Kyoto & Carbon Initiative
Theme & product description template

TO BE COMPLETED BY THE THEME COORDINATOR

THEME:
PROVIDE A DESCRIPTIVE TITLE.

THEME COORDINATOR:
NAME THE THEME LEADER AND THEIR INSTITUTION.

SCIENCE STATEMENT:
(1) OUTLINE THE RATIONALE FOR THE USE OF PALSAR AND GLI (WHERE APPROPRIATE) IN RELATION TO THE FOLLOWING;

- ***CARBON CYCLE SCIENCE***
- ***KYOTO PROTOCOL REQUIREMENTS***
- ***RAMSAR CONVENTION REQUIREMENTS***
- ***OTHER INTERNATIONAL CONVENTIONS AND USERS***

(2) DISCUSS THE SPECIFIC APPLICATIONS THAT CAN BE ADDRESSED BY PALSAR AND GLI DATA TO SUPPORT THE THEME.

THEME SUMMARY AND OBJECTIVES:
BRIEFLY DESCRIBE THE OBJECTIVES OF THE THEME AND WHERE APPROPRIATE INDICATE THE STRATEGIES TO BE EMPLOYED TO ACHIEVE THESE OBJECTIVES.

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TO BE COMPLETED JOINTLY BY THE PRODUCT MANAGERS AND THEME COORDINATOR

THEME OBJECTIVES, PRODUCTS AND MILESTONES:

DETAIL THE THEME OBJECTIVES, PRODUCTS AND MILESTONES IN THE TABLES BELOW. THE TABLES CAN BE AMENDED TO SUIT THE DELIVERABLES; HOWEVER THE NUMBERING CONVENTION AND OUTCOME / PRODUCT/ MILESTONE FRAMEWORK MUST BE RETAINED. EACH THEME OUTCOME MUST HAVE AT LEAST ONE PRODUCT.

OBJECTIVES STATE IN A SUMMARISED FORM WHAT THE RESEARCH AND DEVELOPMENT WORK WILL GENERATE AND WHAT WILL BE ACHIEVED.
PRODUCTS ARE THE TANGIBLE GOODS AND SERVICES DELIVERED THROUGH THE RESEARCH AND DEVELOPMENT.
MILESTONES ARE THE KEY DECISION POINTS IN THE RESEARCH PROGRAM THAT LEAD TO THE PRODUCT BEING DEVELOPED.

OBJECTIVE	***DESCRIPTION:***
PRODUCT 1.1	***DESCRIPTION:*** ***PRODUCT DEVELOPERS:*** ***PROTOTYPE AREA:*** ***ADDITIONAL TARGET AREAS (SPECIFY SEQUENCE)*** ***PRODUCT DELIVERABLES:*** ***TARGETED END USERS:***
MILESTONE 1.1.1	***DESCRIPTION*** ***INPUT DATA REQUIREMENTS:*** ***ACHIEVEMENT DATE:***
MILESTONE 1.1.2	***DESCRIPTION*** ***INPUT DATA REQUIREMENTS:*** ***ACHIEVEMENT DATE:***
OBJECTIVE	***DESCRIPTION:***
PRODUCT 1.2	***DESCRIPTION:*** ***PRODUCT DEVELOPERS:*** ***PROTOTYPE AREA:*** ***ADDITIONAL TARGET AREAS (SPECIFY SEQUENCE)*** ***PRODUCT DELIVERABLES:*** ***TARGETED END USERS:***
MILESTONE 1.2.1	***DESCRIPTION*** ***INPUT DATA REQUIREMENTS:*** ***ACHIEVEMENT DATE:***
MILESTONE 1.2.2	***DESCRIPTION*** ***INPUT DATA REQUIREMENTS:*** ***ACHIEVEMENT DATE:***

OBJECTIVE	***DESCRIPTION:***
PRODUCT 2.1	***DESCRIPTION:*** ***PRODUCT DEVELOPERS:*** ***PROTOTYPE AREA:*** ***ADDITIONAL TARGET AREAS (SPECIFY SEQUENCE)*** ***PRODUCT DELIVERABLES:*** ***TARGETED END USERS;***
MILESTONE 2.1.1	***DESCRIPTION*** ***INPUT DATA REQUIREMENTS:*** ***ACHIEVEMENT DATE:***
MILESTONE 2.1.2	***DESCRIPTION*** ***INPUT DATA REQUIREMENTS:*** ***ACHIEVEMENT DATE:***

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Theme: **Wetlands**

Theme Coordinator: ***Laura Hess, UCSB.***

Science Statement: ***(1) Outline the rationale for the use of PALSAR and GLI (where appropriate) in relation to the following;***

- ***Carbon Cycle Science***
- ***Kyoto Protocol requirements***
- ***Other international conventions and users***

(2) Discuss the specific applications that can be addressed by PALSAR and GLI data to support the Theme.

Theme summary: ***Taking advantage of the L-band SAR capability to penetrate vegetation canopies and detect below canopy inundation…***

Objectives:

- ***To map the maximum and minimum extent during a typical flood cycle***
- ***To generate flood duration maps over key regional-scale wate sheds using a one-year time sequence of SAR data.***
- ***Measuring the relative stage height difference between consecutive passes, using interferometric techniques***
- ***Characterisation of wetland vegetation using SAR and GLI data.***
- ***To map the temporal and spatial characteristics of irrigated rice cultivation.***

Theme outcomes, products and milestones:

Objective	***Description:*** Development of a prototype flood mapping system, using a one-year time sequence of PALSAR data in ScanSAR mode, capable of depicting the aerial extent and changes over time in inundation patterns.
Product 1.1	***Description: Floodplain maps showing flood extent, duration and recession patterns.*** ***Product Developers: Laura Hess, Richard Lucas plus……..*** ***Prototype Area: Amazon River Basin*** ***Additional Target Areas: (specify sequence) Pantanal; Bananal; Mekong; Congo river basin; Northern Monsoon Australia.*** ***Product Deliverables: Individual maps of flood extent, duration and inundation patterns over a twelve month period in the target area and then each of the additional target areas listed. Product methodology and validation report.*** ***Targeted End Users: Ramsar, Wetlands International, Flood Management Agencies,***
Milestone 1.1.1	***Description: Algorithm development and classification of flooded/non-flooded areas using single-pass, single-date, ScanSAR data.*** ***Input data requirements: Single-pass ScanSAR data in ground range.*** ***Achievement date: 0-3 months from receipt of data.***
Milestone 1.1.2	***Description: Apply the techniques developed in 1.1.1 to a multi-temporal (single-pass) data set.*** ***Input data requirements: Multi-temporal, single-pass ScanSAR data in ground range*** ***Achievement date: 3-9 months from commencement of work.***

Milestone 1.1.3	***Description:*** ***Validate geometric co-registration and radiometric consistency of a single regional-scale ScanSAR mosaic.*** ***Input data requirements:*** ***ScanSAR mosaic.*** ***Achievement date:*** ***6-12 months from commencement of work.***
Milestone 1.1.4	***Description:*** ***Validate geometric co-registration and radiometric consistency of a time sequence of regional-scale ScanSAR mosaics.*** ***Input data requirements:*** ***One-year ScanSAR mosaic time sequence.*** ***Achievement date:*** ***12-18 months from commencement of work.***
Milestone 1.1.5	***Description:*** ***Generation of regional-scale flood duration maps over the prototype area.*** ***Input data requirements:*** ***One-year ScanSAR mosaic time sequence*** ***Achievement date:*** ***12-18 months after commencement of work.***
Milestone 1.1.6	***Description:*** ***Product validation.*** ***Achievement date:*** ***12-18 months after commencement of work.***
Milestone 1.1.7	***Description:*** ***Apply the methodology to additional target areas.*** ***Input data requirements:*** ***Single-pass ScanSAR data in ground range; multi-temporal, single-pass ScanSAR data in ground range; one ScanSAR mosaic; one-year ScanSAR mosaic time sequence.*** ***Achievement date:*** ***18-24 months from commencement of work.***
Milestone 1.1.8	***Description:*** ***Delivery of final product maps and report detailing methodology and validation procedures to NASDA EORC.*** ***Achievement date:*** ***24 months from commencement of work.***
Objective	***Description:***
Product 1.2	***Description:*** ***Product Developers:*** ***Product Deliverables:*** ***Prototype Area:*** ***Additional Target Areas (specify sequence)*** ***Targeted End Users:***
Milestone 1.2.1	***Description*** ***Input Data Requirements:*** ***Achievement date:***
Milestone 1.2.2	***Description*** ***Input Data Requirements:*** ***Achievement date:***

Objective	***Description:*** ***Develop a wetlands disturbance mapping system, using a combination of PALSAR fine resolution and ScanSar data.***
Product 2.1	***Description:*** ***Product Developers:*** ***Product Deliverables:*** ***Prototype Area:*** ***Additional Target Areas (specify sequence)*** ***Targeted End Users:***
Milestone 2.1.1	***Description*** ***Input Data Requirements:*** ***Achievement date:***
Milestone 2.1.2	***Description*** ***Input Data Requirements:*** ***Achievement date:***