

ANNEX 004

TO THE  
MEMORANDUM OF AGREEMENT  
ESTABLISHING A PROJECT BETWEEN  
THE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION,  
UNITED STATES DEPARTMENT OF COMMERCE,  
AND THE UNIVERSITY OF QUEENSLAND, AUSTRALIA,  
UNDER THE LINKAGE PROJECT GRANT  
BY THE AUSTRALIAN RESEARCH COUNCIL

NOAA MOA CODE: UQ-NOAA-2007-0001  
UQ LINKAGE LP CODE: LP0562157

## **I. BACKGROUND**

- A. The University of Queensland (UQ) has been awarded a Linkage Project Grant by the Australian Research Council (ARC) to conduct a research project with the Australian Institute of Marine Science (AIMS), the Great Barrier Reef Marine Park Authority (GBRMPA) and the National Oceanic and Atmospheric Administration (NOAA) entitled, "New Tools for Managing Ecosystem Responses to Climate Change on the Southern Great Barrier Reef" (Project).
- B. The purpose of the project is to perform research to better understand coral reef bleaching as it relates to environmental stress. Research will include mesocosm experiments of coral bleaching, physical oceanography and hydrodynamic modeling, studies of within reef variability in bleaching patterns, and improvement of NOAA Coral Reef Watch bleaching products. The knowledge gained from this work will be used to develop better satellite-based algorithms for predicting the onset and eventual mortality rate for a bleaching event.
- C. UQ and NOAA signed the Memorandum of Agreement Establishing a Project Between the National Oceanic and Atmospheric Administration, United States Department of Commerce, and the University of Queensland, Australia, Under the Linkage Project Grant by the Australian Research Council (MOA) in September 2006 establishing the activities and obligations under the Project.

## **II. PURPOSE**

- A. The purpose of Annex 004 is to define the financial details for year 4 of the project.
- B. Annex 004 provides for disbursement of funds to UQ by NOAA in the amount of US\$140,000, and a contribution by NOAA of in-kind services in the amount of US\$640,000, for the period concluding on September 30, 2010. UQ will also provide funds and in-kind services to the project during the same time period, as laid out in Section 3 of the signed MOA.
- C. The MOA is not an "international agreement," as defined by the Case-Zablocki Act, and the parties do not intend this Annex 004 to be an international agreement.

## **III. LEGAL AUTHORITY**

- A. NOAA has authority under United States law to participate in the Project under 15 U.S.C. section 1525, the Department's Joint Project Authority, which provides that the Department may enter into joint projects with non-profit, research, or public organizations on matters of mutual interest, the costs of which are equitably apportioned.

- B. The programmatic authority is the Coral Reef Conservation Act, 16 U.S.C. §§ 6401-6409.

#### IV. PROJECT JUSTIFICATION

- A. This joint project is necessary and essential to further NOAA's mission to understand and predict changes in Earth's environment, and conserve and manage coastal and marine resources. The project allows us to further NOAA strategic plan's cross-cutting priority to exercise international leadership by "...leveraging multilateral and bilateral relationships to take full advantage of the development and use of research, observations, environmental science, and ecosystems management" and supports NOAA's goal to "protect, restore, and manage the use of coastal and ocean resources through an ecosystem approach to management." The project also addresses NOAA's Mission Support Strategy to "provide applied research to ensure the quality, reliability, and accuracy of current and future satellite products and services to support the Mission Goals." In addition, this project supports NOAA's Climate Strategy to "develop the ability to predict the consequences of climate change on ecosystems by monitoring changes in coastal and marine ecosystems, conducting research on climate-ecosystem linkages, and incorporating climate information into physical-biological models." Specifically, knowledge gained from this work will help NOAA Coral Reef Watch develop better satellite-based algorithms for predicting the onset and eventual mortality rate for a bleaching event.
- B. The parties to this project have a mutual interest in developing an understanding of the responses of corals to thermal and light stress, and how geography and oceanography play into this complex response.
- C. This project cannot be done as effectively without the participation of both parties. UQ has been awarded a Linkage Project Grant from the Australian Research Council (ARC) to conduct this research with the Australian Institute of Marine Science, the Great Barrier Reef Marine Park Authority, and NOAA. The team of researchers involved is uniquely qualified to investigate coral bleaching and thermal thresholds, and how these vary in space and time.
- D. The joint work that will be performed under this project consists of research, conducted through the University of Queensland, to better understand coral bleaching as it relates to environmental stress.
- E. Funds are apportioned equitably under this project. For the Year 4 project year, the costs are listed below. We expect that this same level of annual funding will continue each year under the 5-year project.
1. Cash contribution from the ARC grant to UQ: AUS\$220,000
  2. In-kind contribution from UQ: AUS\$388,000
  3. Cash contribution from NOAA: US\$140,000

4. In-kind contribution from NOAA: US\$640,000

#### V. RESPONSIBILITIES OF THE PARTIES

A. The general responsibilities of the Parties are described in Section 3 of MOA. NOAA's specific activities include: collaborating in planning and carrying out oceanographic data collection around the Heron Island reef; leading the development of regional- and local-scale hydrodynamic models; and assisting UQ in studies of within-reef connectivity, using the models produced by NOAA. UQ's responsibilities include the following (note that UQ will be assisted by other Australian partner organizations on many of these activities): providing access to a multi-million dollar research facility to perform experiments and support field activities; leading the efforts to collect oceanographic data; conducting research on the susceptibility of various species and reef zones to coral bleaching; establishing the patterns and variability of light levels across the reef. All of these activities aim toward understanding how corals respond to temperature and light stress, and how geography and oceanography play into this complex response.

#### VI. BUDGET AND FUNDING

- A. The direct transfer of funds from NOAA to UQ is essential under this project.
- B. Year 4 budget for distribution of the NOAA funds (in USD) as part of the ARC linkage grant LP0562157:

Research Contracts	\$ 89,700.00
Equipment Hire and Maintenance	\$ 16,200.00
Consumables	\$ 11,100.00
Publications	\$ 2,700.00
Communication Materials	\$ 2,700.00
Administration Costs	\$ 17,600.00
<b>Total Year 4 Costs</b>	<b>\$ 140,000.00</b>

The purpose of the transfer is to enable the partner to provide specific items necessary to achieve the project goals, as described in Section 3 of the MOA, through continuing research efforts being conducted on the Great Barrier Reef. NOAA is transferring funds to be used with partner funds to obtain services necessary for the project, as a whole, that UQ can manage more efficiently and effectively than NOAA could.

1. Research Contracts: The funds transferred to UQ support NOAA's equitable contribution to the Great Barrier Reef research that is being carried out in Australia. In order to further the efforts of both partners, funds need to be transferred to UQ for UQ to procure specialized research contracts for work being carried out in Australia.

UQ is better equipped to contract for these types of services because of its proximity to the area where the research will be conducted. It can effectively monitor the work of the contractor and ensure that the work is consistent with the goals of the project. This will ensure that the research objectives are timely met and the overall project will not be delayed.

2. **Equipment Hire and Maintenance, Consumables, Publications, and Communication Materials:** These funds are spent to support the activities carried out by the research contractor described above..
  3. **Administration Costs:** NOAA's financial contributions represent NOAA's equitable share of a larger effort being administered by UQ.
- C. The annual in-kind contribution for year 4 is \$640,000. In-kind contributions consist of costs associated with providing real-time and archived satellite data and ten percent of a NOAA Principal Investigator's full-time equivalent (FTE). This support represents the percentage of the overall costs of NESDIS operational satellite data products that is attributable to the specific products that NESDIS contributes, which are critical for this ARC Linkage project.

Real-time Satellite Data	\$ 325,000.00
Hind-casting of New Satellite Products	\$ 190,000.00
Archived Satellite Data	\$ 105,000.00
10% of one FTE	\$ 20,000.00
<b>Total Year 4 In-Kind Contributions</b>	<b>\$ 640,000.00</b>

- D. UQ will annually submit to NOAA, upon request, a certificate stating that the Project Funds were used for the purposes for which they have been provided, and show receipts and disbursements against the Project Funds provided.
- E. This Agreement is subject to the availability of funds.
- F. NOAA/NESDIS/ORA payment under this agreement will be associated with the following accounts:

Treasury Accounting Symbol (TAS)/Appropriation Code: ORF Fund Code 83 (10/11) = 1310/111450  
Accounting Classification Code (ACCS): 40-04-0003 H8K3BHW  
Employer Identification No.: 156140209  
BPN/DUNS No.: 061834875  
OMB Max Code: 006-48  
Agency Location Code (ALC): 13-14-0001  
BETC No.: DISB – NOAA is providing the funding for another agency to perform work.

- G. UQ payment acceptance under this agreement will be associated with the following accounts:

Financial Institution: Australia and New Zealand Bank (ANZ)

Financial Institution Code: 014 – 281

Account No: 8371 – 96527

Swift Code: ANZ BAU3M

Branch Address: Staff House Road, Uni of Qld, 4072

Title of Account: The University of Queensland NO 1

ABN: 63 942 912 684

GST Registered: Yes

Fax No: 07 3365 1511

Contact Person: Simon Buchanan - Cash Allocation Officer

Contact Phone No: 07 3365 2212

E-mail: [mcash@uq.edu.au](mailto:mcash@uq.edu.au); [f.meek@cms.uq.edu.au](mailto:f.meek@cms.uq.edu.au)

- H. The electronic transfer will be reference (in a "memo or reference" line):  
UQ LINKAGE LP CODE: LP0562157

## VII. DURATION

- A. This Annex 004 shall be in effect from the date of signature, through September 30, 2010.
- B. This Annex 004 may be terminated by either Party before its expiration date by giving 30 days written notice to the other Party or by mutual written agreement.
- C. No modifications to this Annex 004 shall be made, except by prior written agreement between UQ and NOAA.

## VI. DISPUTE RESOLUTION

Nothing herein is intended to conflict with current DOC, bureau, or office directives. If terms of this agreement are inconsistent with existing directives of either of the offices entering into this agreement, then those portions of this agreement which are determined to be inconsistent shall be invalid, but the remaining terms and conditions not affected by the inconsistency shall remain in full force and effect. At the first opportunity for review of the agreement, all necessary changes will be accomplished either by an amendment to this agreement or by entering into a new agreement, whichever is deemed expedient to the interest of both parties. Should disagreement arise on the interpretation of the provisions of this agreement, or amendments and/or revisions thereto, that cannot be resolved at the operating level, the area(s) of disagreement shall be stated in writing by each Party and presented to the other Party for consideration. If agreement on interpretation is not reached within thirty days, the parties shall forward the written presentation of disagreement to respective higher officials for appropriate resolution.

## VII. CONTACTS

The programmatic contacts of each Party to this agreement are:

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Director  
Centre for Marine Studies  
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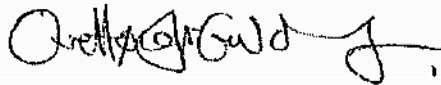
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The Financial contacts of each Party to this agreement are:

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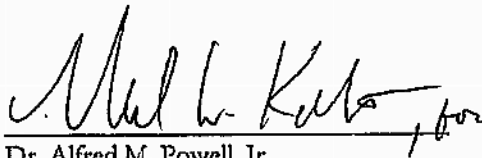
Signed by the parties:



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Prof. Ove Hoegh-Guldberg  
Director, Centre for Marine Studies  
The University of Queensland

21/5/10  
Date



Dr. Alfred M. Powell, Jr.  
Director, NOAA Center for Satellite Applications and Research  
National Oceanic and Atmospheric Administration  
U.S. Department of Commerce

June 4, 2010  
Date