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Annex 2: BASELINE PROJECTS/PROGRAMMES FOR EACH OF THE FIVE WATER SYSTEMS

TRANSBOUNDARY AQUIFERS

The *International Hydrological Programme (IHP)*, UNESCO's intergovernmental cooperative programme in water research, water resources management, education and capacity-building and the only broadly-based science programme on freshwater within the UN system has contributed considerably to enhancing the hydrological knowledge since 1975. UNESCO-IHP leads the ISARM Initiative (see below) and the World-wide Hydrogeological Mapping and Assessment Programme (WHYMAP), a joint programme of UNESCO and the German Federal Institute for Geosciences and Natural Resources (BGR). WHYMAP focuses on collecting, collating and visualizing hydrogeological information at a global scale and provides a broad hydrogeological knowledge base for the TWAP assessment of Transboundary Aquifers. UNESCO's global network of water related Chairs and Centres, such as the UNESCO Chair on Groundwater at the University of Cape Town or the UNESCO Chair and International Network of Water-Environment Centres for the Balkan (INWEB) at the University of Thessaloniki, among others, provide local and regional knowledge on the management of transboundary aquifers through their baseline programmes.

The *International Groundwater Resources Assessment Centre (IGRAC)* is operating under the auspices of UNESCO and WMO since the beginning of 2003 (www.igrac.net). Its mission is to make a significant contribution to the worldwide availability of relevant groundwater related information, by developing a Global Groundwater Information System (GGIS), and Guidelines and Protocols for data collection (G&P), carrying out special thematic projects (on various issues like groundwater salinization, arsenic and fluoride in groundwater and managed aquifer recharge) and by participating in global or regional groundwater projects and activities. Among the modules of GGIS, the Global Overview (GO) and the Global Groundwater Monitoring Network (GGMN) are particularly relevant for TWAP/Groundwater. The Global Overview (GO) contains variables and indicators aggregated or averaged by country or by so-called Global Groundwater Region. Although many of these variables and indicators are in principle time-dependent, GO is not designed to contain time series, but rather intends to present the latest available data. For presentation of time series of aggregated variables and indicators the Global Groundwater Monitoring Network has been designed, but it is still in a stage of initial development. IGRAC is hosting the ISARM website, contributes to several global or regional transboundary aquifer projects and it has developed a dedicated sub-module in GO with special features for transboundary aquifers. This latter sub-module may form the basis of the TWAP groundwater data and information management system. In 2009, IGRAC produced the 1:50M scale map "Transboundary Aquifers of the World". It encompasses 318 transboundary aquifers across the globe, shows names and sharing countries for each of these, and

specifies lateral boundaries, extension and aquifer type for a considerable number of aquifers. This map forms one of the basic inputs for the TWAP groundwater data and information management system.

UNESCO launched in 2002 its programme dedicated to ***International Shared Aquifer Resources Management - ISARM*** (www.isarm.net). Its objectives are to identify transboundary aquifers on each continent, support countries in the assessment of these aquifers and formulate recommendations on their management. ISARM is a multidisciplinary programme addressing hydrogeological, socio-economic, environmental, legal and institutional aspects of transboundary aquifers. Regional ISARM groups systematically collect information on these aspects and produce reports on their inventory, thematic characterization of the aquifers and case studies. This information forms the point of departure for the Transboundary aquifer TWAP. The TWAP for transboundary aquifers will strongly lean on the participation from these regional ISARM networks. The ISARM Atlas of Transboundary Aquifers was published in 2009, as a comprehensive compilation of all relevant information collected by ISARM since its beginnings and will provide the baseline for TWAP-TBA. The publication starts with a section on groundwater resources and global maps, followed by a description of the ISARM programme's activities and a section on legal issues. The third section contains the core of the Atlas in the form of a systematic description of almost 200 transboundary aquifers in different regions of the world. In addition, transboundary aquifer case studies in each of the regions are mentioned and described.

UN WWAP Baseline Activities – The 4th World Water Development Report. The World Water Assessment Programme (WWAP) of UN-Water seeks to develop the tools for a better understanding of management practices and policies that will help improve the supply and quality of global freshwater resources. Being a member of the TWAP Groundwater Coalition's Core Group WWAP holds a key position not only in providing broad knowledge on assessment methodologies but also as the main UN assessment corresponding programme to pursue follow-up assessments in the framework of TWAP. The United Nations World Water Development Report, released every three years in conjunction with the World Water Forum, is the UN's flagship report on water. It is a comprehensive review that gives an overall picture of the state of the world's freshwater resources and aims to provide decision-makers with the tools to implement sustainable use of our water. Through a series of assessments, the Reports provide a mechanism for monitoring changes in the resource and its management and tracking progress towards achieving targets, particularly those of the Millennium Development Goals (MDGs) and the World Summit on Sustainable Development. The Reports also offer best practices as well as in-depth theoretical analyses to help stimulate ideas and actions for better stewardship in the water sector.

FAO's AQUASTAT provides comprehensive data on water resources and water use as indispensable baseline information for TWAP. In particular, the AQUASTAT main country database, the Global Map of Irrigation Areas GMIA, the water resources balance sheets, and the institutions database have relevance for TWAP. The national water use data in the AQUASTAT database are updated every 5 years on a rolling programme allowing the derivation of some time series for certain countries where data is reliably reported and can be validated. For those countries for which the information is available, groundwater withdrawal in volume is also reported. The GMIA will be updated in 2011 to include the results of a recent global inventory of irrigation dependent upon surface water, groundwater and non-conventional sources of water. The supplementary country data on groundwater areas and use are available online. The GIS data for this distribution will also be made available in 2011 at the open access FAO GeoNetworks portal.

TRANSBOUNDARY LAKE BASINS

The Lake Basin assessment methodology builds on over 25 years of intense, collaborative, and international work on the issues facing lakes and their basins around the world (\$25 million). Early ideas which were to become Integrated Lake Basin Management (ILBM) were discussed in 1984 at the 1st International Conference on the Conservation and Management of Lakes held in Otsu, Japan. In response to calls from international organizations including UNEP as well as a wide range of non-governmental

stakeholders at that conference, the International Lake Environment Committee (ILEC) Foundation was formed in 1986 and has since been the center of international work on lake basin management.

A major contribution to the formal development of ILBM was a GEF-MSP entitled “Towards a Lake Basin Management Initiative”, implemented by the World Bank and executed by ILEC from 2003-2005 which assessed experiences and lessons learned at 28 lake basins. The success of that MSP led to further funding to formalize ILBM. This has been led by various Japanese governmental organizations but has included hundreds of international (mainly developing country) experts (\$1.5 million).

The value added by TWAP to this ongoing international work is to (1) develop formal ILBM indicators applicable to transboundary lake basins, and (2) improve the integration of rivers, groundwater and Large Marine Ecosystems into the ILBM concept.

The assessment will rely on global datasets, many of which were not available until recently, as well as ILEC’s vast network of both governmental and non-governmental lake basin management practitioners (\$500 million). The assessment will also be done a far-wider range of scale than the other TWAP components given the need to address not only large, well-known international lake basins but also equally valuable (in a per capita and local sense) but smaller, often overlooked lake basins.

TRANSBOUNDARY RIVER BASINS

The River Basins methodology builds partnerships with key institutions, bringing together a vast array of baseline programmes worth approximately US\$ 30-40 mil. over the last 10 years alone. In terms of global hydrological and natural science modeling, we build on the work of partners including the Universities of Kassel and Frankfurt (Germany), the City University of New York (CUNY, with team members previously at University of New Hampshire), and the International Geosphere-Biosphere Programme (IGBP). This is supported by more than 20 years of institutional experience in socio-economic data mapping and assessment from the Centre for International Earth Science Information Network (CIESIN). The International Union for the Conservation of Nature (IUCN) brings more than four decades of assessment of the conservation status of species through the Red List Index.

The UNEP-DHI Centre, Stockholm International Water Institute (SIWI), and Oregon State University are leading institutions in water governance and socio-economics with relation to water resources. In addition to this assessment capacity, the River Basins methodology utilizes existing global datasets from the following institutions: World Development Indicators from the World Bank; water resources and fisheries data from FAO’s Aquastat and FishStat Plus databases; water supply and sanitation data from the WHO/UNICEF Joint Monitoring Programme; reservoir and dam data from ICOLD and the Global Water System Project; and chemical pollution governance information from the Rotterdam and Stockholm Convention secretariats. With baseline programmes running for decades, the value all these partners bring to the TWAP is difficult to quantify, but is likely to be in the order of tens of millions of US dollars. In addition to this the River Basins working group will mobilize approximately US\$ 4 million in cash and in-kind co-financing for the proposed project.

The added value of GEF incremental funding through the TWAP is in bringing these baseline programmes together, forming sustainable partnerships, and enabling a comprehensive global assessment focusing on transboundary water issues.

LARGE MARINE ECOSYSTEMS

The TWAP LMEs assessment will build on a substantial programmatic baseline consisting of a vast array of global, regional and national monitoring/observing and assessment programmes and datasets. In addition, a significant amount of relevant experience and expertise exists in many institutions around the world. Harnessing this baseline would include adapting and re-aggregating data and information to the

LME scale and model forecasting. Among the key partners for the TWAP assessment and their respective baselines are:

- **IOC-UNESCO**, whose baseline is worth about \$2.2 million and includes *Coastal Ocean observation programmes/datasets (GOOS/GLOSS/PICO)*; *IODE Ocean Data/Information* global and regional infrastructures and *Ocean Biogeographic Inform. System (OBIS)* datasets/Marine atlas viewer for TWAP marine indicators; *IOC Ocean Science Programme Nutrients Modeling (NEWS2USE)*; and *HABs* databases.
- The *University of British Columbia Sea Around Us Project* with support of about \$15 million from the *PEW Environment Group* engages in development / updating of methodologies and global databases and indicators for integrated analyses of the impacts of fisheries on marine ecosystems, including LMEs. The cash co-financing for TWAP is \$3 M, about 75% of which is for LMEs.
- *NOAA's LME* programme brings unique expertise and decades of experience in LME assessment and management, as well as its satellite remote sensing and other databases.
- *UNEP-WCMC*, in collaboration with a number of partners, has developed global and sub-global datasets on marine habitats.
- *UNEP DEWA* and *UNEP Regional Seas programmes* provide an important baseline of global and regional assessment programmes and datasets valued at \$2.5 million to support the TWAP (Rivers-LMEs-OO).
- *IGBP*: Development of the Global *NEWs* model for nutrient over-enrichment in coastal areas and databases, led by IOC-UNESCO and IGBP, is conservatively estimated at around \$400,000.
- *GESAMP*, which is sponsored by a number of UN organizations and has conducted assessments of marine pollution, provides a baseline estimated at \$150,000
- **Center for Marine Assessment and Planning**: Analysis and mapping of cumulative human impacts on marine ecosystems leverages 5 years of model development, data acquisition and processing, involving over 10 institutions and 25 experts world-wide, provides a baseline of over \$2 million.
- **CERMES/Univ. Dalhousie**: Previous LME assessments have been very weak in governance aspects. Under the MSP, a methodology for governance assessment was developed. The TWAP governance assessment has a substantial baseline consisting of ongoing projects (PROGOVNET, MarGov and FORCE- all Caribbean Projects- with a value of about \$1.5 million). It will also build on work being done by others in global governance, for example the work of the Fisheries Governance Network (a network of governance scholars from around the world working together since 2003 to develop new approaches to understanding, assessing and addressing fishery governance issues) and the Earth Systems Governance Project.

The value of this programmatic baseline collectively amounts to about \$10.5 million.

OPEN OCEAN

The core partners for execution of the TWAP Open Ocean assessment are IOC-UNESCO, GOOS, the European Commission-funded GEOWOW project, and UNEP.

The *Intergovernmental Oceanographic Commission of UNESCO* coordinates programmes in climate change, marine ecosystem health, environmental management, and marine-related hazards amongst its 130 Member States. It is recognized by the UN Convention on the Law of the Sea as the competent body for marine science. Among its baseline programmes supporting TWAP are the Global Ocean Observing System (GOOS, see below), the Joint WMO-IOC Technical Commission for Oceanography and Marine Meteorology (JCOMM), the International Oceanographic Data and Information Exchange (IODE) and its Ocean Biogeographical Information System (OBIS), and the World Climate Research Programme

(WCRP, joint with WMO and ICSU). For TWAP, IOC will mobilize \$150k in cash cofinancing and \$650k in baseline in-kind cofinancing.

The goal of the 7 M€ **European Commission GEOSS interoperability for Weather, Ocean and Water (GEOWOW) project** is to support informed responses global changes that are increasing pressure on the environment and human society through improved and interoperable data systems. A 1.13 M€ component led by IOC seeks to support and enhance access to ocean observations, to information on threats to ocean ecosystems, and to key ocean forecasts and projections for research and assessments, and was developed to be a (cash co-financing) contribution to the TWAP Open Ocean assessment.

The **Global Ocean Observing System (GOOS)** coordinates a multilateral effort in ocean observations that leverages an annual estimated \$2 billion in investment at the national level in satellite and in situ observations, data management, and product development for the largest transboundary water system (50% of the surface of the planet is open ocean beyond national jurisdiction). At the global level about \$2 million is invested each year at IOC for GOOS staff and programme.

The **United Nations Environment Programme (UNEP)** has played a pivotal role over the years in establishing a Regular Process for Global Reporting and Assessment of the State of The Marine Environment, including socio-economic aspects. Together with UNESCO's IOC, UNEP co-leads the start-up phase of the Regular Process, as well as continuing to provide scientific and technical support to the process, which is currently being hosted by the UN office of Legal Affairs for Ocean Affairs and the Law of the Sea. UNEP will mobilize about US\$ 2,500,000 in in-kind support, from its programmes and networks, to support the TWAP (Rivers-LMEs-OO).

Additional thematic partners in TWAP are:

- The **Center for Marine Assessment and Planning (CMAP)**, with faculty and researchers being renowned experts in geospatial analyses of human uses of the land and seascape, marine spatial planning, fisheries management, and the economics of conservation. The TWAP OO and LME assessments will leverage 5 years of model development, data acquisition and processing, and application, with an estimated total of \$2.1 M investment.
- The **University of British Columbia** and **Pew Charitable Trusts Sea Around Us Project**, which has developed methodologies and global datasets for indicators for assessment of fisheries and their impacts. Building on a longer history of investment, the cash cofinancing for TWAP is \$3 M, about 25% of which for the Open Ocean.
- The **World Climate Research Programme (WCRP)** is a \$2 M/year program of global coordination of physical climate research building on a substantially larger global national investment in climate research. Of particular interest for all of TWAP, the WCRP coordinates and makes available climate projections including rainfall, land ice melt, and sea level projections that are assessed by the IPCC.
- The **Centre for Resource Management and Environmental Studies (CERMES, Barbados)** and Dalhousie University for marine governance, which leverage their own programmes (~1.6 M during TWAP) and other work being done in global governance.
- The **UNEP World Conservation Monitoring Centre (WCMC)** has developed datasets of marine habitats.
- The **Joint Group of Experts on the Scientific Aspects of Marine Environmental Protection (GESAMP)**, an advisory body for the UN system, has extensive experience in the assessment of marine contaminants and pollution.

Annex 3: PARTNER ORGANIZATIONS FOR EACH OF THE FIVE WATER SYSTEMS

CORE PARTNERS	THEMATIC PARTNERS	DATA/ EXPERTISE PROVIDERS
AQUIFERS		
International Hydrological Programme of UNESCO(IHP)	Organisation of American States (OAS)	Univ. of Utrecht
International Groundwater Resources Assessment Centre (IGRAC)	United Nations Economic Commission for Africa (UN-ECA)	Univ. of Western Cape
World Water Assessment Programme (WWAP)	United Nations Economic Commission for Latin America and Caribbean (UN-ECLAC)	International Association of Hydrologist (IAH)
Internationally Shared Aquifer Resources Management (ISARM)	Southern African Development Cooperation (SADC)	International Atomic Energy Agency (IAEA)
Food and Agriculture Organisation of United Nations (FAO)	United Nations Economic and Social Commission for Asia and the Pacific (UN-ESCAP)	Bureau De Recherches Géologiques et Minières (BRGM)
	United Nations Economic Commission for Europe (UNECE)	Global Water Partnership (GWP)
	Observatory of the Sahara and Sahel (OSS)	International Waters Learning Exchange and Resource Network (GEF-IW:LEARN)
	United Nations Economic and Social Commission for West Asia (UN-ESCWA)	Shell Foundation
		United States Geological Survey (USGS)
		International Network of Water-Environment Centres for the Balkans (INWEB)
		German Federal Institute for Geosciences and Natural Resources (BGR)
		Swiss Federal Institute of Technology Zurich (ETH-Z)
		Goethe University
		International Ground Water Association (IGA)
LAKE BASINS		
International Lake Environment Committee (ILEC) Foundation	Research Institute for Humanity and Nature (RIHN)	National Aeronautics and Space Administration (NASA)
UNEP-Division of Early Warning and Assessment (UNEP-DEWA)	Russian Academy of Sciences	United States Geological Survey (USGS)
Shiga University	Chinese Academy of Sciences	European Space Agency (ESA)
Texas State University	Lake Laguna Development Authority	Center for International Earth Science Information Network (CIESIN) WCF
	Chilika Development Authority	Global Mapping International (GMI)
	Federal University of Rio De Janeiro	Global Water System Project (GWSP)
	Indian Association of Aquatic Biologists	International Commission on Large Dams (ICOLD)

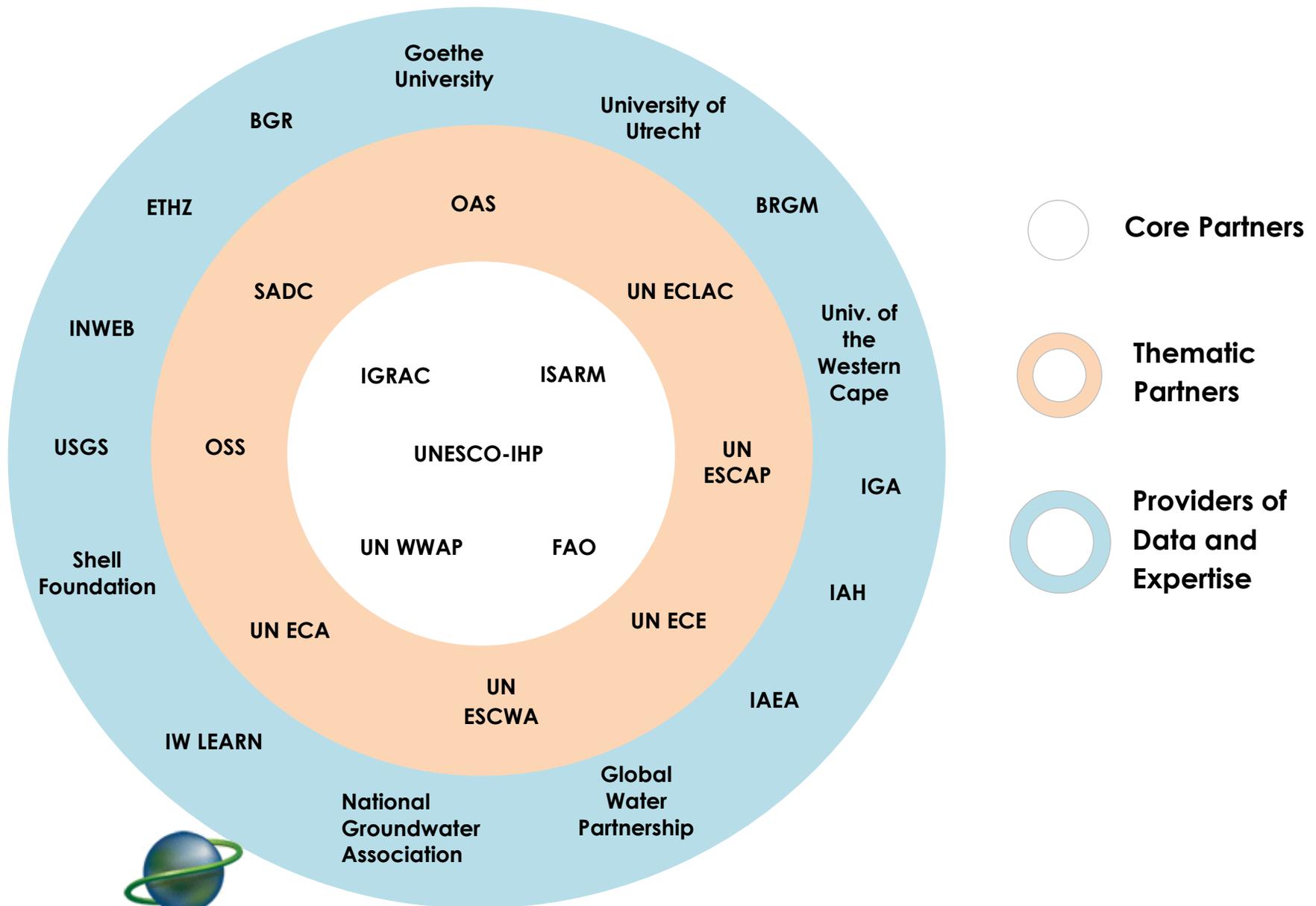
CORE PARTNERS	THEMATIC PARTNERS	DATA/ EXPERTISE PROVIDERS
	University of Palermo	United States Department of Agriculture (USDA)
	University of Nairobi	United Nations Development Programme (UNDP)
	UNEP-GEMS/Water	Oregon State University
	PRO-LAGO Atitlan	World Bank
		National Geospatial-Intelligence Agency (NGA)
		Global Water Partnership (GWP)
		WORLDCLIM
		Oak Ridge National Laboratory (ORNL, LANDSCAN)
		United Nations Population Fund (UNFPA)
		University of New Hampshire
		Global Administrative Areas Database (GADM)
		Ministry of Environment (Japan)
		Japan International Cooperation Agency (JICA)
		Government of Shiga Prefecture, Japan
RIVER BASINS		
UNEP- DHI	City University of New York	Food and Agriculture Organisation of United Nations (FAO)
International Union for the Conservation Of Nature (IUCN)	University of Kassel	United Nations Children's Fund (UNICEF)
Stockholm International Water Institute (SIWI)	University of Frankfurt	World Health Organisation (WHO)
	Oregon State University	World Bank
	International Geosphere Biosphere Programme (IGBP)	International Water Management Institute (IWMI)
	Center for International Earth Science Information Network (CIESIN)	Global Water System Project (GWSP)
		International Commission on Large Dams (ICOLD)
		World Fish Centre
		Rotterdam and Stockholm Convention Secretariats
LARGE MARINE ECOSYSTEMS*		
IOC of UNESCO	UNEP-DEWA	Convention on Biodiversity (CBD)
UNEP-DEPI	Univ. of West Indies -Centre for Resource Management and Environmental Studies (CERMES)	Community Surface Dynamics Modeling System Facility, Univ. Colorado (CSDMS)
National Oceanographic and Atmospheric Agency (NOAA)	Dalhousie Univ.	Food and Agriculture Organisation of United Nations (FAO)
	Univ. British Columbia Sea Around US Project	GEF Large Marine Ecosystems (LME) Projects

CORE PARTNERS	THEMATIC PARTNERS	DATA/ EXPERTISE PROVIDERS
	Joint Group of Experts on The Scientific Aspects of Marine Environmental Protection (GESAMP)	Global Resource Information Database (GRID)-Arendal
	Grid-Arendal	Global Resource Information Database (GRID)-Geneva
	International Geosphere Biosphere Programme (IGBP)	International Maritime Organisation (IMO)
	IGBP- Land Ocean Interaction In the Coastal Zone (LOICZ)	International Union for the Conservation of Nature (IUCN)
	Center for Marine Assessment and Planning (CMAP)	International Union for the Conservation of Nature (IUCN)-WCPA
	RSMAS Univ. Miami	Regional Seas Programmes
	UNEP-World Conservation Monitoring Centre (WCMC)	UNGA Regular Process
	Food and Agriculture Organisation of United Nations (FAO)	United Nations Development Programme (UNDP)
	International Union for the Conservation of Nature (IUCN)	UNEP-Division of Early Warning and Assessment (UNEP-DEWA)
	Ocean Biogeographic Information System (OBIS)	World Meteorological Organisation (WMO)
	University of Rhode Island (URI)	Woods Hole Oceanographic Institution (WHOI) Marine Policy Center
	Woods Hole Oceanographic Institution (WHOI) Marine Policy Center	World Bank
OPEN OCEAN		
UNESCO- Intergovernmental Oceanographic Commission (IOC)	Center for Marine Assessment and Planning (CMAP)	International Ocean Carbon Coordination Project (IOCCP)
European Commission -GEOWOW	World Climate Research Programme (WCRP)	National Oceanographic and Atmospheric Agency (NOAA)-NODC
UNEP-Division of Early Warning and Assessment (DEWA)	UNEP-Grid-Arendal UNEP-WCMC	NOAA-AOML
Global Oceans Observing System (GOOS)	UBC- Sea Around US	Joint WMO-IOC Technical Commission for Oceanography and Marine Meteorology (JCOMM)
	Joint Group of Experts on the Scientific Aspects of Marine Environmental Protection (GESAMP)	International Ocean Carbon Coordination Project (IOCCP)
	Univ. of West Indies -Centre for Resource Management and Environmental Studies (CERMES)	Univ. Plymouth- ESA CCI
	Dalhousie University	Sir Alister Hardy Foundation for Ocean Science (SAHFOS)
		Food and Agriculture Organisation of United Nations (FAO)
		International Seabed Authority (ISA)
		IUCN- Global Ocean Biodiversity

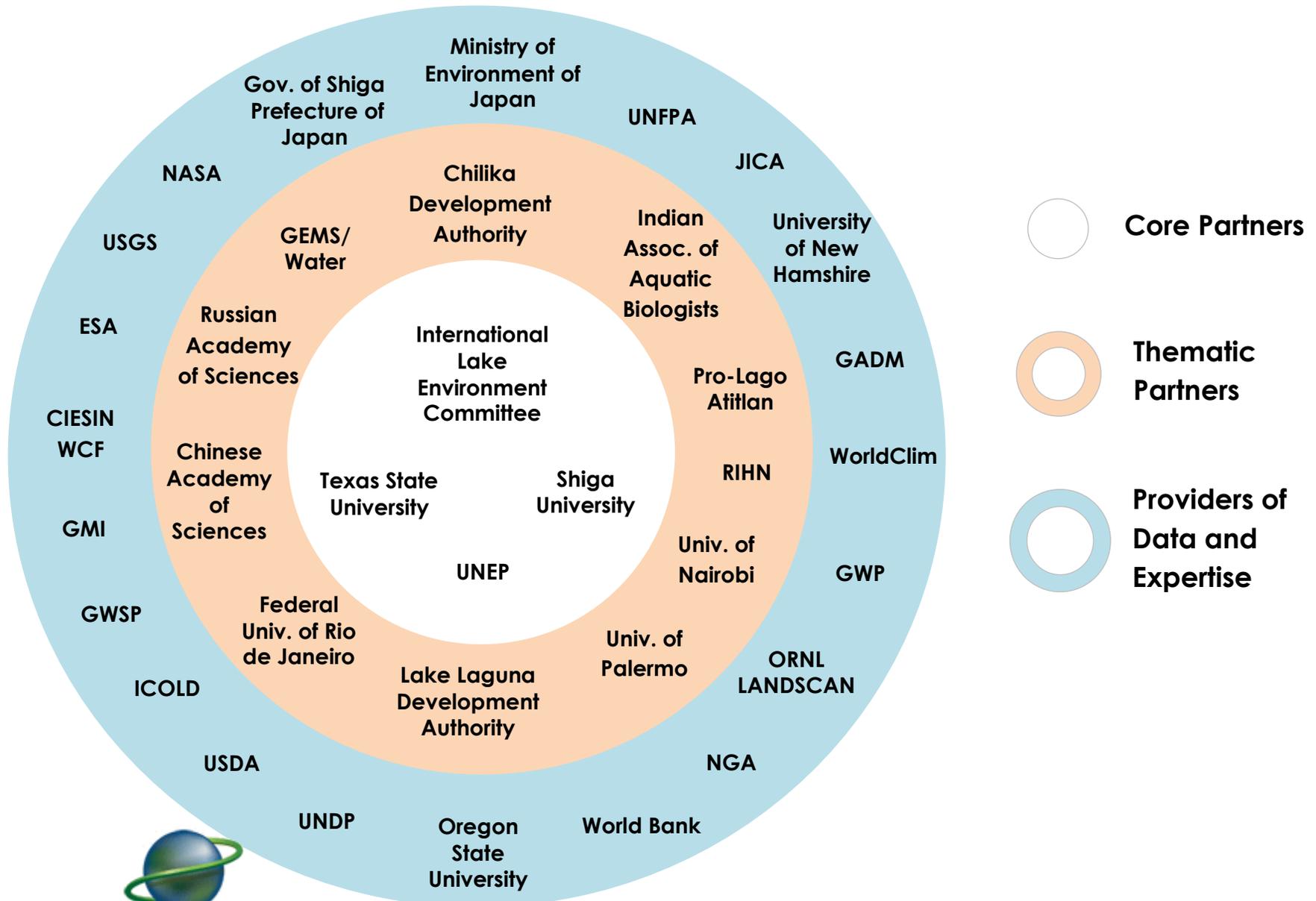
CORE PARTNERS	THEMATIC PARTNERS	DATA/ EXPERTISE PROVIDERS
		Initiative (GOBI)

* Data providers for large marine ecosystems linked to thematic partners: (1) Center for International Earth Science Information Network (CIESIN); (2) Global Coral Reef Monitoring Network (GCRMN); (3) Global Oceans Observing System (GOOS); (4) International Coral Reef Initiative (ICRI); (5) Intergovernmental Platform on Biodiversity and Ecosystem Services (IPBES); (6) Intergovernmental Panel on Climate Change (IPCC); (7) International Waters Learning Exchange And Resource Network (IW: LEARN); (8) National Aeronautic And Space Agency (NASA); (9) Ocean Biogeographic Information System (OBIS); (10) The Nature Conservancy (TNC); (11) UNEP Division for Technology, Industry and Economics (DTIE) Chemicals; (12) United Nations Industrial Development Organisation (UNIDO); (13) Utrecht University; (14) World Fish Center; (15) World Resources Institute (WRI)

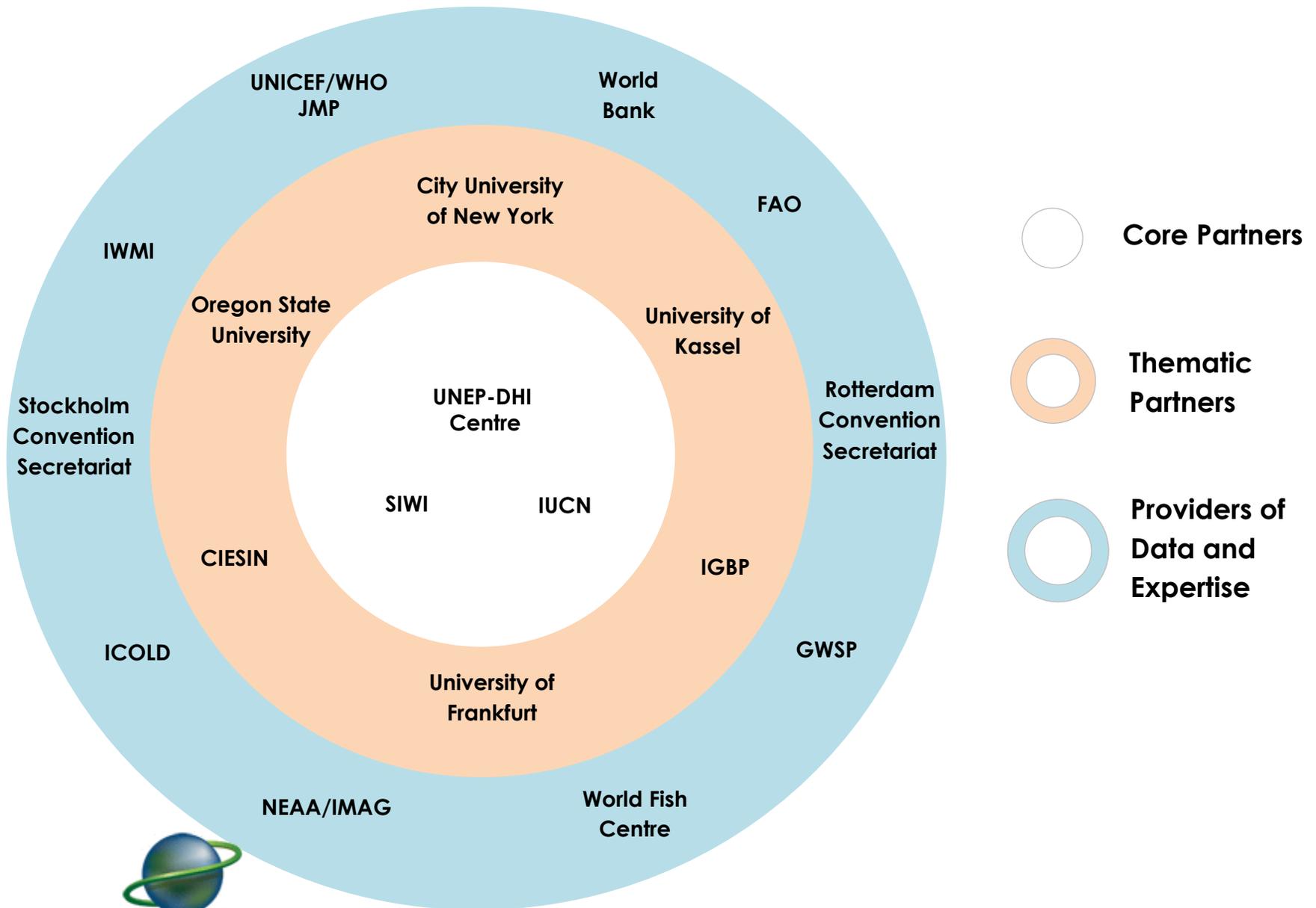
Partnership Arrangement for TWAP Transboundary Aquifers



Partnership Arrangement for TWAP Transboundary Lake Basins

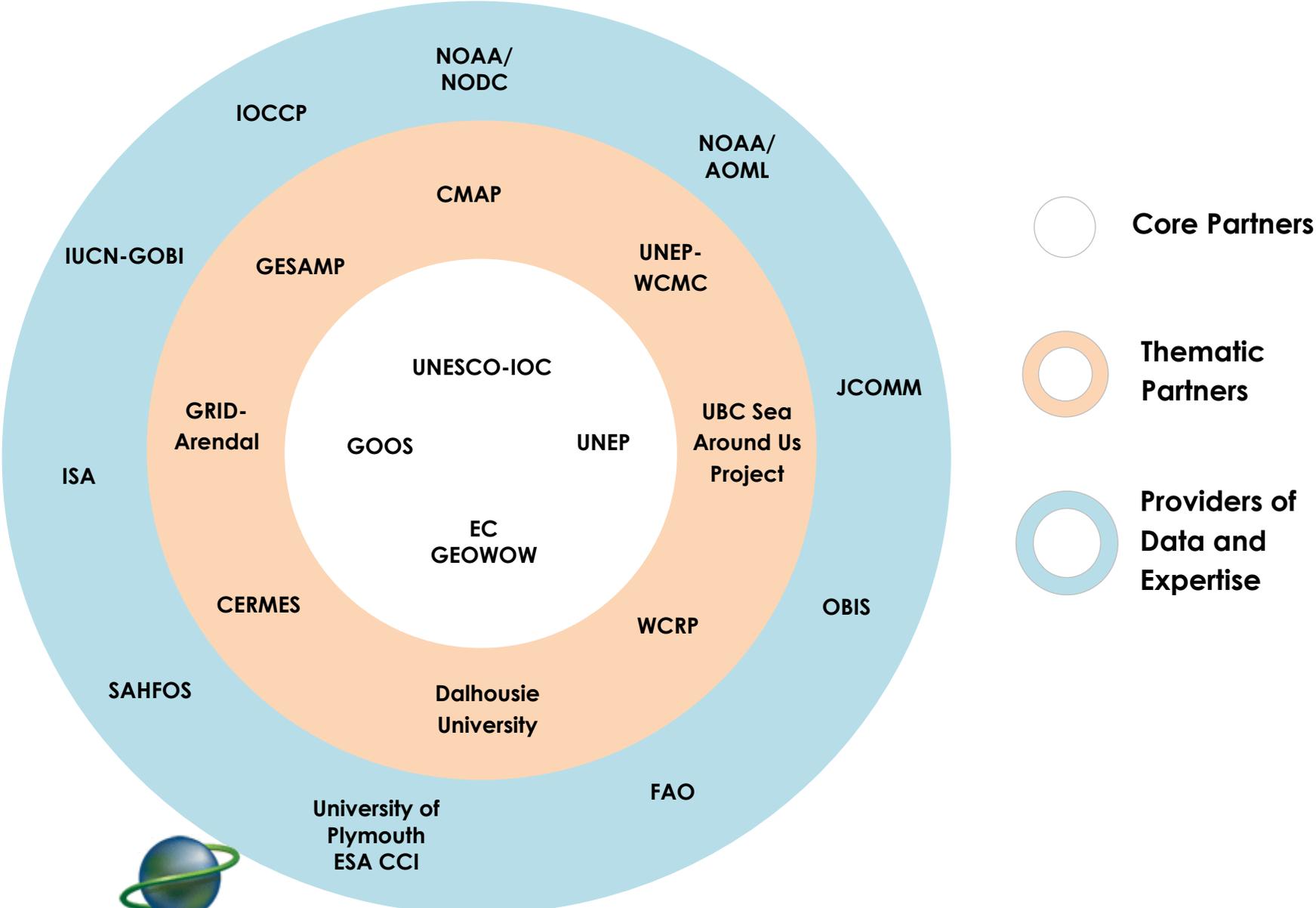


Partnership Arrangement for TWAP Transboundary River Basins



gef GLOBAL ENVIRONMENT FACILITY
INVESTING IN OUR PLANET

Partnership Arrangement for TWAP Transboundary Open Ocean



Annex 4: List of Acronyms

ABNJ- Marine Areas Beyond National Jurisdiction	GMIA- Global Map of Irrigation Areas
AQUASTAT - FAO's Information System on Water and Agriculture	GO- Global Overview
BGR - German Federal Institute for Geosciences and Natural Resources	GLOSS- Global Sea Level Observing System
BMZ - German Federal Ministry of Development and Economic Cooperation	GOOS - Global Oceans Observing System
CBD- Convention on Biological Diversity	GPA - Global Programme of Action for the Protection of the Marine Environment from Land-based Activities
CBO - Community-based Organization	GRID - Global Resource Information Database
CCA - Causal Chain Analysis	GW – Transboundary aquifers
CERMES - Centre for Resource Management and Environmental Studies	HAB- Harmful Algal Bloom
CIESIN - Centre for International Earth Science Information Network	HDI – Human Development Index
CUNY - City University of New York	HDR - Human Development Report
DEM - Digital Elevation Model (DEM)	ICOLD – International Commission on Large Dams
DEWA - Division of Early Warning and Assessment	ICSU - International Council for Science
DPSIR - Driver-Pressure-State-Impact-Response	IGBP – International Geosphere/Biosphere Programme
EC-GEOWOW- European Commission GEOSS interoperability for Weather, Ocean and Water	IGRAC - International Groundwater Resources Assessment Centre
ESA-CCI- European Space Agency- Climate Change Initiative	IHP - International Hydrological Programme
ETH - Swiss Federal Institute of Technology Zurich	IIASA - International Institute for Applied Systems Analysis
EWG - Expert Working Group	ILBM - Integrated Lake Basin Management
FAO - Food and Agriculture Organisation of the UN	ILEC - International Lake Environment Committee Foundation
FSP - Full Size Project (GEF)	IMAIG - Information Management and Interlinkages
GADM - Global Administrative Areas Dataset	INWEB- International Network of Water-Environment Centres for the Balkans
GDP - Gross Domestic Product	IOC - Intergovernmental Oceanographic Commission
GEF - Global Environment Facility	IOCCP- International Ocean Carbon Coordination Project
GEMS - Global Environmental Monitoring System	IODE- International Data and Information Exchange
GEO - Global Environment Outlook	IPPC - Intergovernmental Panel on Climate Change
GEOSS- Global Earth Observation System of Systems	IRWS - International Recommendations for Water Statistics
GESAMP - Joint Group of Experts on the Scientific Aspects of Marine Environmental Protection	ISA- International Seabed Authority
GGIS- Global Groundwater Information System	ISARM - Internationally Shared Aquifer Resources Management
GGMN- Global Groundwater monitoring Network	IUCN - International Union for the Conservation of Nature
GIS - Geographic Information System	IUCN-GOBI- IUCN Global Ocean Biodiversity Initiative
GIWA - Global International Waters Assessment	

IW - International Waters
IW: LEARN- International Waters Learning Exchange and Resource Network
IWMI - International Water Management Institute
JICA- Japan International Cooperation Agency
JCOMM- Joint Technical Commission for Oceanography and Marine Meteorology
LME - Large Marine Ecosystem
LOICZ - Land-Ocean Interaction in the Coastal Zone
MarGov- Marine Resource Governance in the Eastern Caribbean Project
MARPOL- International Convention for the Prevention of Pollution from Ships
MDG - Millennium Development Goals
MSP - Medium Size Project (GEF)
NASA - National Aeronautics and Space Administration
NEWS - Nutrient Export from Watersheds
NGO - Non-governmental Organization
NIOMR - Nigerian Institute for Oceanography and Marine Research
NOAA - US National Oceanic and Atmospheric Administration
NOAA/AOML-NOAA- Atlantic Oceanographic and Meteorological Laboratory
NOAA/NODC- NOAA- National Oceanographic Data Center
OAS - Organisation of American States
ORNL-LANSCAN- Oak Ridge National Laboratory
OSU - Oregon State University
PIC - Prior Informed Consent
PICO- Panel for Integrated Coastal Observations
POP - Persistent Organic Pollutant
PROGOVNET- Principled Ocean Governance Networks
PWCMT - Program in Water Conflict Management and Transformation
Ramsar- Convention on Wetlands of International Importance
RIHN- Research Institute for Humanity and Nature
RSP - Regional Seas Programme
SAHFOS - Sir Alister Hardy Foundation for Ocean Science
SAP - Strategic Action Programme
SIDS - Small Island Developing States

SIWI - Stockholm International Water Institute
SRTM - Shuttle Radar Topography Mission
SWBD - SRTM Water Body Dataset
TB - Transboundary
TBA - Transboundary Aquifers
TDA - Transboundary Diagnostic Analysis
TWAP - Transboundary Waters Assessment Programme
UNCLOS - United Nations Convention of the Law of the Sea
UNFCCC- United Nations Framework Convention on Climate Change
UNDESA - United Nations Department of Economic and Social Affairs
UNDP - United Nations Development Programme
UNECE - United Nations Economic Commission for Europe
UNEP - United Nations Environment Programme
UNEP-DHI Centre – UNEP -Danish Hydrological Institute Centre for Water and Environment
UNEP-WCMC- UNEP World Conservation Monitoring Centre
UNESCO - United Nations Educational, Scientific and Cultural Organization
UNFPA - United Nations Population Fund
UNGA - United Nations General Assembly
UNICEF - United Nations Children’s Fund
USD - United States Dollar
USGS - US Geological Survey
WB - World Bank
WCRP- World Climate Research Programme
WG - Working Group
WHOI - Woods Hole Oceanographic Institution Marine Policy Centre
WHYMAP - World-wide Hydrogeological Mapping and Assessment Programme
WORLDCLIM- Global Climate Data
WMO - World Meteorological Organization
WSSD - World Summit on Sustainable Development
WWAP - World Water Assessment Programme
WWDR - World Water Development Report
WWF - World Wildlife Fund



This workbook contains 10 linked Sheets as follows:

1. **Sheet 1 in white** constitutes a **table of content** for the workbook
2. **Sheet 2 in grey** provides an **aggregated budget** per component for both the GEF and non GEF financing
3. **Sheet 3 in red** provides the **TBA**s budget breakdown per component for both the GEF and non GEF financing
4. **Sheets 4, 5 & 6 in green** provide detailed information for Rivers that is a summary of the budget per indicator, per partners and a detail budget breakdown per component for both the GEF and non GEF financing
5. **Sheet 7 in yellow** provides budget info for the **Lakes** per component for both the GEF and non GEF financing
6. **Sheet 8 in blue** represents the **LME** budget per component for both the GEF and non GEF financing
7. **Sheet 9 in Violet** provides a detail budget for the **Open ocean** per component for both the GEF and non GEF financing
8. **Sheet 10** provides detailed budget per component for both the GEF and non GEF financing for the **UNEP DEWA** contribution and **Finland**

FINANCING BREAKDOWN PER COMPONENT in USD

PIF COMPONENTS	GEF FINANCING	TOTAL CO-FINANCING
Transboundary AQUIFERS	1,500,000	6,000,000
LAKE BASINS	300,000	1,210,000
RIVER BASINS	1,500,000	6,000,000
LMEs	400,000	6,114,500
OPEN OCEAN	600,000	1,940,000
MANAGEMENT, NETWORKING AND MONITORING	250,000	1,044,000
PM	450,000	1,765,500
TOTAL PROJECT COSTS	5,000,000	24,074,000

Aquifers	GEF funding	Partners Co-Financing	Total
1. Project Management	\$80,000	\$300,000	\$380,000
2. Level 1 Assessment	\$1,320,000	\$5,350,000	\$6,670,000
2.1 Reg. Networks for characterization and indicators	\$750,000	\$3,000,000	\$3,750,000
2.2 Compilation of global datasets in database	\$140,000	\$700,000	\$840,000
2.3 Modeling and Remote Sensing	\$150,000	\$850,000	\$1,000,000
2.4 Data and information management	\$200,000	\$700,000	\$900,000
2.5 Reporting and Conclusions	\$80,000	\$100,000	\$180,000
4. Cross cutting issues	\$50,000	\$200,000	\$250,000
5. Development of sustainable process for periodic assessment	\$50,000	\$150,000	\$200,000
TOTAL	\$1,500,000	\$6,000,000	\$7,500,000

RIVERS

			CORE				
Cluster	TWAP Indicator	Existing dataset	Core Additional activities required for TWAP [1]	Total cost	Partner Co-financing: Cash [2a]	Partner Co-financing [2b]: In-kind	Requested GEF [3] contribution
Water Quantity	1. Environmental water stress (TBD)	a. Kassel/Frankfurt, WaterGAP, MAR (1961-1990 or 1971-2000 pub. ??)[4] (WaterGAP3: 5', WaterGAP2: 30')	Improve baseline hydrology & make consistent			150,000	40,000
		b. WaterGAP, total withdrawals [2000, pub. ??], (2005 update exp. 2012)	Expansion of european irrigated areas map to reflect <i>actual</i> irrigation & crop type at global scale			100,000	70,000
		c. WaterGAP, reservoirs [2000, pub. 2009] (TBC)	none				
		d. IWMI, EWR [2000?, pub. ??] (TBC)	None: not essential for indicator processing[5] (Kassel/Frankfurt)				30,000
			Sub-total	390,000	0	250,000	140,000
	2. Human water stress	a. CUNY, WBM, water availability (Lakhankar et al., in preparation; Vörösmarty et al, in preparation), based on Pilot Study on Indicators (PSI) work with WWAP	Improve baseline hydrology & make consistent			200,000	40,000
		b. CIESIN, Gridded Population of the World (also used for indicators 5, 12, 13, 14). [yr, pub.?] update exp. 2012	None: use existing or expected update (2012) Indicator processing (CUNY)			300,000	30,000
			Sub-total	600,000	0	500,000	100,000
	3. Agricultural water stress	a. WaterGAP, MAR [2000?, pub. ?][6] See 1a	See 1a				
		b. WaterGAP, total withdrawals [2000, pub.?] See 1b	See 1b				
c. IWMI, Global Map of Rainfed Cropland Areas [2000?, pub. ??] TBD		None: use existing (Kassel/Frankfurt)				30,000	
		Sub-total	30,000	0	0	30,000	
Quality	4. Nutrient pollution	a. IGBP, Global NEWS, N & P [2000, pub. 2005 & 2010]	2010 update expected in collaboration with LME/GW/Lakes groups			133,000	80,000
			Indicator processing (IGBP)				30,000

Water		Sub-total	243,000	0	133,000	110,000	
	5. Urban water pollution	a. FAO Aquastat, municipal & industrial water withdrawal (periodic updates made with Aquastat budget) (alternatively use WaterGAP)	None (dependent on whether Aquastat or WaterGAP is used)				
		b. CIESIN, Gridded Population of the World, see 2b	See 2b				
		c. WaterGAP or WBM, water availability, see 1a	See 1a				
		d. WHO/UNICEF Joint Monitoring Programme, access to improved sanitation	None (updates made through JMP budget)		150,000		
		e. Stockholm Convention Secretariat	None (updates made through Convention budget)				
		f. Rotterdam Convention Secretariat	None (updates made through Convention budget)				
			Indicator processing (UNEP-DHI)			30,000	
		Sub-total	180,000	0	150,000	30,000	
Ecosystems	6. Biodiversity & habitat loss	a. Kassel/Frankfurt, GLWD[7] [2000?, 2004]	Update by Kassel/Frankfurt Universities required			???	
		b. IUCN, Red List Index [updated yearly with 2 yr lag, pub. yearly]	Re-aggregation required (from individual species' geographic ranges to RLI by basin); + updates for regional (e.g. Pan-African) or tax-specific (e.g. Amphibians) assessments as planned		615,000	75,000	
			Indicator processing (IUCN)			35,000	
			Sub-total	725,000	0	615,000	110,000
	7. Ecosystem degradation	a. CUNY, river fragmentation, flow disruption, dam density [ca. 2000; Vörösmarty et al. 2010]	Derived from 7b, 7c		400,000		
		b. GWSP, global reservoir & dam database [near contemporary, expected pub. 2011]	None: use existing		150,000		
		c. CUNY, small reservoir dataset [near contemporary; Vörösmarty et al., 2010, based on Vörösmarty et al. 2003,]	None: use existing				
		d. CUNY integrated threat maps of ecosystem loss; coupled to ecosystem services decrement	None: use existing				
	e. Core data and indicator toolkit development						
		Indicator processing (CUNY)			35,000		
		Sub-total	585,000	0	550,000	35,000	
	8. Fish threat	a. CUNY, gridded fish catch, potential fish production, proportion of non-native fishes, primary productivity, fish catch [2001?, pub. 2010]	None		45,000		
		b. FAO, FishStat Plus, fish catch					
		Indicator processing (CUNY)				30,000	
		Sub-total	75,000	0	45,000	30,000	
	9. Governance architecture	a. OSU, Country-Basin Unit database [2007?, pub. 2010]					

Governance		b. UNEP-DHI Centre/SIWI, Rio+20 status report on IWRM (in progress) (exp. Pub. 2012), Regional Water Governance Benchmarking Project 2008-2011 (SIWI)	Questionnaires prepared, distributed to basin/regional experts (UNEP-DHI/SIWI)		25,000	600,000	80,000	
			Indicator processing (UNEP-DHI)				25,000	
			Sub-total		730,000	25,000	600,000	105,000
		10. River basin resilience	a. OSU, Transboundary Freshwater Dispute Database [2009, publication under preparation]	None: Use existing				
			b. OSU Mapping the Resilience of International River Basins to Future Climate Change-Induced Water Variability [2009, pub. 2010]					
			c. ISARM worldwide atlas [pub. 2009]					
				Indicator processing (OSU)				30,000
			Sub-total		30,000	0	0	30,000
		11. Water legislation	a. UNEP-DHI Centre, Rio+20 status report on IWRM (in progress) (exp. Pub. 2012), see 9b	See 9b				
				Indicator processing (SIWI/UNEP-DHI)				40,000
		Sub-total		40,000	0	0	40,000	
Socio-economic	12. Economic dependence	a. CIESIN, Gridded Population of the World, see 2b	See 2b					
		b. CIESIN, GDP per unit area [yr?, pub 2005]	None					
		c. World Bank, World Development Indicators, GDP, agricultural GDP, GDP per unit energy use [updated yearly, with a few years lag, depending on the indicator, pub. yearly]	None (updates made through World Bank budget)					
		d. WaterGAP, water withdrawals, see 1b	See 1b					
		e. Kassel/Frankfurt, agricultural area						
		f. FAO, FishStat Plus, total inland fish catch	None (updates made through FAO budget)					
		g. World Bank/FAO/WorldFish Centre, GDP from fish catch				?		
		h. CUNY, gridded fish catch [2001, pub. 2010]	see 8a					
		i. US EIA, energy consumption per capita [updated yearly with 2 yr lag, pub. yearly]	none					
				Indicator processing (UNEP-DHI/SIWI)				60,000
		Sub-total		60,000	0	0	60,000	
	13. Societal wellbeing	a. CIESIN, Gridded Population of the World, see 2b	See 2b					
		b. WHO/UNICEF JMP, access to improved water supply						

	c. WHO/UNICEF JMP, access to improved sanitation, see 5d	See 5d					
	d. UNDP Human Development Report, Adult literacy & life expectancy [updated yearly with 2 yr lag, pub. yearly]						
	e. UNDP, GINI coefficient						
		Indicator processing (UNEP-DHI/SIWI)			50,000	50,000	
		Sub-total	100,000	50,000		50,000	
14. Vulnerability	a. CIESIN, Gridded Population of the World, see 2b	See 2b					
	b. CIESIN, GDP per unit area [yr?, pub 2005], see 12b	See 12b			100,000	10,000	
	c. CIESIN, Drought hazard, flood hazard, mortality and economic-loss related vulnerability coefficients [yr?, pub 2005].				100,000	20,000	
		Indicator processing (CIESIN)				20,000	
		Sub-total	250,000	0	200,000	50,000	
Projected Trans-boundary Stress (2030/2050)	1. Environmental water stress	a. See 1	Make projections (Kassel/Frankfurt)	30,000		30,000	
	2. Human water stress	a. See 2	Make projections (CUNY)	30,000		30,000	
	3. Nutrient pollution	a. See 4	Make projections (IGBP)	20,000		20,000	
	4. Population density	a. CIESIN, Gridded Population of the World, see 2b	Make projections (CIESIN)	20,000		20,000	
	5. River basin resilience	a. OSU, Basin At Risk Database, [2000, Wolf et al, 2003]	Mapping of factors influencing future hydropolitical tensions	287,000		227,000	
		b.OSU, International Water Events Database, period 1948-2008 [updated in 2008, De Stefano et al, 2009]		0			
		c. OSU, Transboundary Freshwater Dispute Database [2009; Giordano et al, under preparation] see 10a		0			
		d.Hydropower & Dams World Atlas [pub 2010].		0			
		Indicator processing (OSU)	10,000			10,000	
		Sub-total	397,000	0	227,000	170,000	
Cross-cutting groups & issues		NA		250,000	75,000	75,000	100,000
Assessment analysis & reporting		NA		250,000	75,000	75,000	100,000
Sustainability & outreach		NA		70,000		35,000	35,000
Project Management	Contract management of consortium partners (contracts, financial reporting, Auditing including dispersal of funds)				60,000		25,000
	Progress/financial reporting to secretariat				60,000		30,000
	Arrangement of meetings/workshops with consortium partners				40,000		10,000
	Internal information flows to/between partners				40,000		10,000
		Sub-total			275,000	200,000	0
Co-financing to be identified				2,020,000		2,020,000	
Contingency	In-kind co-financing, e.g. staff time	NA		200,000	0	100,000	100,000

TOTAL			7,500,000	425,000	5,575,000	1,500,000
				[9]	[10]	

[1] For example if an update is required that is not already budgeted for, or if a different resolution is required, or if data needs re-aggregating, e.g. from national to basin level.

[2a] Can include staff-time that will be directly managed by the project and specifically allocated to the project.

[2b] Mainly includes baseline programmes/datasets

[3] This may also come from other sources if they can be identified

[4] year of most recent baseline or planned baseline which will coincide with the TWAP, with the year of publication of the dataset

[5] This may involve collation of datasets, re-aggregation of data from national or pixel level to basin level, calculation of the indicator, and reporting & mapping

[6] year of most recent update or planned update which will coincide with the TWAP

[7] The 1' global wetlands, lakes and reservoirs map WELAREM1; updating is necessary as wetlands loss as a metric requires a time comparison by definition

[8] This estimate could be based on the total number of suitable freshwater-dependant species that can be used for RLI X average cost of assessing threat status for 1 species in the latest Pan-African Freshwater Biodiversity Assessment of 2010

[9] Total expenditure by partners on datasets directly useable by the TWAP. This can also be considered as co-financing or value that partners are bringing to the TWAP.

[10] Total 'incremental' funding requested of the GEF to add value to existing programmes and make them fully compatible with the TWAP (approx. target \$1.8mill).

NOTES & CHECKS

Average indicator cost	316,786	5,357	233,571	77,857
Average L1 cost per basin	16,426	278	12,111	4,037
Total co-financing minus PM			5,800,000	
Total GEF request minus PM			1,425,000	
Level 1 summary	4,435,000	75,000	3,270,000	1,090,000
			3,345,000	
Cross-cutting issues & groups, analysis of results & reporting, sustainability, contingency	770,000	150,000	285,000 435,000	335,000

RIVERS		CORE			
item	Indicator	Total Cost	Partner Co-financing: Cash	Partner Co-financing: In-kind	Requested GEF [4] contribution
\$1	Env. Water stress	390,000	0	250,000	140,000
\$2	Human water stress	600,000	0	500,000	100,000
\$3	Agricultural water stress	30,000	0	0	30,000
\$4	Nutrient pollution *	243,000	0	133,000	110,000
\$5	Urban water pollution*	180,000	0	150,000	30,000
\$6	Biodiversity & habitat loss*	725,000	0	615,000	110,000
\$7	Ecosystem degradation	585,000	0	550,000	35,000
\$8	Fish threat	75,000	0	45,000	30,000
\$9	Governance architecture	730,000	25,000	600,000	105,000
\$10	River basin resilience	30,000	0	0	30,000
\$11	Water legislation	40,000	0	0	40,000
\$12	Economic dependence	60,000	0	0	60,000
\$13	Societal wellbeing	100,000	50,000	0	50,000
\$14	Vulnerability	250,000	0	200,000	50,000
\$15	Projected Environmental water stress	30,000	0	0	30,000
\$16	Proj. Human water stress	30,000	0	0	30,000
\$17	Proj. Nutrient pollution*	20,000	0	0	20,000
\$18	Proj. Population density*	20,000	0	0	20,000
\$19	Proj. River basin resilience	297,000	0	227,000	70,000
	Subtotal	4,435,000	75,000	3,270,000	1,090,000
\$21	Cross-cutting groups & issues	250,000	75,000	75,000	100,000
\$22	Analysis & reporting	250,000	75,000	75,000	100,000
\$23	Sustainability & Outreach	70,000	0	35,000	35,000
\$24	Project Management	275,000	200,000	0	75,000
\$25	Contingency	200,000	0	100,000	100,000
	TOTAL	7,500,000	425,000	5,575,000	1,500,000

Check	5,480,000	425,000	3,555,000	1,500,000
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	Core			Options for adding value			
	Co-financing		GEF Contribution	Co-financing		GEF Contribution	
	Cash	In-kind		Cash	In-kind		
\$1	Kassel/Frankfurt		250,000	200,000		325,000	305,000
\$2	CUNY		795,000	165,000		950,000	800,000
\$3	IGBP		133,000	130,000		25,000	247,000
\$4	IUCN		615,000	110,000		615,000	140,000
\$5	SIWI	75,000	150,000	115,000		xx	xx
\$6	UNEP-DHI		300,000	170,000		xx	xx
\$7	OSU		227,000	100,000		175,000	70,000
\$8	CIESIN		500,000	100,000		xx	xx
\$9	FAO		xxx	xx	xx	xx	xx
##	IMAGE		xxx	xx	xx	xx	xx
##	IWMI		xxx	xx		100,000	100,000
##	UNEP-GRID						
	Project Management	200,000	0	75,000	x	x	x
	cross-cutting, analysis, contingency, sustainability	150,000	285,000	335,000	x	x	x
	Total	425,000	5,575,000	1,500,000			
	Check	425,000	3,255,000	1,500,000	0	2,190,000	1,662,000

TWAP-FSP, Lake Basin Component

Project Component	Item	Type	YR 1	YR 2	TOTAL	GEF	CO-FINANCING
Component 1: Assessment							
	<i>Personnel</i>						
		Senior Advisor	10,000	10,000	20,000	0	20,000
		ILBM Expert	45,000	45,000	90,000	0	90,000
	<i>Data/Information Acquisition</i>						
		Global Data Sets	2,000	2,000	4,000	2,000	2,000
		Basin-Specific Questionnaires	5,000	5,000	10,000	10,000	
		Input/Validation by Practitioners	75,000	75,000	150,000	20,000	130,000
	<i>Data/Information Processing</i>						
		GIS, Remote Sensing, Modelling Processing	10,000	5,000	15,000	10,000	5,000
	<i>Methodology Development</i>						
		Development/Refinement of ILBM Methodology	200,000	200,000	400,000	100,000	300,000
	<i>Software/Hardware</i>						
		Analysis Software and Hardware	2,000	2,000	4,000	4,000	
	<i>Meetings/Travel</i>						
		Technical Coordination Meetings	5,000	5,000	10,000	10,000	
		Associated Professional Meetings	100,000	50,000	150,000	0	150,000
	<i>Overhead</i>						
		Overhead	50,000	50,000	100,000	0	100,000
					953,000	156,000	797,000
Component 2: Validation							
	<i>Personnel</i>						
		Governance Assistant	25,000	25,000	50,000	0	50,000
	<i>Information Gathering</i>						
		Consultants/Questionnaires	5,000	5,000	10,000	10,000	
		LAKES Knowledge-base	40,000	40,000	80,000	0	80,000
		Network of International Experts	10,000	10,000	20,000		20,000
	<i>Meetings/Travel</i>						
		Pilot Case Review Meetings	10,000	10,000	20,000	20,000	
		Associated Governance Meetings	30,000	30,000	60,000	0	60,000
					240,000	30,000	210,000
Project Management							
	<i>Personnel</i>						
		Project Coordinator	60,000	60,000	120,000	20,000	100,000
		Accountant	29,500	29,500	59,000	5,000	54,000
		Overhead	10,000	10,000	20,000	0	20,000
	<i>Information Dissemination</i>						
		Web and Print Publications	4,000	4,000	8,000	8,000	
		Related ILBM-TWAP Publications	10,000	10,000	20,000	0	20,000
	<i>Meetings/Travel</i>						
		Steering Committee/Inception Meetings	5,000	5,000	10,000	10,000	
	<i>Overhead</i>						
		Overhead	40,000	40,000	80,000	0	80,000
Totals					317,000	43,000	274,000

	1,510,000	300,000	1,210,000
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LME

Indicators	Total cost	In-kind	In cash	Total co-financing	GEF funds	Remarks
	7,409,500	3,639,500	2,345,000	5,984,500	320,000	Multiple partners combined
Subtotal	7,409,500	3,639,500	2,345,000	5,984,500	320,000	
	120,000	50,000	10,000	60,000	60,000	
	90,000	50,000	20,000	70,000	20,000	
Subtotal	210,000	100,000	30,000	130,000	80,000	
Total all tasks	7,619,500	3,739,500	2,375,000	6,114,500	400,000	

TWAP Open Ocean Assessment preliminary budget Scenario 5 - Mapping of human impact and forecasts maintained at a reduced level, mapping of projections of precipitation change for river and aquifer basins maintained, publicly-available dataset indicators maintained. All other metrics with full partner responsibility eliminated (eliminating co-financing as well). Expert assessment reduced to a desk research assessment by individual consultant - much lower impact and credibility than assessment entraining expert groups. High-level reporting restricted to web presence and relies on the rest of TWAP for the rest. Eliminated Level 2.

Assessment task	Responsible partner	Direct cash cofinancing for assessment, dedicated by partner for TWAP, estimated from program budget + staff time			In-kind cofinancing (baseline partner programs that are essential for achieving the GEF objectives) <small>not managed as an integral part of TWAP</small>	GEF incremental cost	Total cost (cofinancing cash-only plus GEF increment)	Notes and "indirect baseline" - the national effort put into observations and assessment of use to TWAP, as indication, not counted as co-financing, for text
		cash	staff time	total				
Mapped and global metrics		\$1,560,000	\$250,000	\$1,810,000	\$1,939,500	\$360,000	\$2,170,000	
preparation of mapping system and outputs, including interoperability with TWAP partners and web presentation	European Commission grant to IOC	\$1,560,000		\$1,560,000	\$150,000	\$0		baseline is IODE budget
openly-available datasets: sea level, heat content+impacts, water scarcity, sea ice, shipping, seabed claims				\$0	\$100,000	\$20,000		baseline includes portion of WCRP
Precipitation projections from CMIP/WCRP: mapped onto transboundary river catchment and aquifer catchment basins				\$0	\$100,000	\$80,000		
metrics relying on proprietary scientific datasets: OMZs, CO2 uptake, ocean acidification, primary production, zooplankton biomass, demersal fishing effort, atmospheric mercury and nitrogen deposition				\$0	\$1,427,000	\$80,000		baseline includes portions of SAHFOS and U. Plymouth / ESA CCI Ocean Colour; incremental cost also borne by the EC grant rather than by GEF
metrics with full partner responsibility: cumulative human impact				\$250,000	\$262,500	\$180,000		
- cumulative human impact and projections	CMAP (Halpern)	\$0	\$250,000	\$250,000	\$262,500	\$180,000		Scenario A/reduced (mail Halpern 16.2.2011): Only important layers updated; Only existing forecast models included - cofinancing estimates from Halpern mail 16.2.2011 using only direct baseline contribution and splitting with LME providing \$70k - this is smaller than Halpern's lowest estimate and so will have to reduce scope even further
Commissioning of individual review articles assessing the five themes: climate change and variability impacts, ecosystems/habitats, fisheries,				\$50,000	\$200,000	\$200,000	\$250,000	baseline includes portions of IOC budgets for GOOS, co-financing includes Cermes/Dalhousie, needs updating with information from GESAMP, UNEP-DEWA
Participation in project high-level reporting		\$20,000	\$30,000	\$50,000	\$100,000	\$20,000	\$70,000	co-financing from outreach activities at IOC, governing body meetings at IOC, baseline is contribution from IOC for Regular process.
Project management				\$30,000		\$20,000	\$50,000	
Staff travel to GEOWOW coordination meetings	IOC	\$0	\$0	\$0	\$0	\$20,000		
professional administrative time	IOC	\$0	\$30,000	\$30,000	\$0	\$0		assumed at 10% of P1 level over 3 years (Xenia)
Total		\$1,580,000	\$280,000	\$1,940,000	\$2,239,500	\$600,000	\$2,540,000	
		Total indicative co-financing			\$4,179,500			

	A	B	C	D	E	F
1	INDICATIVE CO-FINANCING FROM UNEP- DEWA AND FINLAND					
2						
3	Project Management					
4	Day to Day Project Management through PCU					
5	Budget Item	GEF Funding	In -cash Co-financing Finland	In-cash Co-financing DEWA	Total Co-finance	Total
6	Project staff support - DEWA P5 part time 30% @180K/yr	0	0	162,000	162,000	162,000
7	Project Manager - P5 150K/yr	300,000	0	0	0	300,000
8	Project staff - DEWA P2 part time 50%@ 113K/yr	0	0	169,500	169,500	169,500
9	DEWA Staff support for outreach, communication and publication @ 35K/yr	0	0	105,000	105,000	105,000
10	JPO financed by Finland @ 113K/year	0	339,000	0	339,000	339,000
11	Consultancies 20k/y	0	0	60,000	60,000	60,000
12	Technical support to developing countries	0	132,000	0	132,000	132,000
13	DEWA Administrative Assistant - G5@50k/y	0	0	150,000	150,000	150,000
14	PSC meetings @ 25K/mtg + travel and staff time from co-financing	50,000	123,000	0	123,000	173,000
15	Cross cutting Working Groups - 5 at USD20k/Mtg	100,000				
16	Publication - Reporting (Editor = 50k + Peer Review 25k/5 + Publishing 100K)	0	275,000	0	275,000	275,000
17	Outreach and Communication costs @ 50k/y	0	150,000	0	150,000	150,000
18	Total	450,000	1,019,000	646,500	1,665,500	2,015,500
19						
20						
21	Monitoring (Component 6 part 1)					
22						
23	Budget Item	GEF Funding		In-cash Co-financing DEWA		Total
24	UNEP Staff time to support Exit strategy - Sustainability plan	0		50,000		50,000
25	UNEP staff time to support project reporting	0		230,000		230,000
26	Reporting, Experience notes, TT, participation to IW:LEARN and IWCs	50,000		0		50,000
27	Total	50,000		280,000		330,000
28						
29						
30						
31	Data and Information Management and Networking (compt 6 part 2)					
32						
33	Budget Item	GEF Funding		In-cash Co-financing DEWA		Total
34	Project staff - P 4 part time 30% @ 160K/yr			144,000		144,000
35	Staff support to Website	0		100,000		100,000
36	Training of project staff on use of website	0		50,000		50,000
37	TWAP website development and maintenance	20,000		0		20,000
38	Compilation and maintenance of lists of all partners, data sources etc.	20,000		100,000		120,000
39	Identification and provision of acces to common data sets (socio-econ, cross-cutting issues)@ 30K/yr	80,000		170,000		250,000
40	Provide data support to WGs (base maps, data processing, data quality etc)	20,000		50,000		70,000

	A	B	C	D	E	F
41	Identify key indicators for WGs and harmonized on-line visualization	60,000		150,000		210,000
42	Project Total	200,000		764,000		964,000
43						
44						
45	DEWA PPG Contribution					
46	Budget Item	GEF Funding		In-cash Co-financing DEWA		Total
47	PPG funding	0		100,000		100,000
48	Total			100,000		100,000
49						
50	Grand Totals	700,000	1,019,000	1,790,500		3,409,500
51						