

GLOBE Train-The-Trainer Workshop
December 17th – 23rd, 2017
Burapha University, Chon Buri, Thailand

Date & Time	Detail
December 16th, 2017	
09.00 – 17.00	Travel
December 17th, 2017	
09.00 – 17.00	Preparing Workshop (<i>Facilitators only</i>) <i>Location: CL-401,402,403, Central Laboratory</i>
14.00 – 16.00	Registration <i>(Register GLOBE ID @ GLOBE website and download GLOBE Data Entry Application)</i> <i>Location: 1st Floor Hall, Central Laboratory</i> Facilitators: Ms.Siriporn Laowanich
13.00 – 15.00	Pre-workshop Drone LandCover Protocol for GLOBE <i>(Only for Participants with laptop, Maximum 20 persons)</i> Location: CL-201 Facilitators: Dr.Krisanadej Jaroensutasinee and Dr.Mullica Jaroensutasinee
15.00 – 17.00	Pre-workshop Soil Moisture Active Passive (SMAP) Probe <i>(Only for Participants, Maximum 20 persons)</i> Location: CL-201 Facilitators: Dr.Krisanadej Jaroensutasinee and Dr.Siriwan Kajornkasirat
18.30 – 21.00	Reception (<i>Welcome all participants</i>) Location: 1 st Floor Hall, Central Laboratory <i>(Note: Semi-formal Attire or National Dress)</i>

Date & Time	Detail	
GLOBE Basic Protocols		
December 18th, 2017		
08.00 – 08.30	Registration <i>Location: 1st Floor Hall, Central Laboratory</i>	
08.45 – 09.15	Opening Ceremony Welcome address <i>Location: CL-101, Central Laboratory</i> Introduction Dr.Pornpun Waitayangkoon, President, Institute for the Promotion of Teaching Science and Technology (IPST), Thailand Opening speech Assoc. Prof. Dr.Tatchai Sumitra, Chairman of IPST Governing Board <i>Location: CL-101, Central Laboratory</i>	
09.15 – 09.30	GLOBE Overview Dr.Tony Murphy, Director, The GLOBE Implementation Office <i>Location: CL-101, Central Laboratory</i>	
09.30 – 09.40	Group Photo	
09.40 – 10.40	Overview of Earth as a System, a new perspective for GLOBE communities Dr.Dixon M. Butler, National Aeronautics and Space Administration (NASA) <i>Location: CL-101, Central Laboratory</i>	
10.40 – 10.55	Refreshment (Cocktail Social Time)	
10.55 – 12.00	Soil Moisture Active Passive (SMAP) GLOBE program Dr. Dixon M. Butler, National Aeronautics and Space Administration (NASA) <i>Location: CL-101, Central Laboratory</i>	
12.00 – 13.00	Lunch <i>Location: 1st Floor Hall, Central Laboratory</i>	
Ecosystem II – Atmosphere/Hydrosphere (Team Teaching/Training)		
13.00 – 15.30	Jasmine Group – Hydrosphere <ul style="list-style-type: none"> • Site Description • Hydrology protocols/Macro invertebrate • Field work • Data Entry • Implementation and Research <i>Location: CL-402</i> Facilitators: Dr.Mullica Jaroensutasinee (Master), Mrs.Yupaporn Laplai (Master), Dr.Thanya Panritdam (Assistant), Dr.Siriwan Kajornkasirat (Assistant)	Lotus Group – Atmosphere <ul style="list-style-type: none"> • Introduction to Atmosphere • Site Definition • Basic Atmosphere Protocols • Max, Min, and Current temperature/Precipitation/Cloud type and cover • Field Work • Data Entry • Implementation and Research <i>Location: CL-401</i> Facilitators: Dr.Krisanadej Jaroensutasinee (Master), Ms.Suwinai Mongkonthan (Master), Dr.Pay-Liam Lin (Lead), Ms.Bussarasiri Thana (Assistant), Mr.Nitat Limpongsai (Assistant)

Date & Time	Detail	
15.30 – 15.45	Refreshment – Location: TBA	
15.45 – 17.30	Jasmine Group – Hydrosphere (cont.)	Lotus Group – Atmosphere (cont.)
18.00 – 19.30	Dinner <i>Location: 1st Floor Hall, Central Laboratory</i>	

December 19 th , 2017		
08.30 – 08.45	Q&A – Location: CL-401 (Dr.Krisanadej Jaroensutasinee & ATM team, and Dr.Mullica Jaroensutasinee & Hydrosphere team)	
08.45 – 10.15	Jasmine Group – Hydrosphere (cont.)	Lotus Group – Atmosphere (cont.)
10.15 – 10.30	Refreshment	
10.30 – 12.00	Jasmine Group – Atmosphere <ul style="list-style-type: none"> • Introduction to Atmosphere • Site Definition • Basic Atmosphere Protocols • Max, Min, and Current temperature/Precipitation/Cloud type and cover • Field Work • Data Entry • Implementation and Research <p><i>Location: CL-401</i></p> <p>Facilitators: Dr.Krisanadej Jaroensutasinee (Master), Ms.Suwinaï Mongkonthan (Master), Dr.Pay-Liam Lin (Lead), Ms.Bussarasiri Thana (Assistant), Mr.Nitat Limpongsai (Assistant)</p>	Lotus Group – Hydrosphere <ul style="list-style-type: none"> • Site Description • Hydrology protocols/ Macro invertebrate • Field work • Data Entry • Implementation and Research <p><i>Location: CL-402</i></p> <p>Facilitators: Dr.Mullica Jaroensutasinee (Master), Mrs.Yupaporn Laplai (Master), Dr.Thanya Panritdam (Assistant), Dr.Siriwan Kajornkasirat (Assistant)</p>
12.00 – 13.00	Lunch <i>Location: 1st Floor Hall, Central Laboratory</i>	
13.00 – 15.30	Jasmine Group – Atmosphere (cont.)	Lotus Group – Hydrosphere (cont.)
15.30 – 15.45	Refreshment	
15.45 – 17.30	Jasmine Group – Atmosphere (cont.)	Lotus Group – Hydrosphere (cont.)
17.30 – 18.00	Data Entry and GLOBE DIS <i>Location: CL-402</i> Facilitators: Dr.Krisanadej Jaroensutasinee and Mrs.Yupaporn Laplai	
18.00 – 19.00	Dinner <i>Location: 1st Floor Hall, Central Laboratory</i>	

Date & Time	Detail	
December 20th, 2017		
Ecosystem I – Soil and Biosphere (Team Teaching/Training)		
08.30 – 08.45	Q&A – Location: CL-401 (Dr.Krisanadej Jaroensutasinee & ATM team, and Dr.Mullica Jaroensutasinee & Hydrosphere team)	
08.45 – 10.00	Jasmine Group – Soil (Pedosphere) <ul style="list-style-type: none"> • Soil Characterization, Soil moisture, Soil temperature • Field work • Lab work • Data Entry • Implementation and Research <i>Location: CL-401</i> Facilitators: Dr.Tony Murphy (Master), Ms.Samornsri Kanphai (Lead), Dr.Rungrote Nilthong (Lead), Dr.Napaporn Phankamolsil (Assistant)	Lotus Group – Biosphere <ul style="list-style-type: none"> • GPS App, When and Where? Google Earth/Map • MUC guide App • Manual mapping • Phenology • Data Entry • Implementation and Research <i>Location: CL-402</i> Facilitators: Dr.Elena Sparrow (Master), Dr.Krisanadej Jaroensutasinee (Master), Ms.Thanapun Chalee (Assistant), Dr.Watcharee Ruairuen (Assistant), Dr.Wichuda Klaweck (Assistant)
10.00 – 10.15	Refreshment	
10.15 – 12.00	Jasmine Group – Soil (Pedosphere) (cont.)	Lotus Group – Biosphere (cont.)
12.00 – 13.00	Lunch <i>Location: 1st Floor Hall, Central Laboratory</i>	
13.00 – 15.30	Jasmine Group – Soil (Pedosphere) (cont.)	Lotus Group – Biosphere (cont.)
15.30 – 15.45	Refreshment – Location: TBA	
15.45 – 17.00	Jasmine Group – Soil (Pedosphere) (cont.)	Lotus Group – Biosphere (cont.)
17.00 – 17.30	Data Entry and GLOBE DIS <i>Location: CL-402</i> Facilitators: Dr.Elena Sparrow, Dr.Rungrote Nilthong, Mr.Nitat Limpongsai and Dr.Watcharee Ruairuen	
17.30 – 18.30	Transportation to Khao Kheow Zoo Night Safari, (Dinner to go)	
18.30 – 21.00	Khao Kheow Zoo Night Safari	
21.00 – 22.00	Transportation to Hotel	

Date & Time	Detail	
December 21st, 2017		
08.30 – 08.45	Q&A – Location: CL-401 (Dr.Elena & Biosphere Team, Dr.Tony & Soil Team)	
08.45 – 10.00	Jasmine Group – Biosphere <ul style="list-style-type: none"> • GPS App, When and Where? Google Earth/Map • MUC guide App • Manual mapping • Phenology • Data Entry • Implementation and Research <p><i>Location: CL-402</i></p> <p>Facilitators: Dr.Elena Sparrow (Master), Dr.Krisanadej Jaroensutasinee (Master), Ms.Thanapun Chalee (Assistant), Dr.Watcharee Ruairuen (Assistant), Dr.Wichuda Klaweck (Assistant)</p>	Lotus Group – Soil (Pedosphere) <ul style="list-style-type: none"> • Soil Characterization, Soil moisture, Soil temperature • Field work • Lab work • Data Entry • Implementation and Research <p><i>Location: CL-401</i></p> <p>Facilitators: Dr.Tony Murphy (Master), Ms.Samornsri Kanphai (Lead), Dr.Rungrote Nilthong (Lead), Dr.Napaporn Phankamolsil (Assistant)</p>
10.00 – 10.15	Refreshment	
10.15 – 12.00	Jasmine Group – Biosphere (cont.)	Lotus Group – Soil (Pedosphere) (cont.)
12.00 – 13.00	Lunch <i>Location: 1st Floor Hall, Central Laboratory</i>	
13.00 – 15.30	Jasmine Group – Biosphere (cont.)	Lotus Group – Soil (Pedosphere) (cont.)
15.30 – 15.45	Refreshment	
15.45 – 17.00	Jasmine Group – Biosphere (cont.)	Lotus Group – Soil (Pedosphere) (cont.)
17.00 – 17.30	Data Entry and GLOBE DIS <i>Location: CL-402</i> Facilitators: Dr.Tony Murphy, Dr.Napaporn Phankamolsil and Dr.Siriwan Kajornkasirat	
17.30 – 20.00	Certification ceremony and banquet <i>Location: CL-101, Central Laboratory</i> <i>(Note: Semi-formal Attire or National Dress)</i>	

Date & Time	Detail	
GLOBE Advanced Protocols		
December 22nd, 2017		
08.30 – 10.30	<p>Jasmine Group – Atmosphere</p> <ul style="list-style-type: none"> • Water Vapor Protocol • Aerosols Protocol • Data Entry <p><i>Location: CL-402</i></p> <p>Facilitators: Dr.Krisanadej Jaroensutasinee (Master), Ms.Suwinai Mongkonthan (Master), Dr.Pay-Liam Lin (Lead), Ms.Bussarasiri Thana (Assistant), Mr.Nitat Limpongsai (Assistant)</p>	<p>Lotus Group – Hydrology</p> <ul style="list-style-type: none"> • Mosquito Protocol • Data Entry <p><i>Location: CL-401</i></p> <p>Facilitators: Dr.Mullica Jaroensutasinee (Master), Mrs.Yupaporn Laplai (Master), Dr.Thanya Panritdam (Assistant), Dr.Siriwan Kajornkasirat (Assistant)</p>
10.30 – 10.45	Refreshment	
10.45 – 12.45	<p>Jasmine Group – Hydrology</p> <ul style="list-style-type: none"> • Mosquito Protocol • Data Entry <p><i>Location: CL-401</i></p> <p>Facilitators: Dr.Mullica Jaroensutasinee (Master), Mrs.Yupaporn Laplai (Master), Dr.Thanya Panritdam (Assistant), Dr.Siriwan Kajornkasirat (Assistant)</p>	<p>Lotus Group – Atmosphere</p> <ul style="list-style-type: none"> • Water Vapor Protocol • Aerosols Protocol • Data Entry <p><i>Location: CL-402</i></p> <p>Facilitators: Dr.Krisanadej Jaroensutasinee (Master), Ms.Suwinai Mongkonthan (Master), Dr.Pay-Liam Lin (Lead), Ms.Bussarasiri Thana (Assistant), Mr.Nitat Limpongsai (Assistant)</p>
12.45 – 13.45	Lunch	
13.45 – 17.00 ~ Included refreshment	<p>Jasmine Group – Biosphere</p> <ul style="list-style-type: none"> • MultiSpec • Change Detection • Drone Mapping • Data Entry <p><i>Location: CL-402</i></p> <p>Facilitators: Dr.Elena Sparrow (Master), Dr.Krisanadej Jaroensutasinee (Master), Ms.Thanapun Chalee (Assistant), Dr.Watcharee Ruairuen (Assistant), Dr.Wichuda Klaweck (Assistant)</p>	<p>Lotus Group – Soil (Pedosphere)</p> <ul style="list-style-type: none"> • Soil Particle Size Distribution Protocol • Soil Particle Density Protocol • Soil pH Protocol • Soil Fertility Protocol • Data Entry <p><i>Location: CL-401</i></p> <p>Facilitators: Dr.Tony Murphy (Master), Ms.Samornsri Kanphai (Lead), Dr.Rungrote Nilthong (Lead), Dr.Napaporn Phankamolsil (Assistant)</p>

Date & Time	Detail
17.00 – 18.00	Data Entry <i>Location: CL-401</i> Facilitators: Ms.Suwinai Mongkonthan, Dr.Pay-Liam Lin and Ms.Samornsri Kanphai and Dr.Wichuda Klawech
18.00 – 19.00	Dinner

December 23 rd , 2017					
08.00 – 08.15	Q&A – Location: CL-401 (Dr.Elena & Biosphere Team, Dr.Tony & Soil Team, Dr.Krisanadej & Atmosphere Team)				
08.15 – 10.00	<table border="1"> <thead> <tr> <th>Jasmine Group – Soil (Pedosphere)</th> <th>Lotus Group – Biosphere</th> </tr> </thead> <tbody> <tr> <td> <ul style="list-style-type: none"> • Soil Particle Size Distribution Protocol • Soil Particle Density Protocol • Soil pH Protocol • Soil Fertility Protocol • Data Entry <p><i>Location: CL-401</i> Facilitators: Dr.Tony Murphy (Master), Ms.Samornsri Kanphai (Lead), Dr.Rungrote Nilthong (Lead), Dr.Napaporn Phankamolsil (Assistant)</p> </td> <td> <ul style="list-style-type: none"> • MultiSpec • Change Detection • Drone Mapping • Data Entry <p><i>Location: CL-402</i> Facilitators: Dr.Elena Sparrow (Master), Dr.Krisanadej Jaroensutasinee (Master), Ms.Thanapun Chalee (Assistant), Dr.Watcharee Ruairuen (Assistant), Dr.Wichuda Klawech (Assistant)</p> </td> </tr> </tbody> </table>	Jasmine Group – Soil (Pedosphere)	Lotus Group – Biosphere	<ul style="list-style-type: none"> • Soil Particle Size Distribution Protocol • Soil Particle Density Protocol • Soil pH Protocol • Soil Fertility Protocol • Data Entry <p><i>Location: CL-401</i> Facilitators: Dr.Tony Murphy (Master), Ms.Samornsri Kanphai (Lead), Dr.Rungrote Nilthong (Lead), Dr.Napaporn Phankamolsil (Assistant)</p>	<ul style="list-style-type: none"> • MultiSpec • Change Detection • Drone Mapping • Data Entry <p><i>Location: CL-402</i> Facilitators: Dr.Elena Sparrow (Master), Dr.Krisanadej Jaroensutasinee (Master), Ms.Thanapun Chalee (Assistant), Dr.Watcharee Ruairuen (Assistant), Dr.Wichuda Klawech (Assistant)</p>
Jasmine Group – Soil (Pedosphere)	Lotus Group – Biosphere				
<ul style="list-style-type: none"> • Soil Particle Size Distribution Protocol • Soil Particle Density Protocol • Soil pH Protocol • Soil Fertility Protocol • Data Entry <p><i>Location: CL-401</i> Facilitators: Dr.Tony Murphy (Master), Ms.Samornsri Kanphai (Lead), Dr.Rungrote Nilthong (Lead), Dr.Napaporn Phankamolsil (Assistant)</p>	<ul style="list-style-type: none"> • MultiSpec • Change Detection • Drone Mapping • Data Entry <p><i>Location: CL-402</i> Facilitators: Dr.Elena Sparrow (Master), Dr.Krisanadej Jaroensutasinee (Master), Ms.Thanapun Chalee (Assistant), Dr.Watcharee Ruairuen (Assistant), Dr.Wichuda Klawech (Assistant)</p>				
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Jasmine Group – Soil (Pedosphere) (cont.)	Lotus Group – Biosphere (cont.)				
12.00– 13.00	Lunch				
13.00 – 15.00	Data Entry <i>Location: CL-401</i> Facilitators: Mrs.Yupaporn Laplai, Ms.Bussarasiri Thana and Dr.Thanya Panritdam				
15.00 – 15.15	Refreshment				
15.15 – 16.15	<ul style="list-style-type: none"> • Implementation and Research on Earth System Science • Workshop Evaluation and Certification Ceremony (Advanced Protocol) <p><i>Location: CL-201</i> Facilitators: Dr.Mullica Jaroensutasinee and Trainer Team</p>				
16.15 – 16.30	Workshop closes				