



DR. ANDY DEAN
Vice-President, PT Hatfield Indonesia
Remote Sensing and GIS Scientist

SUMMARY OF EXPERIENCE

Dr. Andy Dean is a remote sensing, geographic information systems (GIS), and data and information management specialist with 12 years consulting and international research project experience, completing projects for clients North America, Southeast Asia, Africa and Europe.

Dr. Dean has demonstrated his ability to work closely with end-user organisations, and to deliver remote sensing and GIS products and services that meet user requirements. Dr. Dean has considerable project management expertise, including budgeting, scheduling, sub-contract management, and results based management (RBM) reporting. Dr. Dean also enjoys the capacity building and training aspects of projects, and has experience designing and delivering training programmes and workshops in several countries.

Data and information management is of particular interest to Dr. Dean, and he has conducted projects in several sectors to support the private companies and non-government organizations to improve data management and enhance business processes. Dr. Dean has conducted data and information management, GIS and remote sensing reviews for the Mekong River Commission for Sustainable Development (MRC, Lao PDR) and Food and Agriculture Organisation of the United Nations (FAO, Rome) in the water resources management and fisheries sectors, respectively. Dr. Dean has also completed data and information management assessments for the private sector, especially in the mining sector.

Dr. Dean is currently project manager for the development of a set of four web services for the MRC, comprising the Main Website, Data and Information Services Portal, Intranet, and MekongInfo, a regional document sharing portal. Dr. Dean has also managed and made contributions to other water resources management projects, including flood mapping in the Mekong River basin and Caprivi area of Namibia, and Hatfield's Nile River Awareness Kit. A key strength of Dr. Dean is being able to deliver complex ideas in an accessible and easily understandable form, in workshops, reports, and multi-media formats.

EDUCATION

- 2003 Ph.D. (Remote Sensing, GIS, Ecology), University of Durham, UK
- 1998 M.Sc. (Geographical Information Systems), University of Edinburgh, UK
- 1996 B.Sc. (Geography: 1st Class Honours), University of Lancaster, UK

PROFESSIONAL TRAINING

- 2004 Radar Polarimetry Workshop, Participant, Presented by the Canadian Space Agency, Canada, Centre for Remote Sensing, NRCan, and RADARSAT International

LANGUAGES

English (native speaker) and Indonesian (basic)



COUNTRY EXPERIENCE

Indonesia, Lao PDR, Cambodia, Vietnam, Thailand, Vanuatu, Canada, United Kingdom, Sweden, and Norway.

CAREER SUMMARY

2008 to present	Vice-President & Remote Sensing and GIS Scientist, PT. Hatfield Indonesia, Bogor, Indonesia
2004 to 2008	Geomatics Manager, Remote Sensing and GIS Scientist, Hatfield Consultants, West Vancouver, British Columbia, Canada
1998 to 2003	GIS and Remote Sensing Analyst, Ph.D. candidate, University of Durham, UK
1997 to 1998	Masters Co-op position as GIS Analyst, Centre for Ecology and Hydrology, UK

PROFESSIONAL AFFILIATIONS

2004 to Present Member of the Canadian Remote Sensing Society

KEY PROJECT EXPERIENCE

Remote Sensing

- **Birdlife Indonesia (Burung Indonesia)** – Project Director and Remote Sensing Specialist for a feasibility assessment for a Reduced Emissions from Deforestation and Forest Degradation (REDD) Project in North Sulawesi, Indonesia. Coordinate forest and land cover mapping, carbon stock assessment, and other aspects to report on project feasibility under the Voluntary Carbon Standard (VCS). **July 2010, Ongoing** (<1 person month)
- **EDC Vanuatu Ventures Ltd.** – Project Director and Remote Sensing Specialist. Developing a Reduced Emissions from Deforestation and Forest Degradation (REDD) Project for validation under the Voluntary Carbon Standard (VCS). Activities include: historical and current land cover mapping; forest carbon stock assessment; baseline establishment; landscape modeling; risk analysis; estimation of GHG emissions reductions; development of monitoring protocol; project document development, and capacity building. **Jan 2010, Ongoing** (4 person months)
- **European Space Agency** – Project Manager for the development of remote sensing services to support reduced emissions from deforestation and forest degradation (REDD) project in Indonesia. Working with conservation organisations and forestry companies in to demonstrate remote sensing products to support carbon project development. **2009, Ongoing** (4 person months)
- **PT Finantara (Sinarmas Pulp and Paper Group)** – Project Director for a Forest Concession Mapping and Database project in West Kalimantan, Indonesia. The plantation area is mapped using high resolution satellite imagery and airborne radar imagery to develop an accurate GIS database that can be integrated with other forestry information management systems. **2008 to 2009** (2 person months)
- **Kondur Petroleum S.A.** Project Director for a project to provide high resolution satellite imagery, conduct land cover mapping and land use change analysis in Padang and Tebing Tinggi Island, Riau. **2008 to 2009** (<1 person months)
- **PT. Freeport Indonesia** – Project Director for operational mine monitoring using advanced radar remote sensing tools: TerraSAR-X and RADARSAT-1. **2008, Ongoing** (<1 person months)
- **Food and Agriculture Organisation of the United Nations** – Feasibility study for the mapping of irrigated rice crop growth stages using RADARSAT-1 Fine Mode imagery. Senegal. **2008** (<1 person months)

- **Mekong River Commission** – Project manager for the implementation of a flood mapping service for the Lower Mekong Basin floodplain in Cambodia. Delivery of weekly flood maps in near-real-time. **2007 to 2008** (1 person months)
- **Canadian Space Agency** – Development of an improved radar image processing methodology to deliver flood mapping products to the Regional Flood Management and Mitigation Centre, Phnom Penh, Cambodia. Provide remote sensing content for the Mekong River Commission Annual Flood Report. **2007** (1 person months)
- **Canadian Space Agency** – Project Manager and technical support provider in the application of remote sensing and GIS to biodiversity conservation planning and management in central Viet Nam to support WWF and the Government of Viet Nam. Integration and analysis of data collected through Earth Observation, biodiversity surveys, and knowledge gathered through community mapping exercises. Mapping of high conservation values. **2005 to 2007** (7 person months)
- **Canadian Space Agency** – Project Manager for development and assessment of products derived from RADARSAT-1, Landsat ETM+, and Ikonos imagery for monitoring the Environmental Impacts of Human Activities within Kahuzi-Biega and Virunga National Parks, Democratic Republic of the Congo. GIS modeling of parks boundaries for selected areas. **2005** (2 person months)
- **European Space Agency** – Integration of Earth Observation-derived water resources products into malaria control initiatives as part of the TIGER initiative in Tanzania. Mapping the evolution of seasonal wetlands based on multi-temporal Envisat ASAR imagery. **2005 to 2006** (1 person months)
- **Canadian Space Agency** – In collaboration with the Mekong River Commission and The World Conservation Union (IUCN), mapping wetland vegetation for five key wetland sites in the Lower Mekong Basin of Cambodia, Viet Nam, Lao PDR, and Thailand using radar and optical remote sensing. **2004 to 2006** (2 person months)
- **Canadian Space Agency** – Coordinated the supply of relevant products derived from RADARSAT-1, Landsat ETM+, and Ikonos imagery for organizations responsible for tsunami disaster relief efforts in Indonesia’s Aceh Province. **2005** (1 person months)
- **Mekong River Commission** – Evaluation of Landsat TM and ASTER imagery for mapping irrigated rice paddies in order to estimate water utilisation for the Lower Mekong Basin, Cambodia. **2004** (2 person months)
- **European Commission/University of Durham** – Modeled environmental change at the tree line in Arctic Europe. Radar and optical remotely sensed data and GIS were used to model Arctic vegetation communities in relation to patterns of snowmelt and topography. **1998 to 2003**
- **University of Durham** – Mapped mosquito breeding habitat in The Gambia; used remote sensing classification to determine spatial variation in malaria vectors. **2002**
- **Centre for Ecology and Hydrology, University of Edinburgh** – developed a methodology and assessed advanced techniques related to classification of land cover using remote sensing and GIS. **1997 to 1998**

Environmental Assessment and Monitoring

- **TOTAL E&P Indonesia** – Project Manager for an environmental monitoring and ecotoxicology study in the Mahakam Delta, East Kalimantan, Indonesia. Coordination of technical teams to conduct benthic, sediment and water quality assessments at locations across the Delta. **2009, Ongoing** (2 person months)
- **Flora Fauna International Indonesia** – GIS Specialist for a mining industry threat assessment in Murung Raya District, Central Kalimantan. Development of a report based on GIS analysis of the most important mining concessions from an environmental management perspective, including information on future development in the region. **2009** (< 1 person month)

- **PT International Nickel Indonesia** – Project manager for an Environmental Baseline Study for the development of a new mining area, South and South East Sulawesi, Indonesia. **2008 to 2009** (< 1 person month)
- **World Bank Group** – Senior GIS Analyst for the Regional Capacity Building Program for Health Risk Management of Persistent Organic Pollutants (POPs) in South East Asia. Mapping of contaminated sites. **2008 to 2009** (2 person months)
- **PT International Nickel Indonesia** – Project member for an Environmental Baseline Study for the development of a new mining area, South and South East Sulawesi, Indonesia. **2008** (< 1 person month)
- **PT International Nickel Indonesia** – Project member for an Environmental Baseline Study for the development of a High Pressure Acid Leaching Facility, South and South East Sulawesi, Indonesia. **2008** (< 1 person month)

GIS and Web Development

- **Mekong River Commission** – GIS Specialist for the evaluation of river network and catchment GIS data, and improvement to ensure Strahler stream ordering and hydrologically-correct catchment boundaries. Assessment of river cross sections and monitoring station data to determine and resolve problems with datums. **2010, Ongoing** (1 person month)
- **Mekong River Commission** – Project Director and content developer for the needs assessment and implementation of a new website, data portal, intranet, and information exchange service for the Mekong River Commission. Coordination of designer, programming, and writing professional, along with content development. **2009, Ongoing** (3 person months)
- **PT. Indo Tambangraya Megah Tbk** – Project Director for the Needs Assessment and System Design for an enterprise GIS for a coal mine in Kalimantan, Indonesia. Included the development of standard operation procedures for system management and metadata. **2008** (< 1 person month)
- **Banpu Public Company Ltd.** – Project Director for the Needs Assessment, System Design, and Implementation of an enterprise GIS for a coal mine in Kalimantan, Indonesia. **2007 to 2008** (< 1 person month)
- **Asian Development Bank** – Development of a *Flood Vulnerability GIS* for four provinces of Cambodia. Integration and analysis of environmental, social and other data to develop a standard set of flood vulnerability indicators and final development of a flood vulnerability index. Report and GIS CD-ROM provided for TA 4574: Community Self-Reliance and Flood Risk Reduction. **2005** (1 person month)
- **Canadian Space Agency** – Project Manager for the development of a web GIS web to improve management and communication within the Mekong River Commission and between regional stakeholders. **2004 to 2006** (4 person months)
- **Banpu Public Company Ltd.** – Coordinated a preliminary GIS needs assessment for the management of Indonesia's Trubaindo Coal Mine through interviews and questionnaires. Provided recommendations for scope and prioritization of implementation. **2005** (1 person month)

Market and Research Development

- **Food and Agriculture Organisation of the United Nations (FAO)** – review on the role of remote sensing for off-coast and offshore aquaculture. Development of two chapters in FAO publications and development of demonstration products. **2009, Ongoing** (3 person months)
- **European Space Agency** – In-country manager for a study aiming to develop business opportunities in South East Asia for mature remote sensing -based services, using Indonesia and Vietnam as representative examples of the larger South East Asia market. **2009, Ongoing** (2 person months)

- **Canadian Space Agency** - Development of a Framework Document and strategy to expand the use of radar remote sensing in the global water sector. **2007 to 2008** (1 person month)
- **European Space Agency** - Develop remote sensing for corporate sustainable development and reporting undertaken by the Oil Sands industry sector in Canada, through providing trial services to Albian Sands Energy Inc. and Shell Canada Ltd. **2006 to 2008** (4 person months)
- **European Space Agency** - In collaboration with Vancouver Port Authority, integrated Earth Observation into environmental impact assessment, specifically related to the monitoring of vegetation at Roberts Bank. **2005** (<1 person months)
- **European Space Agency** - Key member of a team that conducted a market assessment in the fisheries/aquaculture sector and identified opportunities for the development of Earth Observation applications to address market drivers. **2004 to 2005** (3 person months)

Institutional Assessment and Capacity Building

- **Mekong River Commission** - Needs Assessment and Data acquisition and Generation plan for the Information and Knowledge Management Programme of the Mekong River Commission. Activities include meetings with MRC staff, government departments and external data information providers. **2008 to 2009** (4 person months)
- **CIDA-Inc** - GIS and data management specialist for the Improved Environmental Monitoring and Assessment of the Mining Industry Project, Lao PDR, which aims to improve the capacity of the Water Resources and Environment Agency to conduct environmental monitoring. **2007 to 2008** (2 person months)
- **Canadian Space Agency** - Assisting with training course development and remote sensing product development, particularly RADARSAT-1, for the Namibian Ministry of Agricultural, Water, and Rural Development for monitoring annual flooding and flood disaster management in the Zambezi and Chobe floodplains. **2005** (<1 person months)
- **University of Durham** - Instructor in GIS and remote sensing and Coordinator for GIS and remote sensing courses for honours degrees in Environmental Science and Ecology. Managed people, assignments, and exams and delivered complex ideas in an accessible and easily understandable form. **2001 to 2003**

PEER-REVIEWED PUBLICATIONS

- Bøgh, C., S.W. Lindsay, S.E. Clarke, A.M. Dean, M. Jawara, M. Pinder, and C.J. Thomas. 2007. High resolution mapping of malaria transmission risk in The Gambia, West Africa. *American Journal of Hygiene and Tropical Medicine*. Vol. 76(5), 875-881.
- Dean, A.M., I.A. Brown, C.J. Thomas, and B. Huntley. 2007. Monitoring snowmelt across the Arctic forest-tundra ecotone using Synthetic Aperture Radar. *International Journal of Remote Sensing*. Vol. 27(19), 4347-4370.
- Brown, I.A., P. Klingbjer and A.M. Dean. 2005. Problems with the retrieval of glacier net surface balance from SAR imagery. *Annals of Glaciology*, Vol. 42(1), 209-216.
- Dean, A.M. and G.M. Smith. 2003. An evaluation of per-parcel land cover mapping using maximum likelihood class probabilities. *International Journal of Remote Sensing*, Vol. 24(14), 2905-2920.

BOOK CHAPTERS

- Dean, A.M. and J. Populus. In press. Remote sensing for the sustainable development of marine aquaculture off-the-coast and offshore. In A. Lovatelli, J. Aguilar-Manjarrez, D. Soto and N. Hishamunda (eds). *Offshore mariculture. FAO Fisheries and Aquaculture Technical Paper*. No. 549. Rome, FAO.
- Dean, A.M. and A. Salim. In press. *Reconnaissance Study: Remote Sensing for the Sustainable Development of Marine Aquaculture Off-the-Coast and Offshore*. Food and Agriculture Organisation of the United Nations (FAO), Rome, Italy.
- Huntley, B., A.M. Dean, *et al.* 2003. *DART: Dynamic response of the forest-tundra ecotone to environmental change. Final Report*. European Commission, Brussels.
- Huntley, B., A.M. Dean, *et al.* 2000. *DART: Dynamic response of the forest-tundra ecotone to environmental change. Terrestrial Ecosystem Research in Europe: Successes, Challenges and Policy*. M.A. Sutton (ed). European Commission, Brussels.

CONFERENCE PUBLICATIONS

- Dean, A.M., K. Shono, K. Kliparchuk, A. Salim, W. van Goor, S. Hughes, R. Beck, and T. Boivin. *Monitoring Indonesian Forest Management in Support of Sustainable Forestry and Carbon Emissions Reductions*. ESA Living Planet Symposium, Bergen, Norway. June 2010.
- Dean, A.M. 2008. *Remote Sensing and GIS for Flood Disaster Management: Examples and Future Opportunities in Indonesia and Cambodia*. *United Nations/Indonesia Regional Workshop on Integrated Space Technology Applications to Water Resources Management, Environmental Protection and Disaster Vulnerability Mitigation*. Jakarta, July 2008.
- Dean, A.M., O. Tsui, A. Syed, and T. Boivin. 2008. *The Lower Mekong Basin Flood Mapping Service: Development And Delivery Of Near-Real-Time Flood Map Products*. *6th Annual Mekong Flood Forum*. Phnom Penh. May 2008.
- Dean, A.M., O. Tsui, A. Syed, and T. Boivin. 2008. *Earth Observation and Community-based Mapping to Support Biodiversity Conservation in the Green Corridor, Thua Thien Hue, Vietnam*. *United Nations/Vietnam/European Space Agency Regional Workshop on the Use of Space Technology for Forest Management and Environmental Protection*. Hanoi, Vietnam, 7-9 November 2007.
- Dean, A.M., O. Tsui, C. Howell, A. Stockwell, D. Power, and T. Boivin. 2007. *Aquaculture Infrastructure Mapping Using Simulated Polarimetric RADARSAT-2 Imagery*. *Advanced SAR Workshop*. Vancouver, October 2007.
- Dean, A.M., S. Hughes, W. Gibbons, A. Syed, O. Tsui, C. Renou, D. Dow, A. Mangin, and T. Boivin. 2007. *Monitoring Sustainable Development in the Oil Sands Region of Alberta, Canada, using SPOT-5 and Envisat ASAR and MERIS Imagery*. *Envisat Symposium*, Montreux, Switzerland, 23-27 April 2007.
- Dean, A.M. 2006. *RADARSAT-2 for coastal fisheries and aquaculture management*. *RADARSAT-2 Symposium*. Canadian Space Agency, St. Hubert, Canada, September 2006.
- Boivin, T.G., A.M. Dean, D.W. Werle, E. Johnston, G.S. Bruce, P. Suvanachai, and O.T. Tsui. 2004. *Earth Observation Opportunities in the Fisheries and Aquaculture Sectors*. *Envisat Symposium*, Salzburg, Austria, 6-10th September 2004.