

- 2 ▶ Special Topics & Events
- 3 ▶ ICHARM Updates
- 5 ▶ Research
- 7 ▶ Capacity Development
- 8 ▶ Other Topics



United Nations
Educational, Scientific and
Cultural Organization

Message from Director

This year, just within the first few months, the world has experienced a series of major earthquakes and tremendous subsequent damage. On January 12, a M7.0 inland earthquake hit Haiti and claimed an estimated 230,000 deaths. Only about a month later, February 27, an even more powerful temblor measuring M8.8 shook Chile and caused about 800 deaths. The impact of this quake was felt even in Japan as tsunamis as high as 1.45 m reached the Otsuchi fishery port, located on the Pacific side of northern Japan. Still another earthquake reported as M6.9 struck Qinghai Province, China, on April 14. The death toll has exceeded 2,000 and is likely to continue rising.

In the face of these natural events that are extraordinarily powerful, I could not keep myself from thinking: What if earthquakes and tsunamis such as those concurrently occur with major flooding and storm surges? Levees built to protect major cities will probably breach. Areas below sea level will probably be submerged and remain so for a long time. Critical facilities such as underground power and communications lines are likely to be damaged everywhere whether urban or rural, and that will probably bring every aspect of our society to a long halt. It would be even more terrifying if we think about the possibility of terrorism taking advantage of such social chaos.

Not many nations have initiated thorough discussions on risks of mega disasters in urban areas. In this respect, a recently-published report on countermeasures for large-scale floods deserves our attention. It is compiled by a government-led expert committee and brought out by the Central Disaster Management Council under the Cabinet Office of the Japanese government. The report is an excellent product, intensively discussing issues on large-scale urban disasters, along with a report on countermeasures for urban-area inland earthquakes compiled by another group of experts. However, we still need further study to cope with multiple hazards, for example, when an earthquake and flooding occur at the same time.

Internationally, IRDR, a joint initiative among ICSU, ISSC and UNISDR, also shows strong interest in protection of mega cities from large-scale disasters. I believe that this is a great chance, as well as a mission, for Japan and ICHARM to play a leading role in this global effort and make international contribution.

Kuniyoshi Takeuchi
Director of ICHARM



At ICHARM Entrance on 12 April 2010

今年に入り、相次いで大きな地震が起こっています。1月12日ハイチでM7.0の直下型地震が発生し、23万人とも言われる死者を出しました。そのわずか1カ月後の2月27日にはチリ中部沖でM8.8の地震が発生し、約800人が亡くなるとともに、津波は日本にも来襲し、大槌漁港では1.45mが観測されました。さらに、4月14日には中国青海省でM6.9の地震が発生し、死者2,000人を超える惨事となっています。

この地震や津波が、大洪水や高潮と同時発生したらどうなるでしょう。大都市を守る堤防の決壊、海水面以下の地域の長期水没、地下に多い電気通信装置など都市中枢機能の破壊が起こり、都市や地域のみならず、国家機能の長期停止の危機に見舞われかねません。その機に乗じたテロの発生まで考えると、空恐ろしいものがあります。

このような大都市での巨大災害リスクは、各国とも必ずしも十分検討されているとは言えません。この4月2日に内閣府中央防災会議より出された「大規模水害対策に関する専門調査会報告」は、2005年に同じく中央防災会議より出された「首都直下地震対策専門調査会報告」と対をなす、貴重な検討結果であり、巨大都市災害対策の基礎資料です。しかしながら地震・水害の同時発生による複合災害についての検討は、まだ手つかずです。

国際科学会議 (ICSU)・国際社会科学会議 (ISSC)・国連防災戦略事務局 (UNISDR) が共同で取り組む、統合災害リスク研究 (IRDR) も、大都市の巨大災害の軽減に大きな関心を示しています。これは日本が、また ICHARM が、先頭に立って世界に貢献する絶好の機会であり、使命でもあります。

Special Topics & Events

5th International Conference on Flood Management (ICFM5) (Tsukuba, Japan, 27-29 September 2011)

第5回洪水管理に関する国際会議 (ICFM5) が、ICHARM と国土交通省 (MLIT) が主催して、来年2011年9月27～29日につくば市で開催されます。

ICFMは、3年ごとに継続して開催されている大規模な国際会議であり、洪水関係に特化した世界で唯一の会議です。会議には、政策立案者、技術者、学識経験者、現場実務者など、洪水管理に関わる幅広い職種からの参加が期待され、専門家が集い、意見や経験を共有する絶好の機会になります。

ICFM5では、「洪水：リスクからチャンスへの転換」を大きなテーマとしています。洪水という外力に対しての備え、対応、復興について総合的な対処法を考え、洪水対応を通じて社会のよりよい発展につなげようという方向性を反映したテーマ設定としています。

主要テーマ

ICFM5では、さらに「国連事務総長への諮問委員会／ハイレベル専門家会合 (UNSGAB/HELP)」の「水と災害に関する行動計画」をもとに、5つの主要テーマを設定しています。

1. 洪水予測および早期警戒システム
2. 洪水リスクに対する気候変動の影響
3. コミュニティの災害準備意識および洪水に強い社会
4. 大規模デルタ地帯の洪水リスク管理
5. 豪雨、地滑りおよび侵食

広範な課題を網羅

ICFM5では、洪水管理に関連する広範な課題を異なる形式で網羅する予定です。詳細はICFM5のホームページ (<http://www.ifi-home.info/icfm-icharm/icfm5.html>) をご覧ください。

<会議関連期日>

要旨締切：2011年1月

受理通知：2011年3月

会議：2011年9月27～29日

(問い合わせ先／ICFM5事務局：
info@ifi-home.info)

The 5th International Conference on Flood Management (ICFM5) will be held in Tsukuba, Japan, on 27-29 September 2011. The conference will be organised by ICHARM and the Ministry of Land, Infrastructure, Transport and Tourism (MLIT) of Japan.

The International Conference on Flood Management (ICFM) is the only recurring international conference wholly focused on flood related issues. It is designed to bring together practitioners and researchers alike, including engineers, planners, health specialists, disaster managers, decision makers, and policy makers engaged in various aspects of flood management. It provides a unique opportunity for these various specialists to come together and exchange ideas and experiences.

The ICFM5 theme is "Floods: From Risk to Opportunity", reflective of the continued trend towards a broader understanding of how we collectively make use of the opportunities provided by floods and flooding and cope with risks posed by them, and plan for and respond to flood events.

Key Themes

The event will focus on the following five key themes, derived from the UNSGAB/HLEP Action Plan "Water and Disaster":

1. Flood forecasting and early warning systems
2. Impact of climate change on flood risk
3. Flood resilient societies through community preparedness
4. Flood risk management in mega-deltas
5. Torrential downpours, landslides and erosion

Topic Areas

ICFM5 will consist of plenary sessions, parallel sessions for oral presentations, poster sessions, special events and technical and cultural tours. Attendees will have the opportunity to participate in various sessions. For more information, visit at:

<http://www.ifi-home.info/icfm-icharm/icfm5.html>

Floods:
From Risk to Opportunity

- *Integrated Flood Management Approaches*
- *The Impact of Climate Change on Floods*
- *Flood Forecasting and Early Warning*
- *Mega-delta Flood Risk Management*
- *Urban Floods/Flash Floods*
- *Extreme Flood Events*

Important Dates

- Abstracts Due: January 2011
- Acceptance Notification: March 2011
- Conference Date: 27-29 September 2011

Tsukuba City

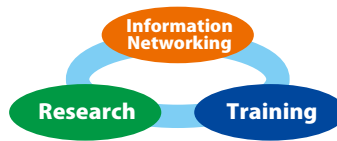
Tsukuba is about 50 km (31 miles) northeast of Tokyo. It covers an area of 28,000 ha (112 square miles) with a population of about 200,000. Tsukuba City is a lovely Japanese city with a rural character.

(For inquiry, contact the ICFM5 secretariat : info@ifi-home.info)

ICHARM Updates

On-going & Prospective Projects

After the official launch, ICHARM has actively involved in Research, Training and Information Networking in an integrated manner. This section updates the readers with on-going and prospective projects for fiscal year 2010.



ICHARM は研究・研修・情報ネットワークを活動領域の 3 本柱としています。ここでは、現在取り組んでいる主な活動を紹介します。

国際普及チーム

国際普及チームは、主に研究及び研修を担当しています。

<水災害リスク評価のための衛星地形データの活用手法の研究>

途上国には水災害リスク評価に必要な精度の高い地形データがない場合が多く、人工衛星による地形データの活用が求められています。本研究においては、NASA の SRTM3 及び JAXA の ALOS データを用いた場合の地形再現の精度検証を行い、それぞれのデータを用いた場合の浸水氾濫計算のための地形データ処理手法を開発するとともに衛星地形データを活用した水災害リスクの評価手法を開発します。

<研修コース>

統合的な河川流域管理の見地から、洪水リスク管理の計画と実行を行うことの出来る実務者を養成するための 1 年間の修士課程を、政策研究大学院大学 (GRIPS) 及び JICA と連携して開設しています。

また、ICHARM 及び GRIPS は共同で、水災害リスクマネジメント分野における国内及び国際的な戦略・政策の企画・実践を指導し、研究者を養成できる人材を養成することを目的として、博士課程防災学プログラムを 2010 年 10 月に創設します。学生の受け入れ人数は毎年度 1～3 名程度を予定しています (2010 年度の学生募集は終了しました)。なお、詳細は下記のホームページをご覧ください。

http://www.grips.ac.jp/pstudents/phd_programs/disaster.html

防災チーム

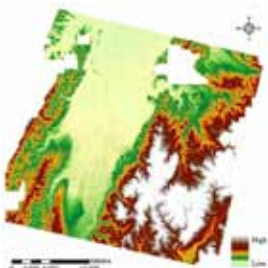
防災チームは、情報ネットワークの構築及び防災システムを中心とした活動を行っています。

<情報ネットワークング>

発足以来事務局を担当している国際洪水イニシアチブ (IFI) の運営をはじめ、世界水アクセスメント計画 (WWAP)、世界水フォーラムやアジア

International Technical Exchange Team

The International Technical Exchange Team is mainly in charge of research and training.



Processed ALOS DEM data

Study on Utilization of Satellite-based Topographical Data for Flood Risk Assessment

Developing countries often lack accurate topographic data necessary for water-related disaster risk assessment, and it is hoped that satellite-based topographic data will help those countries overcome this disadvantage. In this study, the team will first test SRTM3 of NASA and Advanced Land Observing Satellite (ALOS) of JAXA for reproducibility and then develop a topographic data processing method for each type of the data products to be used for inundation simulation. The team will also develop a method for water-related disaster risk assessment which can use satellite topographic data.

Training Courses

Master's Course "Disaster Management Policy Program"

ICHARM, the National Graduate Institute for Policy Studies (GRIPS) and JICA jointly implement this 1-year Master's degree program to promote integrated river basin management at all levels from nations to localities.

Ph.D. Disaster Management Program

ICHARM and GRIPS will jointly start a doctoral program on disaster prevention in October 2010 to develop human resources who can teach and supervise planning and practice of domestic and international strategies and policies in the field of water-related disaster risk management. One to three students are planned to be accepted every year. (The application deadline has already passed this year.) For more detail, visit at: http://www.grips.ac.jp/pstudents/phd_programs/disaster.html

Disaster Prevention Research Team

The Disaster Prevention Team will continue working on various projects with the focus on information networking and development of disaster prevention systems.

Information Networking

The Information Networking include the management of the International Flood Initiative (IFI), for which ICHARM has been serving as secretariat since its inception, and activities related to the World Water Assessment Programme (WWAP), the World Water Forum and the Asia-Pacific Water Forum.

In addition, the team is planning to develop indicators to assess flood disaster preparedness for developing countries based on their conditions and needs. The team is also aiming to analyze and publish lessons and experience in disaster management which are traditionally handed down from generation to generation both in Japan and

ICHARM Updates

ア太平洋水フォーラム関連の活動も含まれます。

また、洪水災害に対する準備体制を評価するための指標開発を発展途上国の現状を考慮して行うとともに、日本や各国で伝わる水災害に関する防災経験の分析結果を行い、公開を目指します。これら一連の成果を、情報ネットワークを通じて国境を越えた知見の共有を行います。

< ADB プロジェクト >

昨年開始したアジア開発銀行 (ADB) との連携協定に基づく「地域技術支援 7276: 水災害管理における投資の支援」プロジェクト (RETA7276) では、水災害に苦しむアジアの中で特にインド・バングラデシュ・インドネシア・メコン河下流域 (ベトナム・カンボジア・ラオス) を対象として、各国が将来行う水関連災害対策の投資が円滑に進むような技術協力を現地機関と共同で実施します。

水文チーム

水文チームは、国内はもとより海外、とりわけ発展途上国のニーズに応えるための水文観測・解析・予測研究を実施しています。

< IFAS >

特に重点を置く研究として、洪水予警報・リスク解析を支援するための地球観測衛星からの降雨観測や総合洪水解析システム (IFAS) の開発・改良、及び、気候変動気候変化の影響評価とそれへの適応策に関する研究に取り組んでいます。詳しくは次ページ以降の特集記事もご覧ください。

< 流量・流砂量観測の高度化 >

国内やアジアモンスーン地域でも適用可能な、非接触型流速計や ADCP 等を用いた河川流量・流砂量観測の高度化技術の研究開発を進めています。

< 降雨観測・予測の精度向上 >

国内向けに次世代の X バンドコヒーレントレーダを活用した高精度の降雨観測や予測の実現を目指すとともに、その成果を発展途上国に有効に活用するための研究開発を開始しました。

< 統合水資源管理に向けた基盤技術の充実 >

将来の統合水資源管理への貢献のための基盤技術として、流域規模の水・物質循環モデルの開発研究にも着手しています。

other countries. The series of these project results will be made available and shared internationally through information networks.

ADB Project



ICHARM also launched a joint project last year based on an agreement with ADB and will continue playing an active role in it. The project is a region-specific program called "Regional Technical Assistance (RETA) 7276: Supporting Investment in Water-Related Disaster Management". The project provides different types of activities targeted to countries suffering from water-related disasters, including India, Bangladesh, Indonesia and the Lower Mekong countries (Vietnam, Cambodia, Lao PDR). The team conducts activities in close cooperation with local organizations and groups and provide technical assistance to facilitate the progress of future investment in water-related disaster management.

Hydrologic Engineering Research Team

The Hydrologic Engineering Research Team is mainly in charge of research on hydrologic observation, analysis and prediction to meet both domestic and international demands, especially in developing countries.

Enhancement of Flood Forecasting and Flood Risk Analysis through Integrated Flood Analysis System (IFAS)

The system has been introduced in detail in a series of articles in this newsletter since issue No.13. (For the forth installation of the series, see pages 4-5).

Worldwide Climate-change Impact Analysis on Hydrology and Flood Risk

The team has been conducting climate-change impact analyses on precipitation, river discharge, water-related hazards (i.e., extreme events) and risks on both global and local scales, using high technologies such as GCM downscaling, bias correction, river hydrology and inundation modeling, multi-model ensemble, and risk analysis.

River Discharge and Sediment Measurement Technology

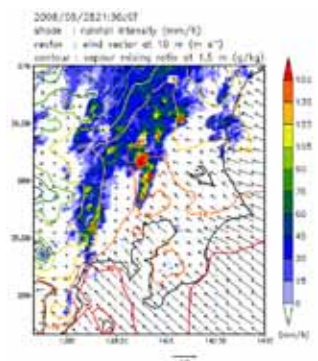
The team is also working on flood flow and sediment measurements with the combination of non-contact current meter system, Acoustic Doppler Current Profilers (ADCP) and acoustic sounders for river-bed measurement, all of which are expected to be applicable eventually under severe hydraulic conditions in monsoon and tectonic zones around the world.

Rainfall Measurement from Satellites, Radars and its Forecasting

Precipitation measurement and short-term forecasting with next-generation multi-parametric radars and the improvement of flood forecasting in both time and space with distributed-parameter hydrologic models have started to cope with recent frequent flood disasters in small-scale rivers in Japan. Study on satellite-based rainfall observation and prediction with global weather prediction data has also started.

Tool for integrated water resources management (IWRM)

The team is also engaged in basin-wide hydrologic- and material-cycle modeling as a basic tool to enhance integrated water resources management (IWRM).



Radar-based rainfall distribution with numerical weather analytical data (Kanto Plain, Japan)

Research

Introduction of "IFAS" (No.4) Model Building Procedure

ICHARM has been developing the Integrated Flood Analysis System (IFAS), a flood analysis and forecasting system designed to use satellite-based rainfall data. In the previous newsletter, we introduced the two runoff analysis engines installed in the system: the PWRI-Distributed Hydrological Model and the BTOP model. In this issue, we will focus on its two unique functions: parameter estimation and model creation based on GIS data.

IFAS has the advantage of carrying a GIS analysis module inside. This module uses global GIS data (Table 1) freely downloadable from the Internet. Therefore, IFAS requires no other software to create models and set parameters.

1) Model creation

IFAS enables the users to automatically create basin boundaries and river channel networks by using digital elevation data, such as GTOPO30 and Global Map. First, the user inputs the latitude and longitude of the target area, and IFAS will divide its elevation into meshes of any size depending on purposes. Next, the user designates the outlet of the basin, and IFAS will create a basin boundary and a river channel network on the basis of elevation differences (Figure 1). If there is a cell whose elevation is lower than the surrounding elevation, a depression may appear from which a flow can find no way out. In such a case, the system performs automatic modification on the altitude data of the cell so that the flow direction of all the cells can be set toward the outlet. The users can change basin boundaries and altitudes manually when boundaries or river channel networks are not set as they should be, for example, as in plane areas, where elevation differences are sometimes too small. The system is also capable of importing shape files of river basins (ESRI formatted files) created beforehand.

Type	Product	Provider
Elevation	Global Map(Elevation data)	ISCGM
	GTOPO30	USGS
	Hydro1k	USGS
Land use	GLCC	USGS
	Global Map(Land cover)	ISCGM
	Global Map(Land use)	ISCGM
Geology	Geology	CGWM
Soil type	Soil Texture	UNEP
	Soil Water Holding Capacity	UNEP
	Soil Depth	GES

Table 1 List of data products importable into IFAS



Figure 1 Creation of basin boundary and river channel network on the basis of elevation (The red-framed cells indicate elevation modification.)

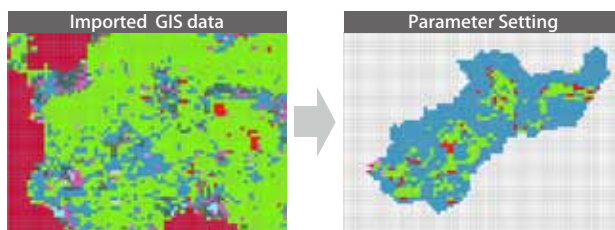


Figure 2 Parameter setting based on GIS data

2) Parameter estimation based on GIS data

IFAS also has a function for the primary estimation of parameters necessary for runoff analysis by using data, such as land use, land cover, geology and soil type (Figure 2). The classification (Table 2) and the standard guideline values for parameters are determined beforehand and implemented in IFAS to set up parameters without past hydrological information. Setting parameters is extremely demanding work for the users, but the pre-determined values can save them a lot of trouble. However, they are just standard values estimated from calculation results of other basins, and they should be calibrated to better suit the conditions of actual observation sites.

ICHARM で公開している総合洪水解析システム (IFAS) は前号までで紹介したように、入力データとして人工衛星によって観測された雨量情報を用い、土研分布型モデルと BTOP モデルの 2 種類の流出解析エンジンを備えています。今号では、GIS データを用いたモデル作成機能とパラメータ設定機能をご紹介します。

IFAS の大きな特長として、GIS 解析モジュールをシステム内部に実装している点が挙げられます。それにより、一般に無償で公開されインターネット等を通じて利用可能なグローバル GIS データ (表 1) に基づきモデルを作成しパラメータを設定する作業を IFAS システム単体のみで可能としています。

1) 河道網作成機能

IFAS では、GTOPO30 や地球地図といった全世界の数値標高データを用いて、対象となるエリアの緯度・経度および流末をユーザーが入力することにより、対象地域の標高データを任意のサイズのメッシュに分割し、図 1 のように各メッシュの標高に応じて自動的に流域界および河道網の作成を行うことが可能です。この過程において、周囲よりも標高が低く流下先のないメッシュ (窪地) が発生した場合には、自動的に高度修正を行い、全てのメッシュについて流下方向を決定し、河道網を作成します。平地など標高差が小さく思い通りに流域界や河道網が定まらない場合は、手動で各メッシュ単位に流域内外の修正や高度の修正を行うことができるほか、作成した流域界シェープファイル (ESRI フォーマット形式) を取り込むことも可能となっています。

2) パラメータ推定機能

IFAS では、土地利用や地質、土壌区分といった GIS データをインターネットからダウンロードし、流出解析に必要なパラメータの一次推定を行う機能を有しています (図 2)。これは、取り込んだ地球地図等の土地利用・土地被覆の凡例区分に応じて表 2 のように自動的に各メッシュを区分し、あらかじめそれぞれの区分に対して事前に試算した結果に基づき設定した目安となるパラメータの値を用いて流出計算を行うものです。

ユーザーはこの値を利用することにより、複雑なパラメータ設定の手間が省

Research

け簡単に流出計算を行うことが可能ですが、正確な計算結果を得るためには、実際に観測流量が得られる地点においてパラメータのキャリブレーションを行うことが望ましいです。

このような機能を利用し、IFAS では、高価な GIS 解析ソフトを別途準備する必要がなく、簡便に流出解析モデルを作成することが可能となっています。今後は、より多くの流域において計算結果の精度の確認を行うとともに、地質や気候などの自然条件に応じた目安のパラメータ値の設定などより精度の高い予測が可能となるよう引き続き検討を進めていきます。

IFAS のダウンロード：
<http://www.icharm.pwri.go.jp/research/ifas/index.html>

(問い合わせ先 / ICHARM 水文チーム : suimon@pwri.go.jp)

With these functions, IFAS enables the users to easily create runoff analysis models without preparing special and expensive GIS analysis software. It also makes it possible to conduct flood analysis and forecasting in areas where hydrologic information is insufficient. To further improve this system, we are planning to apply it to more river basins to test the accuracy of calculation results. In addition, we will continue working for more accurate forecasting by improving the parameter setting function to cope with more complicated natural conditions related to, for example, geology and meteorology.

You can download IFAS at: <http://www.icharm.pwri.go.jp/research/ifas/index.html>

(For inquiry, contact the ICHARM Hydrologic Engineering Research Team : suimon@pwri.go.jp)

Land use classification (Global Map – Land Cover)	Parameter classification
Broadleaf Evergreen Forest	1 Forest
Broadleaf Deciduous Forest	
Needleleaf Evergreen Forest	
Needleleaf Deciduous Forest	
Mixed Forest	
Tree Open	2 Grassland
Shrub	
Herbaceous	
Herbaceous with Sparse Tree/Shrub	
Sparse vegetation	3 Wetland
Cropland	
Paddy field	
Cropland / Other Vegetation Mosaic	
Mangrove	
Wetland	2 Grassland
Bare area, consolidated (gravel, rock)	
Bare area, unconsolidated (sand)	4 Urban
Urban	
Snow / Ice	
Water Bodies	5 Water bodies

Table 2 Relation between land-use classification and parameters

IFAS Training Workshop (Solo, Indonesia, 2-4 March 2010)

ICHARM では、アジア開発銀行 (ADB) と共同でアジアの水災害軽減に関する地域技術協力連携プロジェクト、RETA7276 を実施しています。この中で水文チームでは、IFAS をインドネシア国ソロ川流域に導入するための技術支援を実施しています。この支援の具体的な内容としては、雨量データ等の収集と人工衛星観測雨量の精度検証、IFAS を使ったソロ川流域における洪水予測システムの作成と現地への配備、現地技術者の研修等を予定しています。

この活動の一環として 3 月 2 日から 4 日にかけて、現地においてトレーニングワークショップを開催しました。プロジェクト期間中に数回のワークショップを予定しており、今回は 1 回目ということで、インドネシアの参加者からソロ川の災害発生状況や河川管理・水文観測状況に関する発表や、ICHARM からは人工衛星観測雨量について観測方法やその特徴・精度に関する講義が行われました。また、人工衛星観測雨量の精度について理解するため、参加者は実際に現地で観測された地上観測雨量と人工衛星観測雨量の比較を行う演習等も実施しました。

今後は、IFAS の導入とあわせて、現地技術者が IFAS を使って洪水予測を自ら実施できるように、実際に IFAS の操作方法に関するワークショップを開催する予定です。

(問い合わせ先 / ICHARM 水文チーム : suimon@pwri.go.jp)



Flooded area in Solo (2007 flood, taken by BBWS Solo.)

ICHARM is carrying out the RETA7276 in collaboration with the ADB. In this project, the ICHARM Hydrologic Engineering Research Team is providing technical assistance in which the IFAS using satellite-based rainfall is applied to the Bengawan Solo River basin, Indonesia. The project is planned to cover validation of satellite-based rainfall and collection of ground-based rainfall data, localization of IFAS, installation of localized IFAS, and training of local engineers.

As part of this project, an IFAS training workshop was held from 2-4 March in Solo, Indonesia, and attended by about 30 local engineers. It was the first of the workshop series planned during the project period. Local participants made presentations about hydrological observation and the disaster situation of the Bengawan Solo River basin, and ICHARM researchers lectured about rainfall observation for flood forecasting, the main features of satellite-based rainfall, accuracy and a correction method of satellite-based rainfall. Moreover, participants were given exercises in which they had to compare observed ground-based rainfall and satellite-based rainfall to understand accuracy of satellite-based rainfall.

The second workshop will be about the installation and operation of IFAS so that local engineers can independently conduct flood forecasting by using IFAS.

(For inquiry, contact the ICHARM Hydrologic Engineering Research Team : suimon@pwri.go.jp)



Participants of IFAS training workshop

Capacity Development

Comments from Master's Course Students

About half a year has been past since the master course started. These are comments from the master course students.

Partha Pratim Saha (Bangladesh)



This course is a combination of basic theories and its applications. ICHARM has accumulated the most renowned professionals in each field from the whole Japan as lecturers from various universities and institutions to create the best teaching staff. This chance of learning from the best is the most attractive part for me. This is impossible as a master student of any single university. During this course ICHARM always keep us up to date with the latest development of technologies. The overall research facility is also very good here. I feel myself very fortunate to get a chance to study here.

Zinash Mekonnen (Ethiopia)



The professors who gave us lectures are very interested to teach us what they know I also appreciate this. The lectures during those 6 months are problem oriented and more of practical this also the special part of this course. The lecturers gave us lectures based on our country flood, landslide...etc. problems and they try to mention some solution for our problems they need some feedback from us about the problem to discuss about it. Another important remark is the field trip for visiting different structural countermeasures implemented in Japan and also the town watching exercises. In addition to all these ICHARM try to share the Japanese culture, life style to us in some special occasion we did not only got academic knowledge but also Japanese cultural ceremonies make our stay in Japan more memorable and unforgettable.

S.C. Sugeeswara (Sri Lanka)



ICHARM has arranged us to hear well experienced senior personalities in academic and practicing areas of Disaster Management. I think this is very important and valuable opportunity for me to gather necessary knowledge in order to give a better service to my organization in my beloved country.

Above all the most important thing I see in ICHARM is the great kind attention paid towards students in order to fulfill their needs. The staff led by the Director ICHARM, always kind to hear student's feed back in order to develop the course.

I wish we all will success in our individual studies also, so that we could fulfill the ICHARM's vision.

Somchit Amnatsan (Thailand)



During the study, I have found that ICHARM tries to provide us the most valuable knowledge that may be applicable for our flood-related mitigation work in our countries. ICHARM has invited many professors and experts in different fields to give us the knowledge from their experience on disaster mitigation. The knowledge I gained is not only in a technical aspect but also the social aspect. Learning from this course makes me realize that the effective disaster mitigation must be based on the multi-discipline consideration. For example, the early warning alone is not enough for timely and safe evacuation. The awareness of people must be raised so that they can evacuate on time.

Tea Ceremony

PWRI Chief Executive Tadahiko Sakamoto and ICHARM Director Kuniyoshi Takeuchi invited the Master's course students and foreign researchers at PWRI to a tea ceremony and cherry blossom viewing on 2 April.



(For inquiry, contact the ICHARM International Technical Exchange Team : icharm@pwri.go.jp)

Other Topics

ICHARM Signed the MOU with DPRI (25 January 2010)

2010年1月25日、京都大学防災研究所内にて、防災研究所 岡田憲夫所長と ICHARM 竹内センター長が、両機関の学術交流協定に署名を行いました。

これにより、水災害や水資源、および災害リスクマネジメント分野における両機関の協力関係が今後一層促進され、両機関による共同研究や、双方の研究者や学生の相互交換が図られることなどが期待されます。

(問い合わせ先 / ICHARM 国際普及チーム : icharm@pwri.go.jp)

The "General Memorandum for Academic Cooperation and Exchange" between the Disaster Prevention Research Institute (DPRI) of Kyoto University and ICHARM was signed by Prof. Norio Okada, director of DPRI, and Prof. Kuniyoshi Takeuchi, director of ICHARM at DPRI on 25 January 2010. The MOU is expected to enhance cooperation between the institutes, such as joint research and exchange of scientists and students, in the field of water hazard, water resources and disaster risk management.

(For inquiry, contact the ICHARM International Technical Exchange Team : icharm@pwri.go.jp)



Prof. Okada (right) and Prof. Takeuchi (left) shake hands at the signing ceremony.

New ICHARM Members

清水孝一 (総括主任研究員)

2010年4月1日から、清水孝一総括主任研究員が防災チームの総括研究員として ICHARM に加わりました。これまで、国土技術政策総合研究所砂防研究室主任研究員として、土砂災害の警戒避難、衛星リモートセンシングによる土砂災害監視などの研究を行ってきました。今後は、発展途上国における総合的な洪水リスクマネジメント方策、衛星リモートセンシングによる水災害監視手法に関する研究などを担当します。

鍋坂誠志 (研究員)

2010年4月1日から、鍋坂誠志研究員が水文チームの研究員として ICHARM に加わりました。これまで、ダム の管理事務所において、洪水発生時の流出解析やダム の操作の業務に従事し、洪水発生時以外では、ダム の操作方法の検討、水質管理、施設管理の業務に従事しました。今後は、ダムでの勤務経験を活かして、流出解析手法の開発と改良、IFAS のアジアの国への導入などの業務を行います。

Yoshikazu Shimizu (Senior Researcher)



Mr. Yoshikazu Shimizu joined ICHARM as a senior researcher of the Disaster Prevention Research Team on 1 April 2010. His main responsibilities are research on sustainable tsunami countermeasures, case study of flood risk management, development of indices for flood disaster preparedness and research on satellite remote sensing for water-related disaster monitoring systems.

Before coming to ICHARM, he was a senior researcher at the Erosion and Sediment Control Division of the National Institute for Land and Infrastructure Management (NILIM) and mainly involved in research on early warning systems for sediment-related disasters, countermeasures for large-scale sediment-related disasters, and monitoring systems for sediment-related disasters by satellite remote sensing.

Seishi Nabesaka (Researcher)

Mr. Seishi Nabesaka joined ICHARM as a researcher of the Hydrologic Engineering Research Team on 1 April 2010. He will be working on the development and improvement of run-off analysis methods and the introduction of IFAS to Asian countries by taking advantage of his expertise and previous work experience in dam operation and management.



At his previous workplace, Japan Water Agency, he worked in dam operation and management offices around Japan. His main responsibilities were flood analysis and flood regulation at the time of flooding and study of dam operation methods, as well as water quality management and facility management, in normal times.

- ICHARM 国際シンポジウム : 2010年9月28日 (東京)
- 第3回 ICHARM 諮問委員会 : 2010年9月29日 (つくば市)

Coming Events

- ICHARM International Symposium: 28 September 2010, Tokyo, Japan
- ICHARM 3rd Advisory Board Meeting: 29 September 2010, Tsukuba, Japan

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