeted Research Project under the 4th call of the 6th EU Framework Programme (Twinning European/third world countries river basins). The Twinning project is planned to become an endorsed project. The SSC endorsed the project in principle, but the normal process of project endorsement has to be followed.	
30	<i>Claudia Pahl-Wostl will submit an endorsement proposal.</i>	Pahl-Wostl
31	<i>Eric Craswell will visit the Mekong River Commission to discuss data sharing and general collaboration.</i>	Craswell
32	<i>The IPO will support the writing of the Twinning proposal.</i>	IPO
	ARC and Queensland Funds: ARC and Queensland funds provide opportunities for international cooperation, including some extra funds to tighten up with EU projects. There are no deadlines for funding proposals. Matching with other contributions (funds or in-kind contributions; i.e. not necessarily money) necessary.	

GWSP IPO	Minutes: 2nd GWSP SSC Meeting (Version 1.0)	Page 6
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Decisions / Recommendations / Actions		Responsible
33	<i>Smart Boom will set up a list with actions with high probability to be supported by the ARC or Queensland Funds.</i>	Bunn
Miscellaneous		
	<b>ESSP Open Science Conference:</b> Eric Craswell is the representative of the GWSP in the organising committee of the conference. GWSP should be represented with a special session.	
34	<i>Eric Craswell will follow up on the potential topics for a GWSP session.</i>	Craswell
	<b>4<sup>th</sup> World Water Forum:</b> GWSP should be present at the World Water Forum (e.g. by having a booth and contributing to a high-profile policy forum).	
35	<i>The IPO should think about possibilities to upgrade our kiosk/booth and about possibilities to partner with GWSP associated organisations.</i>	IPO
36	<b>Next SSC Meeting:</b> The next meeting of the SSC should be planned by the IPO for 23-24 March 2006 (near Mexico City, possibly Oaxaca).	IPO
Closed Session		
37	<b>Training/Capacity Building:</b> <i>The IPO should prepare a list of training course / capacity building efforts and put it on our website.</i>	IPO
38	<i>Jay O'Keefe will, together with Robert Naiman, draft an outline for a capacity building programme for the next years.</i>	O'Keefe Naiman
	<b>Engagement of SSC Members:</b> The issue of the engagement of SSC members in the work of the SSC and their commitment to the GWSP was discussed. The SSC encouraged all members to participate every SSC meeting – missing two meetings in a row should be avoided in any case. To allow for early time planning, dates of meetings should be posted as soon as they have been fixed.  The GWSP might also consider an internal review of its work as the project is moving forward.	
	<b>SSC Meetings:</b> For the first two years of the project SSC meetings will be carried out every six months. The 3 <sup>rd</sup> SSC Meeting is scheduled for 23-24 March 2006; the 4 <sup>th</sup> SSC Meeting is planned for November 2006, associated to the ESSP Open Meeting 9-12 November 2006 in Beijing.	
39	<i>The IPO should send these dates ASAP to all SSC members.</i>	IPO
	<b>Fast-Track Activities:</b> The list of FTAs may be enhanced by activities the SSC members are interested in.	
40	<i>The co-chairs will write a letter to encourage the SSC members' engagement in FTAs and the initiation of new FTAs.</i>	Akamo Várdu-marty
	<b>Internal Communication:</b> The IPO is requested to use a variety of means of communication: Email + Mail + Phone + Website + Fax.	
41	<i>The IPO will ask the SSC members for their preferred means of communication and will summarise and provide it in a table.</i>	IPO

Marcel Endejan, 2005-12-19

### Annex I – List of Participants

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## Annex II – GWSP-LOICZ Cooperation

Potential Areas of Cooperation between LOICZ and GWSP [Draft 30 June 2005]

Based on discussions at a workshop at the LOICZ Open Science Conference, June, 2005, Eindhoven Zee, NL.

### Comparing Governance of Freshwater and Coastal Systems

The use and management of water resources in many coastal regions (e.g. regional seas) and river basins (e.g. international river basins) are regulated by a patchwork of treaties, regulatory agencies, and other institutions. Despite the geographic overlap between freshwater and coastal systems, little attention has been given to the consistency of institutions that regulate these systems.

- *What are the similarities or differences/contradictions between the institutions used to manage river basins and the coastal regions they are linked to?*
- *What role does poverty play as a driving force of change in river basins and the coastal zone?*

### Improving Scientific Understanding of Saltwater Intrusion to Coastal Aquifers

The saline contamination of coastal groundwater is a major water supply issue in many populated coastal areas. Contamination stems from both coastal processes such as sea level rise, but also from inland processes such as the upstream diversion of freshwater. Considering the interaction of freshwater and coastal systems, this is a good area for cooperation between GWSP and LOICZ.

- *Where are the major global areas under threat of saltwater intrusion?*
- *What policies and actions are most effective in counteracting saltwater intrusion?*

### Assessing the Impact of River Diversions and Climate Change on Coastal Processes

Upstream river diversions (including abstraction from aquifers and interbasin water transfers) and climate change/variability lead to changes in the input of freshwater and materials to estuaries and therefore profoundly affect physical, biogeochemical and ecological processes in the coastal zone.

While river diversions and climate change modify the volume of freshwater inputs to estuaries, sea level rise at the same time will increase the inland penetration of saltwater. The combination of these drivers could lead to major changes in the salinity boundaries of estuaries and in the effective long-term spatial extent of the estuarine environment.

- *What do we know about the current impact of river diversions on sediment flux and other coastal processes?*
- *What are various scenarios of changes of freshwater input to world estuaries under climate change?*
- *How will sea level rise and changes in freshwater input modify the effective boundaries of future estuaries?*

### Analyzing the Impact of Land Use Change, In Particular Mega-City Growth, on Coastal Processes.

The growth of so-called "mega-cities" is putting tremendous pressure on water and other resources. Since many of these cities are at the mouths of large river/estuary systems, the growth of these cities are an important issue for both the LOICZ and GWSP scientific communities.

- *What is the current impact of mega-cities on water resources and ecosystems in freshwater and estuarine systems?*
- *What are the potential new impacts of growing mega-cities on water resources and ecosystems?*

### Identifying and Comparing Environmental Flows of Freshwater and Estuarine Systems

The concept of "environmental flows" has been developed to gain understanding about the minimum flows and flow regimes needed by aquatic ecosystems. While this concept has been developed for freshwater systems, it also is beginning to be used in studies of estuaries.

- *How do environmental flows (flow regime, minimum flow) compare between freshwater and estuarine ecosystems?*
- *What methodology can be used to assess requirements of both freshwater and estuarine ecosystems?*
- *How can environmental flows be reconciled with flows requirements for navigation and industrial cooling?*

### Characterizing Large-Scale Nutrient Cycles

Society has caused large scale changes in the fluxes of nutrients to the global water system and this is leading to changes in the nitrogen and other global nutrient cycles. While the GWSP has a particular interest in observational and modeling studies of the nutrient cycle in freshwater systems, LOICZ has a parallel interest in these studies in the coastal zone. Joint activities need to be identified to bring the outputs of these parallel activities together.

- *What are the inputs of nutrients to estuaries from upstream?*
- *How can knowledge of freshwater and coastal nutrient cycling be combined for a more comprehensive understanding of global nutrient cycles?*