

International Charter Space and Major Disasters



Charter Activation # 220
Charter Call ID # 258
Disaster Event Flood
Disaster Location Vietnam
Date of Final Reporting 24th July 2009

PM Report

Reporting forms completed by: Chris Stewart

Reporting forms reviewed by:

Project Managers for Charter activations are expected to provide the PM report to the Charter Executive Secretariat within 45 days after the start of the activation.

*Completion of these fields is mandatory.

A. Disaster Event Summary	
*A1. Emergency type: (indicate choice with an [X])	<input type="checkbox"/> Earthquake <input checked="" type="checkbox"/> Flood <input type="checkbox"/> Landslide <input type="checkbox"/> Storm/Hurricane <input type="checkbox"/> Other (specify): <input type="checkbox"/> Fires <input type="checkbox"/> Volcano <input type="checkbox"/> Ice <input type="checkbox"/> Industrial danger
*A2. Date disaster initiated (dd/mm/yyyy): 04 – 05/07/2009	
*A3. Disaster location and extent: Two circular areas in Northern Vietnam, both with 35km radius. Centre points: Lat 22°15'0.00"N, Lon 105°49'0.00"E (Priority 1); and Lat 20°41'0.00"N, Lon 105°21'0.00"E (Priority 2).	
A4. Estimated number of deaths: At least 22	
A5. Estimated number of people affected:	
A6. Estimated economic losses:	
A7. Additional disaster impacts (environmental, infrastructure, etc): The landslides and floods destroyed or damaged more than 500 houses and hundreds of acres of rice fields.	
A8. Additional disaster event details:	

B. Activation Information				
*B1. Date of Charter activation (dd/mm/yyyy): 06/07/2009				
*B2. Geographical Coordinates (Lat – Long)				
	Bounding Box:	Upper left corner:	Centre Point(s):	
		Upper right corner:		Lat 22°15'0.00"N, Lon 105°49'0.00"E (Priority 1) Circular area with radius 35km
		Lower left corner:		Lat 20°41'0.00"N, Lon 105°21'0.00"E (Priority 2) Circular area with radius 35km
		Lower right corner:		
*B3. Authorized User/Requestor: AU = UNOSAT/UNITAR Requestor = Ugo Blanco, UNDP	*Organization: AU = UNOSAT/UNITAR Requestor = UNDP		*Date AU contacted ODO (dd/mm/yyyy): 06/07/2009	
*B4. Identify the agency that requested the Charter activation and why: UNDP (nearest UN agency present) on behalf of the Search & Rescue Technique Center in Vietnam				

*Completion of these fields is mandatory.

*B5. ECO: Alberto Baroni	*Organization: ESA	*Date ECO contacted PM (dd/mm/yyyy): 06/07/2009
*B6. Project Manager: Chris Stewart	*Organization: RSAC c/o ESA	*Date PM nominated (dd/mm/yyyy): 06/07/2009
*B7. Value-adding Reseller or organization(s): UNOSAT/UNITAR, Search & Rescue Technique Center (Vietnam)		*Date VAR received first images (dd/mm/yyyy): 07/07/2009
*B8. End User(s): Pham Thanh An	*Organization: Search & Rescue Technique Center	Date first product delivered to End User (dd/mm/yyyy): Vietnamese End User also performed value-adding, so products also produced by themselves.

C. Intervention Summary

*C1. Describe the activation in detail and describe the interaction between the PM and the AU:

On the same day that the ODO received the URF requesting intervention (6th July), the ECO sent ERFs to 3 space agencies. Also on the same day the PM was nominated, and the PM modified some of the emergency requests to PAs (after consultation with the AU/VAR) and made additional requests. The first archive images were available the following day (7th July) and the first crisis imagery the day after (8th July). Due to the nature of the disaster (flash flooding in mountainous areas) the timeframe in which the flooding could be identified was very narrow and the imagery required was very high resolution (VHR). Optical VHR data was acquired, but none of it processed due to excessive cloud cover. Processing was undertaken by the AU (UNOSAT) and the Vietnamese End User (Search & Rescue Technique Center). The interaction between the PM and AU was very good throughout the activation. Communication took place via phone and email.

*C2. Provide a chronology of events associated with the disaster and the Charter activation:

	AU	ODO and ECO	VAR	PM	PA	Other
						Severe flooding and landslides following intense rain on 4 th – 5 th July 2009
Monday 6 th July	14:00 UTC URF sent by UNITAR / UNOSAT. Two circular areas of interest defined (with 1 st and 2 nd priority)	Request received by ODO and ESA ECO (Alberto Baroni)				

*Completion of these fields is mandatory.

	AU confirmed that circular areas have a radius of 35km	ERFs sent to ESA, CSA and JAXA	UNOSAT to undertake value adding	ESA PM (Chris Stewart) nominated	CSA programmed new acquisitions of Radarsat 2 (to be accompanied with archive) over both areas.	
			VAC / AU mentioned to PM that due to the nature of the disaster (flash flooding) the requirements are for VHR (radar and optical) data.	PM ordered archive ASAR IMP / APP imagery over both areas and crisis imagery of same geometry for 7 th and 8 th July.	ESA Envisat mission planners informed PM that 7 th is too early to programme ASAR IMP/APP acquisitions. 8 th also early, but may be possible.	
Tuesday 7 th July				ERF sent to CNES / SPOTIMAGE for VHR SPOT 5 and FORMOSAT data to cover both areas	CNES authorised SPOT 5 coverage of area 1 for 11 th July (to be accompanied with archive). FORMOSAT was not possible as area outside of FORMOSAT corridor. An earlier acquisition of SPOT 4 (8 th July) was also offered but rejected after consultation with the VAC due to insufficiently high spatial resolution.	
				Request to JAXA modified to include also PRISM data.	ESA mission planners informed PM that was not possible to programme ASAR IMP/APP acquisitions on the 8 th . Acquisitions instead planned for 10 th and 13 th over both areas.	
					Envisat ASAR IMP/APP archive data for both areas available for download	
	UNOSAT requested data to be sent to national Vietnamese end user (Search and Rescue Technique Center)					JAXA able to cover both areas with PALSAR (crisis and archive acquisitions). Crisis acquisitions will take place on 7 th July. Programming mode to be WB1 (FBS requested but not available). PRISM rejected as only possible to acquire on 25 th July (too late for disaster response).

*Completion of these fields is mandatory.

				PM relayed UNOSAT's request for data to be sent to national Vietnamese end user to PAs concerned.	ESA agreed to make their data available to the national Vietnamese end user	
					SPOTIMAGE agreed to make their data available to the national Vietnamese end user	
Wednesday 8 th July					JAXA ALOS PALSAR crisis and archive data available for FTP download.	
					JAXA did not consent to make their data available to the national Vietnamese end user.	
					SPOT 5 archive product for area 1 available for HTTP download.	
					CSA consented to make the RADARSAT 2 data available to the national Vietnamese end user.	
Thursday 9 th July						
Friday 10 th July					Radarsat 2 crisis and archive data available for FTP download.	
					ASAR IMP crisis acquisitions available for download.	
Saturday 11 th July					More Radarsat 2 crisis data available for FTP download.	

*Completion of these fields is mandatory.

Sunday 12 th July						
Monday 13 th July					More ASAR IMP crisis data available for download.	
					SPOT 5 images acquired on 11 th and 12 th July but neither produced as images are cloudy.	
Tuesday 14 th July			Value added products in the form of image files and shapefiles delivered to end users by UNOSAT		More Radarsat 2 crisis data available for FTP download.	
Wednesday 15 th July						
Thursday 16 th July						
Friday 17 th July					SPOT 5 image acquired on 16 th but decision taken not to produce it due to cloud cover. Next potential attempt would be 21 st , which was considered too late, so no further acquisitions planned.	
Saturday 18 th July			More value added products produced in image and vector format			
Sunday 19 th July						
Monday 20 th July						

*Completion of these fields is mandatory.

Tuesday 21 st July						
Wednesday 22 nd July						
Thursday 23 rd July						
Friday 24 th July				PM announces to all concerned that the activation is closed.		

*C3. Fill in the table below identifying the available satellite data with an [X]. List the date (dd/mm/yyyy) that each image was collected).

Agency	Satellites	Dates of frames requested ¹		*Dates of frames acquired		Dates of frames used in value-adding	
		Programmed	Archived	Programmed	Archived	Programmed	Archived
[] CONAE	<input type="checkbox"/> SAC-C(HSTC)						
	<input type="checkbox"/> SAC-C (MMRS)						
	<input type="checkbox"/> SAC-C(HRT)						
[] CNES	<input type="checkbox"/> SPOT-1						
	<input type="checkbox"/> SPOT-2						
	<input type="checkbox"/> SPOT-3						
	<input type="checkbox"/> SPOT-4						
	<input type="checkbox"/> SPOT-5(HRG)	11/07/2009 12/07/2009 16/07/2009	30/11/2008	11/07/2009 12/07/2009 16/07/2009	30/11/2008		30/11/2008
	<input type="checkbox"/> SPOT-5(HRS)						
	<input type="checkbox"/> SPOT-5(Veg)						
<input type="checkbox"/> FORMOSAT							
[] CNSA	<input type="checkbox"/> CBERS(WFI)						
	<input type="checkbox"/> CBERS(CCD)						
	<input type="checkbox"/> CBERS(IMS)						
[] CSA	<input type="checkbox"/> RADARSAT-1		19/03/2001 14/05/2001		19/03/2001 14/05/2001		19/03/2001 14/05/2001
	<input type="checkbox"/> RADARSAT-2	09/07/2009 11/07/2009 14/07/2009		09/07/2009 11/07/2009 14/07/2009		09/07/2009 11/07/2009 14/07/2009	

¹ This information may be available on the ERF. If not, you may leave this section blank.

*Completion of these fields is mandatory.

<input type="checkbox"/> DMC	<input type="checkbox"/> DMC						
	<input type="checkbox"/> TopSat						
<input type="checkbox"/> ESA	<input type="checkbox"/> ENVISAT	07/07/2009	22/09/2004		22/09/2004		22/09/2004
		08/07/2009	24/02/2004	10/07/2009	24/02/2004	10/07/2009	24/02/2004
		08/07/2009	25/03/2009	10/07/2009	25/03/2009	10/07/2009	25/03/2009
		10/07/2009	29/04/2009	13/07/2009	29/04/2009	13/07/2009	29/04/2009
		10/07/2009	10/03/2007	13/07/2009	10/03/2007	13/07/2009	10/03/2007
13/07/2009		29/05/2004		29/05/2004		29/05/2004	
	<input type="checkbox"/> ERS2						
	<input type="checkbox"/> PROBA						
<input type="checkbox"/> ISRO	<input type="checkbox"/> IRS1C						
	<input type="checkbox"/> IRS1D						
	<input type="checkbox"/> IRSP4						
	<input type="checkbox"/> IRSP6						
<input type="checkbox"/> JAXA	<input type="checkbox"/> ALOS(PRISM)						
	<input type="checkbox"/> ALOS (AVNIR-2)						
	<input type="checkbox"/> ALOS (PALSAR)	07/07/2009 07/07/2009	10/05/2009 10/05/2009	07/07/2009 07/07/2009	10/05/2009 10/05/2009	07/07/2009 07/07/2009	10/05/2009 10/05/2009
<input type="checkbox"/> NOAA	<input type="checkbox"/> POES						
	<input type="checkbox"/> GOES						
<input type="checkbox"/> USGS	<input type="checkbox"/> LANDSAT-5						
	<input type="checkbox"/> LANDSAT-7						
	<input type="checkbox"/> IKONOS						
	<input type="checkbox"/> QuickBird						
	<input type="checkbox"/> WorldView						
	<input type="checkbox"/> GEOEYE1						
<input type="checkbox"/> Other (insert satellite names)	<input type="checkbox"/>						
	<input type="checkbox"/>						
	<input type="checkbox"/>						
	<input type="checkbox"/>						

D. Intervention Assessment

D1. Explain how the value-adding service provider was chosen:

Partner designated by ESA at PM nomination

*D2. List the value-added products obtained from the Charter data:

BackKan_FloodAffected_Radarsat.dbf
BackKan_FloodAffected_Radarsat.prj
BackKan_FloodAffected_Radarsat.sbn
BackKan_FloodAffected_Radarsat.sbx
BackKan_FloodAffected_Radarsat.shp
BackKan_FloodAffected_Radarsat.shx
Radarsat_BackKan_11July2009_HH.rrd

*Completion of these fields is mandatory.

Radarsat_BacKan_19Mar2001_HH.rrd
Spot5_BacKan_Subset1_2008-11-30_PS.rrd
HoaBinh_FloodAffected_Envisat.dbf
HoaBinh_FloodAffected_Envisat.prj
HoaBinh_FloodAffected_Envisat.sbn
HoaBinh_FloodAffected_Envisat.sbx
HoaBinh_FloodAffected_Envisat.shp
HoaBinh_FloodAffected_Envisat.shx
BacKan_Zone1_Data_overview.jpg
Flash_Flod_Data_HoaBinh_Zone2.jpg
UNOSAT_FlashFloods_NguyenPhuc_radarsat11July09_HR.pdf
UNOSAT_FlashFloods_NguyenPhuc_radarsat11July09_LR.pdf

*D3. Comment on the quality of the value-added products:

The value added products are of good quality, but it could not be claimed that the accuracy was high. This is not a fault of the producers of the products but due instead to the nature of the disaster and the type of EO imagery available. The disaster involved flash floods in mountainous areas. In order to see the affected area, very high resolution imagery was needed at a very specific time. The imagery that was obtained was either not at a high enough resolution, or not in time to catch the flash floods, or else obscured by cloud.

D4. Identify the end users of the value-added products and how they used the products during the various phases of the disaster cycle. If the value-added products were used to illustrate the impact or extent of the disaster during briefing meetings, include this information:

The end user of the value added products was the Search & Rescue Technique Center. This organisation also undertook value adding.

*D5. Comment on how useful the value-added products were in practice for the end user. Include any other relevant information about how the Charter assisted the end user in mitigating the effects of the disaster:

The mapping products may have been useful to the end user as an overview of some of the areas affected, but to identify precise areas for disaster mitigation it may have been less useful. This is due to the difficulty in capturing the flash flooding that occurred in the valleys in the EO imagery that was available.

*D6. Identify data provided by the Charter that was not used. If possible, explain why it was not used:

To some extent all the data provided by the Charter was used, if only to provide a regional overview. Some of the optical data was almost completely cloudy, but the cloudy scenes were identified soon after acquisition, so the images were not produced.

D7. Based on use of the data provided by the Charter, provide recommendations to improve the scenarios for Charter activations of this type in the future:

*D8. Summarize the conclusions of the project. Discuss any relevant issues associated with the use of the value-added products in the emergency response; the functional units of the Charter; the ability of the PM, value-added service provider and end users to work within the Charter structure; and/or, any other issues encountered during the activation:

During the course of the activation, the correct procedure was followed by all parties involved, and the project itself ran smoothly. However, due to the nature of the disaster, it was very difficult to obtain EO data that could be used for effective disaster mitigation. The flash flooding occurred in mountainous areas in a very short time period. The EO data that was required would have been very high resolution optical and radar imagery acquired immediately during the flooding. The data that was available either did not have high enough spatial resolution, or was not acquired in time to capture the extent of the

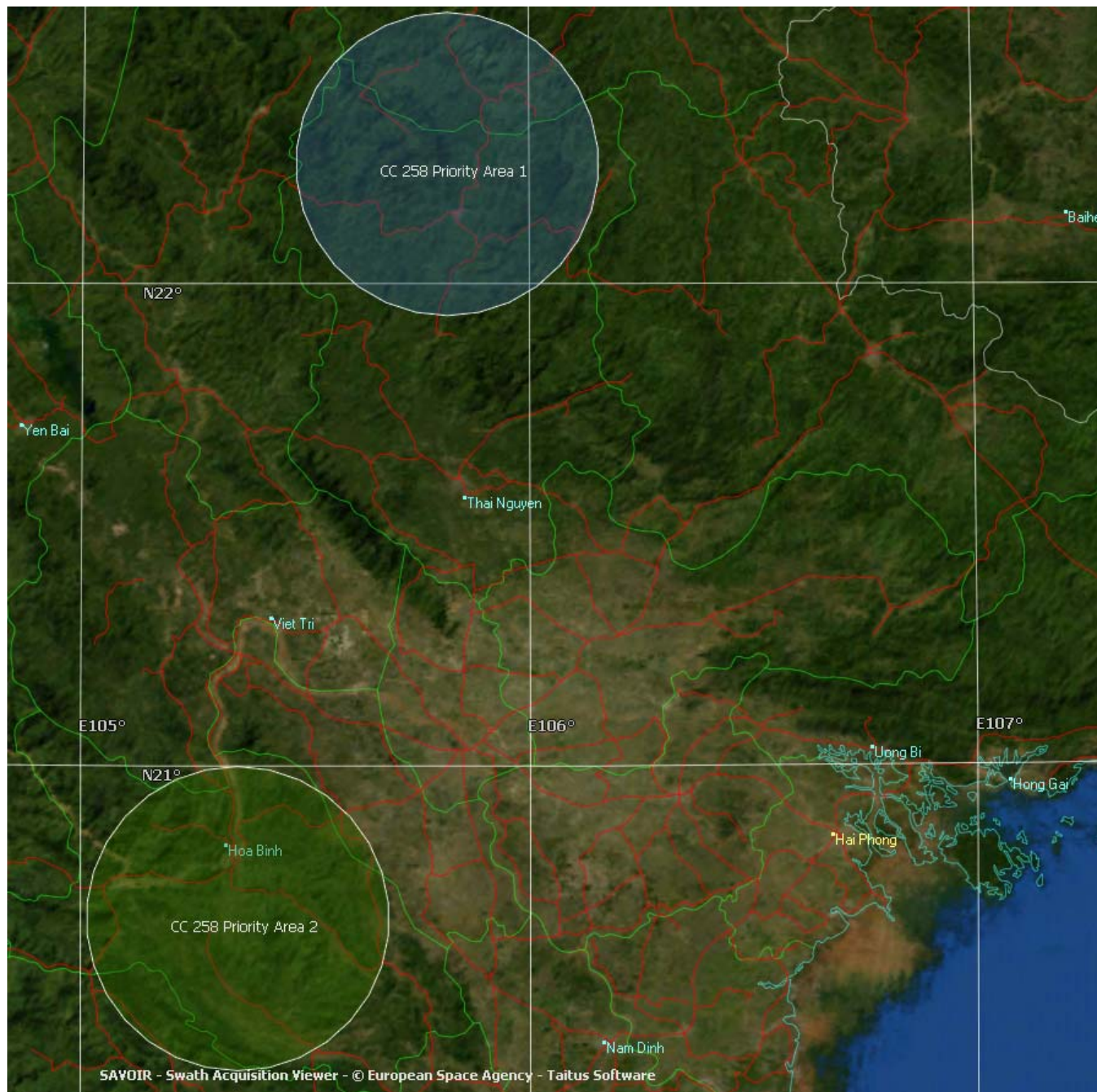
*Completion of these fields is mandatory.

area affected, or was obscured by cloud.

D9. Additional comments, questions, observations, and lessons learned:

E. Supporting Documentation

*E1. Insert a map of the affected area and extent of the disaster impact:



The circles represent the areas affected. Each has a radius of 35km.

*Completion of these fields is mandatory.

*E2. Provide samples of media coverage of the disaster event from TV, radio, news papers, websites, etc. Where possible, copy the content of the article into the PM report rather than only the web addresses:

Vietnam floods leave 22 dead, 13 missing

(AFP) – Jul 5, 2009

HANOI (AFP) — At least 22 people died and 13 others went missing in weekend storms that pummelled mountainous northern Vietnam, according to the government's disasters office.

The worst of the damage occurred in the province of Bac Kan, where 13 of the total number of dead perished, said the National Flood and Storm Control Committee.

Flash floods "swept away everything in their path," the newspaper Thanh Nien quoted one local village chief, Ma Van Thoa, as saying.

Rescuers continued to search for those who were missing, while local authorities were working to provide emergency food aid and evacuate households at risk, the newspaper reported.

However television reports said several parts of the province remained cut off and communication with remote villages was difficult.

The government said nearly 530 houses had been damaged and 600 hectares (1,480 acres) of rice and other crops had been inundated.

A total of six mountainous provinces were affected by flooding, resulting from over 30 centimetres of rainfall.

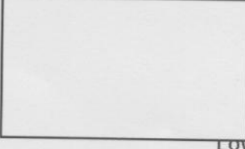
Vietnam's flood and storm season generally starts in July and lasts until November.

Last year at least 550 people died in disasters triggered by bad weather, the national statistics office said earlier.

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*E3. Insert a copy of the URF here:

**User Request Form
(Affected area information)**

To be filled by ODO Call ID <u>258</u>	
1. Date and time of the call	DAY 6 MONTH (Spell) July YEAR 2009 TIME 3PM LOCAL TIME ZONE UTC TIME 2PM
2. Name of the organization and caller (to be used for call back) Phone Fax Cellular phone E-mail	Ugo Blanco UNDP Vietnam +844 3942 1495 Ext. 151 +844 3942 2267 Ext. +84 (0) 9494 15 789 ugo.blanco@undp.org
3. Type of disaster <input type="checkbox"/> earthquake <input type="checkbox"/> fire <input checked="" type="checkbox"/> flood <input type="checkbox"/> ice <input type="checkbox"/> landslide <input type="checkbox"/> ocean storm (hurricane, cyclone, typhoon) <input type="checkbox"/> ocean wave (tsunami) <input type="checkbox"/> oil spill <input type="checkbox"/> volcano <input type="checkbox"/> other (e.g. wind storm, tornado, industrial accident...) specify:	
4. Geographical location Region/Country name, approximate geographical location and surface extent. Region/country name: Vietnam, Backan and Hoabinh provinces Location From To Extent (km ²)	5. Geographical Coordinates in Degrees, minutes, seconds a) Center Point(s) in priority order 1. Lat 22° 15' " N Long 105° 49' " E 2. Lat 20° 41' " N Long 105° 21' " E 3. Lat ° ' " N/S Long ° ' " E/W Please include any additional information on a separate page. b) Upper left Lat ° ' " N/S Long ° ' " E/W  Lower right Lat ° ' " N/S Long ° ' " E/W
6. Approximate date/time of occurrence or predicted occurrence	Severe flooding and landslides followint intense rain 4-5 July 2009
7. Additional information on the disaster	At least 22 people died and 13 others went missing in weekend storms that pummelled mountainous northern Vietnam, according to the government's disasters office. The worst of the damage occurred in the province of Bac Kan, where 13 of the total number of dead perished, said the National Flood and Storm Control Committee. Flash floods "swept away everything in their path," the newspaper Thanh Nien quoted one local village chief, Ma Van Thoa, as saying. The government said nearly 530 houses had been damaged and 600 hectares (1,480 acres) of rice and other crops had been inundated. Source: AFP
8. Additional instructions (shipping instructions)	Data to be ftp-pulled by UNITAR/UNOSAT. United Nations Institute for Training and Research Operational Satellite Applications Programme UNITAR-UNOSAT +41 22 767 4020 +41 22 917 8062 +41 76 487 4998 (24/7 hotline) emergencymapping@unosat.org
To be filled by ODO	
Authorized User <input checked="" type="checkbox"/>	Other <input type="checkbox"/>

*E4. Provide a copy of the Emergency Data Request Submission forms for the various satellites:

*Completion of these fields is mandatory.

RADARSAT Data Request Submission - Canadian Space Agency

CSA will provide a Maximum of 5 RADARSAT framed images (Scenes) per Charter Activation. The restriction includes RADARSAT archives and / or upcoming data.

Note: RADARSAT-1 onboard recording is no longer offered and therefore any new acquisition will be planned for direct downlink to a receiving facility, provided such facility is available and able to make NRT data deliveries. Data from the RADARSAT-1 global archives are provided as available.

I) Procedure for Ordering RADARSAT Data:

1. Planning for RADARSAT will be handled by CSA On-Call Mission Planner on request by either the ECO or the Project Manager (PM).
2. Once the ECO has defined the RADARSAT data requirements surrounding a particular disaster, the ECO completes the CSA Emergency Request form (below) and sends it to:

EMAIL: OrderDesk@asc-csa.gc.ca

Or

FAX: +1-450-926-6799

3. ****The ECO MUST** page the CSA on-call person at +1-514-854-1200 and ask the operator to leave a message at # **419481** informing CSA of an incoming Charter request.
4. CSA analyses the RADARSAT data requirement in terms of programming constraints, acquisition time, downlink location, beam type, etc. If necessary, and for the best use of RADARSAT-2, or due to other imaging priority, CSA will inform the ECO of alternate satellite programming.
5. CSA checks the Archive inventories of both RADARSAT-1 and RADARSAT-2 for the most appropriate complimentary data for the new RADARSAT requests.
6. CSA-OC will then seek approval from CSA Management for image requests.
7. CSA submits user requests for planning and Emergency approval from MDA (CSA's industrial partner). Upon approval, CSA provides confirmation to the PM and / or the ECO that the images were successfully planned.
8. CSA provides status of the planned acquisition(s) to the PM and / or the ECO. Information is also provided on how to PULL the imagery from the RADARSAT FTP site by the CSA-OC.
9. The Canadian Data Processing Facility (CDPF) will inform the PM and / or the ECO when the imagery is ready for retrieval.

RADARSAT EMERGENCY REQUEST FORM (specific part)
Charter Space and Major Disasters

Call_ID #: 258

*Completion of these fields is mandatory.

DATE/Time received at CSA:

CSA On-Call:

CSA Internal Use Only

Number of Acquisitions Requested: New: **First possible acquisition(s)** Archives: **Compatible with scheduled acquisition(s)** (Max.: 5 Image Frames)

Available Beams	Scene Size	Resolution	Polarization
	Kilometres	Metres	(Dual: RADARSAT-2 Only)
<input type="checkbox"/> ScanSAR Wide	500 * 500	100	<input type="checkbox"/> Single or <input type="checkbox"/> Dual
<input type="checkbox"/> ScanSAR Narrow	300 * 300	50	<input type="checkbox"/> Single or <input type="checkbox"/> Dual
<input checked="" type="checkbox"/> Wide	150 * 150	30	<input type="checkbox"/> Single or <input type="checkbox"/> Dual
<input checked="" type="checkbox"/> Standard	100 * 100	25	<input type="checkbox"/> Single or <input type="checkbox"/> Dual
<input type="checkbox"/> Fine	50 * 50	8	<input type="checkbox"/> Single or <input type="checkbox"/> Dual
SPECIALITY BEAMS (RADARSAT-2 ONLY)			
<input type="checkbox"/> Fine Quad Pol ¹	25 * 25	8	Quad
<input type="checkbox"/> Standard Quad Pol ¹	25 * 25	25	Quad
<input type="checkbox"/> Ultra Fine ¹	20 * 20	3	Single

¹ Justification for Specialty Beams:

PROCESSING DETAILS:

Product: Path Image (SGF) Path Image Plus (SGX) Single Look Complex (SLC)

Data Format: GeoTIFF NITF

Application: Geology Forestry Oceans Agriculture Ice Hydrology
 Other -Specify: **Flood Monitoring**

Comments:

Approved by CSA:

Date / Time:

Comments:

CSA Internal Use Only

**Data Request Submission
ESA**

Procedure for Ordering New and Archive Data from ERS & ENVISAT

*Completion of these fields is mandatory.

1. Check on the Earth Watching (ESA service for emergencies/natural disasters) website, <http://earth.eo.esa.int/ew/>, if a planning for the event is already available.
Please note, that even if the ERS/ENVISAT is already planned, the ECO shall send the ERF as well as the EOLI-SA order.
2. Once the ECO has defined the requirements for ERS-2 / ENVISAT, he shall:
 - 1) place the order through EOLI-SA interface*
 - 2) send ESA ERF:

via e-mail to eohelp@eo.esa.int copy to eoplan@eo.esa.int and
via fax at +39-06 94180292
 - 3) call:
 - a) from 5:30 to 18:00 UTC the on-call service +39 348 7084910
 - b) outside above time: leave a message or send a SMS to the on-call service : +39 348 7084910

* In case of EOLI-SA unavailability, the ECO shall use the DESCW software, sending via e-mail the *.prm file (internal DESCW format) by using the "Save Parameter" option under the "File" menu.

ESA Emergency Request Form (specific part)

ESA Emergency Request	Id	258
Date/time received at ESA	06-July-2009 / Time:14:30 UTC	

ERS Scenes detail

Orbit	Track	Frame	Date (dd-mmm-yyyy)

ERS Product details

<input type="checkbox"/> RAW	<input type="checkbox"/> SLCI	<input type="checkbox"/> PRI
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ERS FTP pick up available only for acquisitions within visibility of ESA stations Matera and Kiruna.

Any ERS acquisition on an area outside Europe and North Africa will require data transfer on media from station to ESA. Therefore the delivery of the data to Charter user will be delayed of some weeks.

ENVISAT ASAR Scenes detail

Orbit	Swath (WS, 1-7)	Polarization (*)	Centr. Lat (N/S deg:min)	Centr. Long (E/W deg:min)	Date (dd-mmm-yyyy)

*Completion of these fields is mandatory.

38477	IS5	HH			10-July-2009
38520	IS3	HH			13-July-2009

(*) **Polarizations: VV, HH (WS & IM Mode), HH/VV, HH/HV, VV/VH (AP Mode only).**

Product details ENVISAT ASAR Narrow Swath

<input type="radio"/> IMS/APS (SLC)	<input checked="" type="radio"/> IMP/APP (PRI)	<input type="radio"/> WSM (Wide Swath Medium res)
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Recipient details

Destination	<input checked="" type="radio"/> AUTHORIZED USER	<input type="radio"/> END USER
User e-mail	emergencymapping@unosat.org	

Dear ECO

Please see below all information necessary to access and use EOLI-SA for ERS and Envisat products ordering with the following personal account:

username: XXFC3434
password : PRJCHARTER

You will be able to order archived products (ASAR HR and GM mode, MERIS FR and RR, AATSR) or future acquisitions (ASAR HR and MERIS FR),.

Procedure

- 1) Launch EOLI-SA (to install it, please refer to <http://eoli.esa.int/geteolisa>) and use "connect" to login using the username and password provided above (case sensitive). Follow the instructions to update EOLI- SA to new versions when applicable.
- 2) Select from the "on line collections" the ERS/Envisat sensor and mode of your interest
- 3) Select a time range
- 4) Define an area of interest – either by using the input fields or graphically on the map (in area mode). The size of the area should be as small as possible to cover the affected area (minimum is a 25 Km radius)
- 5) Submit the query.
- 6) Select one or more group results and use "append" or "replace" to visualize the results of the query.
- 7) Select one or more products from the displayed list and click on the shop cart button (small shop cart icon at the bottom) to add the items to your shop cart. If needed, you can superimpose the thumbnail on the map (drag and drop feature).

*Completion of these fields is mandatory.

product types, old and new acquisitions) and specify the required order options on the left hand side of the window.

In order to define the size of the product required, select one product at a time, then the applicable scene type on the left hand side and use the mouse on the map to:

- a) Drag the scene along the segment (floating scene)
- b) Resize it (use arrows on either end of the segment) if you select floating pass

In case of thumbnail superimposition, if there are discrepancies between the map and the superimposed thumbnail, please note that the correct values are the coordinates shown in the processing/delivery option area.

The button "Duplicate " at the bottom of Order options can be used :

a) to order consecutive scenes along the same segment, when pressing duplicate the on the selected segment the consecutive scene will be automatically defined and highlighted on screen

b) when the exact same frame is needed in 2 different product types, it allows creation of a new item without losing the original segment . The new item should be shifted back to the position of the original one on the map or using the scene location fields in the order options column.

- 10) When you have verified all order options, click on "CreateOrder" (gears icon at bottom).

Check (and correct if necessary) the shipping information and add the e-mail address.

The product is always disseminated via ftp with e-mail notification of product readiness on the server and details for login and pick up . Always select in the SHOPCART order option "delivery medium "= "file"

Note: the times shown in this window are those of the parent product, not the ones of the product ordered.

- 11) Add the Charter Call ID in the "Order Name" field in the following format "<call-###>", where '#' is a digit (e.g. <call-987>).

- 12) Optionally add a user remark.

- 13) Submit the order (note: when successfully ordered, items are automatically removed from your shop cart).

- 14) The submitted orders and their status can be viewed in the "orders" window.

Important remarks:

- Orderable products: MERIS FR/RR, ASAR IM/AP/WS/GM, AATSR
- Minimum product size (processing constraint)

ASAR IM/AP =	15 secs
ASAR WS =	60 secs
MERIS RR =	3 mins 16 secs
MERIS FR Quarter	1 mins 38 secs
MERIS FR Mini	50 sec
- Maximum number of items per order: 10

Note: a polarization selected for archived products will not be taken into account

Please contact eohelp@esa.int for any information you need to use the tool.

The on-line user Manual of EOLI-SA is available at: <http://eoli.esa.int/geteolisa/EoliSA-Manual.pdf>

Data Request Submission

Japan Aerospace Exploration Agency

Requirements for JAXA Data Ordering

- Desktop PC, running on Windows
- Fax machine
- E-mail
- Internet connection (Recommended browser: Netscape 7.0 or higher / Internet Explorer 6.0 or higher)

Procedure for Ordering JAXA Data

1. The ECO connects to the AUIG web site <https://auig.eoc.jaxa.jp/auigs/en/top/index.html> to search ALOS future acquisition and archive data with the following account.
User ID: CHRT0002
Password: Charter.01
(Please do not change the password. All the ECO use the same.)
2. The ECO completes the JAXA Emergency Request Form and send it by fax and e-mail to the following points.
Fax: +81-49-298-10015885(Main), +81-49-296-5885+81-49-298-1398(Backup)
E-mail: charter_eco@eoc.jaxa.jp
3. The ECO confirms the reception of ERF by telephone at the following contacts.
00:30-16:40 UTC weekday:
+81-49-298-1302,
16:40-00:30 UTC weekday, all day weekend and Japanese public holidays:
+81-90-3687-91717233 (Main)
+81-49-298-1302 (Backup)
4. The ECO or the PM can order maximum 10 products per event. In the special order exceeding 10 products, please consult with Executive Secretariat of JAXA in advance.

Outline of Products

ALOS

Sensor	PRISM		
Processing Level	1A	1B1	1B2
Map Projection	-	-	UTM/PS
Resampling	-	-	CC/BL/NN
Earth Ellipsoid Model	GRS80	GRS80	GRS80

*Completion of these fields is mandatory.

Format	CEOS-BSQ	CEOS-BSQ	CEOS-BSQ
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Sensor	AVNIR-2		
Processing Level	1A	1B1	1B2
Map Projection	-	-	UTM/PS
Resampling	-	-	CC/BL/NN
Earth Ellipsoid Model	GRS80	GRS80	GRS80
Pixel Spacing	-	-	10m/15m/20m *1
Format	CEOS-BSQ	CEOS-BSQ	CEOS-BSQ

Sensor	PALSAR		
Processing Level	1.0	1.1	1.5
Map Projection	-	-	UTM/ PS/MER/LCC *2
Resampling	-	-	CC/BL/NN
Earth Ellipsoid Model	GRS80	GRS80	GRS80
Pixel Spacing	-	-	6.25m/12.5m/100m *3
Format	CEOS-BSQ	CEOS-BSQ	CEOS-BSQ

*1 There are 3 kinds of default pixel spacing depending on the range of the pointing angle.

10m for 0 to 31.6 degrees, 15m for 31.6 to 40.3 degrees and 20m for 40.3 or more degrees.

*2 MER and LCC for ScanSAR.

*3 Default pixel spacing of 6.25m for FBS; 12.5m for FBD, PLR and DSN; and 100m for ScanSAR.

Processing Levels

Sat.	Sensor	Proc. Level	Outline of Product
ALOS	PRISM AVNIR-2	1A	Uncorrected Image Product
		1B1	Radiometrically Corrected Image Product
		1B2	System Corrected Image Product
	PALSAR	1.0	Raw Signal Data Product
		1.1	Single Look Complex Data Product
		1.5	System Corrected Image Product

JAXA EMERGENCY REQUEST FORM (Specific Part)

International Charter on "Space and Major Disasters"

Date and Time of Request

06/Jul/2009 (MM/DD/YYYY) 14:30 (UTC)

ALOS Data Request

*Completion of these fields is mandatory.

New Acquisition

Sensor	Mode	AcquisitionDate (MM/DD/YYYY)	Path	Remarks
<input checked="" type="checkbox"/> PRISM	<input type="checkbox"/> OB1 <input type="checkbox"/> OB3	Program the first possible acquisition.		Pointing Angle (deg.)
<input type="checkbox"/> AVNIR-2	OBS			Pointing Angle (deg.)
<input checked="" type="checkbox"/> PALSAR	<input checked="" type="checkbox"/> FBS <input type="checkbox"/> FBD <input type="checkbox"/> PLR <input type="checkbox"/> WB1	Program the first possible acquisition.		Off-nadir Angle (deg.) Polarization: <input checked="" type="checkbox"/> HH <input type="checkbox"/> VV (FBS/WB1) <input type="checkbox"/> HH+HV <input type="checkbox"/> VV+VH (FBD)

Archive Data

Sensor	Mode	Acquisition Date (MM/DD/YYYY)	Path	Frame	Remarks
PALSAR	FBS / HH	Archive data with near mode, off-nadir angle and season as new acquisition.			
AVNIR-2					
PRISM		As close as possible to 6th July			

Processing Level: All products will be processed at the Level 1B2 for AVNIR-2/PRISM and Level 1.5 for PALSAR unless specified below.

AVNIR-2, PRISM: _____ PALSAR:

Delivery Details: Upload to the recipient's FTP server

FTP address:

Username: _____ Password:

Download from JAXA FTP server

Other:

Additional Remarks : Call ID 258

Location: Vietnam flood

Geographical Centre Points Coordinates in Degrees, minutes, seconds:

First Area: 22° 15'00"(N) / 105° 49'00"(E)

Second Area: 20° 41'00" (N) / 105° 21'00" (E).

Extent (km2).

*Completion of these fields is mandatory.

Spot Data Request Submission

CNES (revised in October 2008)

(Caution: Notice to be read before filling in the ERF)

For a Charter activation, CNES is pleased to offer two (*) images (**) from the SPOT satellites family (for example one image from archive and a new acquisition...), on one 60x60 km area during one week programming.

1. Requirements for SPOT data ordering

- desktop PC running Windows;
- e-mail;
- Internet connection;
- Telephone and fax.

2. To fill in the ERF

It is mandatory to indicate the following information in the ERF (for help, see additional information):

“Requested image location details” part:

- Indicate the country or area name and the coordinates of the requested image location: ONLY in Degrees, Minutes, seconds coordinates of image center point (radius = 30km)

“New acquisition request” part:

- the requested image (s):
 - period : make your choice between specific beginning date or immediate programming
 - programming parameters : make your choice between “any resolution” or specific resolution and spectral mode
- the pre-processing level you need (see explanation below)

“Archive data request” part (if any):

- make your choice between a request for archive search (to be done by SPOT IMAGE) or indicate the SPOT image catalog reference with Shift along the Track if needed (reference to be found on the SIRIUS ONLINE CATALOG : <http://sirius.spotimage.fr/anglais/welcome.htm>)
- the pre-processing level you need (see explanation below)

3. To transmit the ERF

The completed ERF is to be transmitted to SPOT IMAGE:

- The ERF shall be transmitted to SPOT IMAGE by email at the following address: charter.disasters@spotimage.fr , confirmed by fax: + 33 (0)5 62 19 40 55 . In addition, a phone call (+33 (0) 5 62 19 43 33) is mandatory during week end and French holidays, from 3 pm UTC the working day before, to inform the on-duty operator he may have to modify the SPOT programming plan.
- This phone number is an “answering machine” during workings hours, and an “on duty” operator during Week end and French Public Holidays (between 6 am and 11 am UTC)

(*) Only validated and delivered images are taken into account. If more images or extension of the covered area, or extension of the programming period are needed, an agreement must be requested to CNES via SPOT IMAGE (charter.disasters@spotimage.fr).

(**) By definition, an image corresponds to one acquisition covering an area of 60 km x 60 km and may be composed of the PAN channel, the XS channels or the PAN + XS channels (separated or merged).

*Completion of these fields is mandatory.

4. SPOT system characteristics and products

Satellites	Payload	Spectral Bands	Modes	Size	Resolution	Revisit period
------------	---------	----------------	-------	------	------------	----------------

SPOT-1 (*)

SPOT-2

SPOT-3 (*)

HRV B1, B2, B3

PAN Multispectral

Panchromatic 60 km

x

60 km 20 m

10 m

For each satellite : anywhere in the world once at least every 5 days, or for latitudes around 45°, once every 3 days.

For the constellation : anywhere, once a day

SPOT-4 (**)

HRV IR B1, B2, B3, SWIR

PAN Multispectral

Panchromatic 60 km

x

60 km 20 m

10 m

SPOT-5 (***)

HRG

B1, B2, B3, SWIR

PAN (HMA or HMB)

PAN (HMA + HMB)

Multispectral

Panchromatic

Panchromatic 60 km

x

60 km

10 m (20 m for SWIR)

5 m

2.5 m

(*) : for SPOT-1 and SPOT-3 : archive images only

*Completion of these fields is mandatory.

(**): for SPOT4, SPOT IMAGE also delivers 10 meters colour images combining panchromatic and multispectral bands, so that the selection of 10 meters Colour Multispectral products in the ERF table below involves both SPOT 4 and SPOT 5 satellites and gives a much better revisit period than 2.5 and 5m colour products involving SPOT 5 only

(***): In case 2.5 or 5 meters resolution colour images are requested in the ERF table, two separate SPOT5 products will be delivered , the 10 meters multispectral and the 2.5 or 5 meters panchromatic products

Pre-processing levels:

Level 1A: radiometric corrections, at system level (the most standard one)

Level 1B: radiometric and geometric corrections, at system level.

Level 2A: Images are rectified to match a standard map projection (UTM WGS 84), using a global DEM but without using ground control points.

5. Additional information for ECO

Programming

Tasking or canceling requests must be received by SPOT IMAGE before 11 am UTC the day before the acquisition.

1. SPOT IMAGE performs an analysis centered on an area < 60 km by 60 km in order to fix the best acquisition opportunity, the satellite used and the imaging conditions. Three attempts will be programmed by default.
2. Then SPOT IMAGE informs the ECO about the programming conditions (date of acquisition, satellite, imaging parameters).
3. Around 3 pm UTC, the “Quick Look” of the concerned data will be available on the SIRIUS ONLINE CATALOG at the following address: <http://sirius.spotimage.fr/anglais/welcome.htm>

Archive images

“Quick looks” of archive images can be selected through the SIRIUS ONLINE CATALOG at the following address : <http://sirius.spotimage.fr/anglais/welcome.htm> .

SPOT IMAGE may propose additional archive data.

Production delivery time

Images will be available for downloading, on the SPOT-IMAGE server, around three or four hours after launching into production

EMERGENCY REQUEST FORM FOR SPOT DATA (specific part)

International Charter on Space and Major Disasters

Requested image location details: mandatory

Area Name / Country :

North Vietnam

Coordinates of image center point : (ONLY in Degrees, Minutes, seconds)

Priority 1

Latitude : 22 ° 15 ' 0" N

*Completion of these fields is mandatory.

Longitude : 105 ° 49 ' 0" E
(Radius = 30 km) Priority 2
20 ° 41 ' 0" N
105 ° 21 ' 0" E

New acquisition request (*):

First acquisition date : ASAP / . . / (dd/mm/yy)
or YES As soon as possible N.B. : the programming on this area
will be activated for one week nominally

Requested image(s) :

Any resolution, as soon as possible

OR

10m-20m
YES 5m -2.5m

Black and white
 Colour

Pre-processing level :

1A or YES 1B
or 2A

Additional instructions :

SPOT 5 and / or Formosat would be appreciated.

Archive data request (*):

YES archive search requested OR image ID (Sirius code and shift).....

Pre-processing level : 1A or YES 1B or 2A

Additional instructions :

(* CAUTION: a maximum of 2 images in total (for example one archive plus one new acquisition) shall be ordered by the ECO, on the same area (If more images or extension of the target area, or extension of the programming period are needed, an agreement must be requested to CNES via SPOT IMAGE : charter.disasters@spotimage.fr)

Media : Will be issued through FTP

Shipping to:

Authorized User End User : (Other)
(please mention email address)

Additional information :

Send to: emergencymapping@unosat.org, einar.bjorgo@cern.ch, chris.stewart@esa.int

*Completion of these fields is mandatory.

*E5. Provide a copy of any user feedback forms submitted by the end users or email correspondence regarding the end use(s).

Indicate your choice with an “X”. (VG: Very Good, G: Good, R: Regular, B: Bad)

1. Did you encounter difficulties in triggering the Charter?	Yes <u> </u>	No <u>X</u>
Comments:		

2. How was the communication with the Charter officers?	VG <u>X</u>	G <u> </u>	R <u> </u>	B <u> </u>
Comments: when the disaster happened, I triggered the Charter by mail				

3. Did the delivered data fulfill your request?	Yes <u> </u>	Partly <u>X</u>	No <u> </u>
Comments: because this disaster in Vietnam is flashflood happened during shorttime so it is difficult to received the satellite on realtime or near-real time. the bad weather so the optical image is cloudy (comes up to 90%)			

4. Were the data delivered in due time?	Yes <u> </u>	No <u>X</u>
If not, what was your expectation? During shorttime of disaster, unfortunately we don't have the data realtime or near-real time. Comments:Other, the area is small so if possible we need the data with higher resolution (radar and optical imagery).		

5. Were data delivered in an appropriate way?	Yes <u>X</u>	No <u> </u>
Comments: we downloaded all the data by FTP		

6. Were data presented in an appropriate format?	Yes <u>X</u>	No <u> </u>
Comments: format of data is not big problem because we have many ways, softwares to process		

7. Was the information content relevant and accurate?	Yes <u> </u>	No <u>X</u>
Comments: the area of damage is belong to Norther mountain provinces of Vietnam (Bac Can, Cao Bang, Ha Giang) but the some data is underneath area (Hoa Binh province).		

8. Was the overall quality of the products delivered:	VG <u> </u>	G <u> </u>	R <u>X</u>	B <u> </u>
Comments:				

9. Did you use the data for:			
Operations <u>X</u>	Communication <u> </u>	Planning <u> </u>	Documentation <u> </u>
Lessons Learned <u>X</u>	Other <u> </u>	Nothing <u> </u>	
Comments: we extracted the information (area damage) and intergrated with database GIS to provide for Vietnam National Search&Rescue Committee. Other, we practiced our skill on reponding in emergency case.			

*Completion of these fields is mandatory.

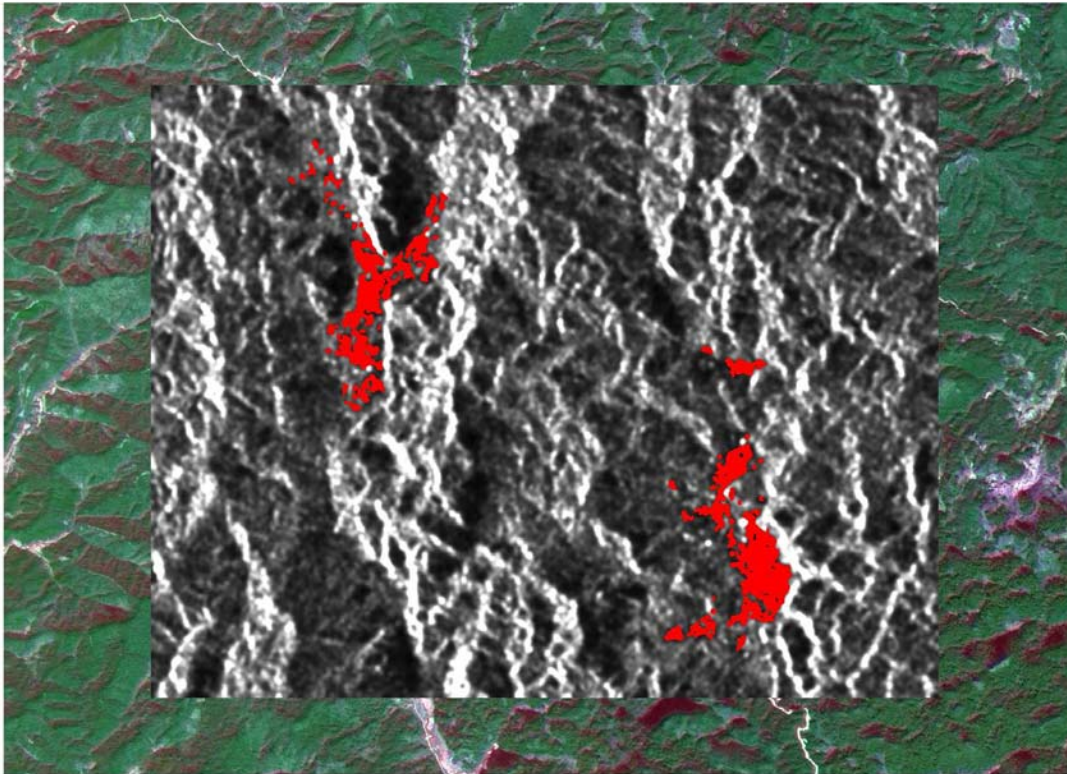
10. Overall, the Charter contribution to this emergency was: VG G R B

Comments: with this disaster in Vietnam, it is difficult to expect the data satisfying all requirements.

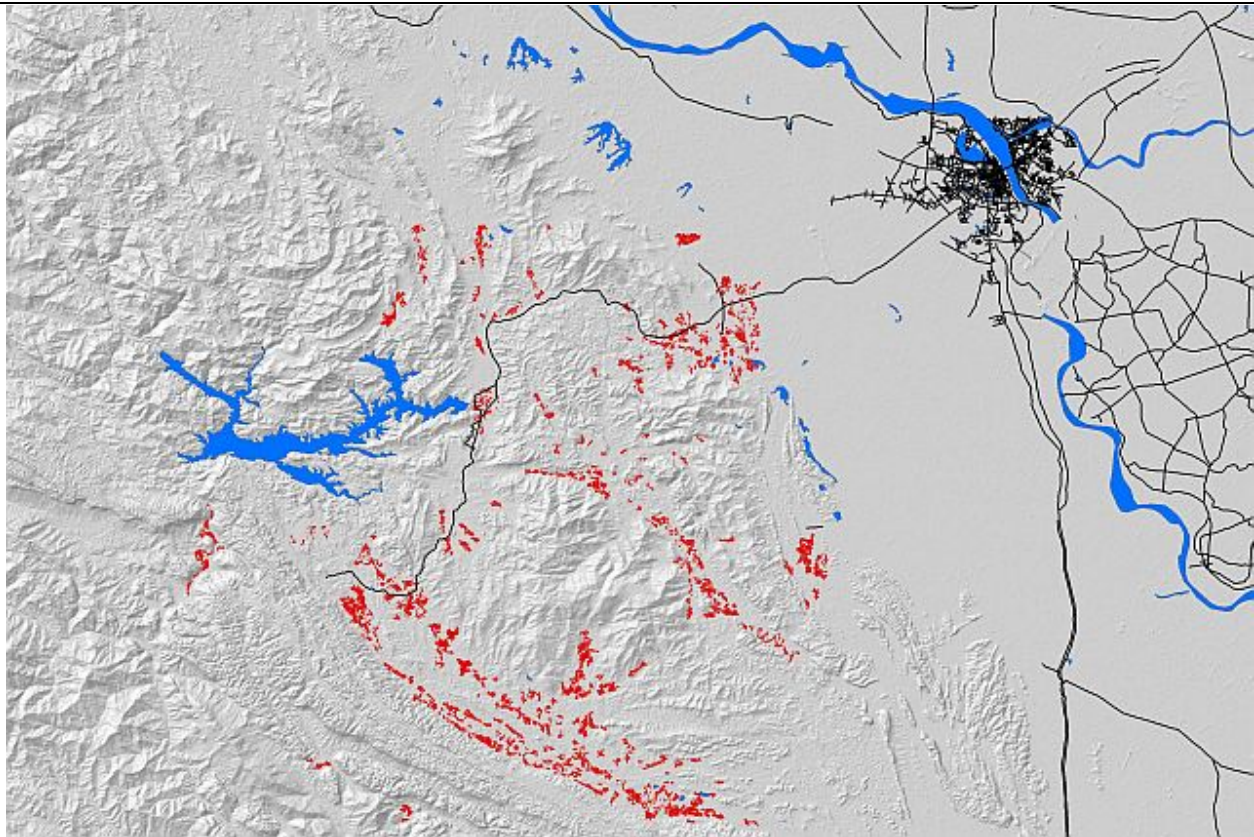
Additional Comments:

- In Vietnam, apply remote sensing technology in emergency case is still develop, we need the sharing of experience from professional agency throught international and regional workshops, technologies transfer, science conference...
- We expect to receive your help in the future in order to monitor and manage disaster in Vietnam.
- Overall, many thanks for your concern.

*E6. Provide a copy of the value-added products here. Please insert copies into this document as .jpeg or other small file formats:



*Completion of these fields is mandatory.



FLASH-FLOOD AFFECTED AREAS IN NGUYEN PHUC, BACH THONG, BAC KAN PROVINCE, VIET NAM

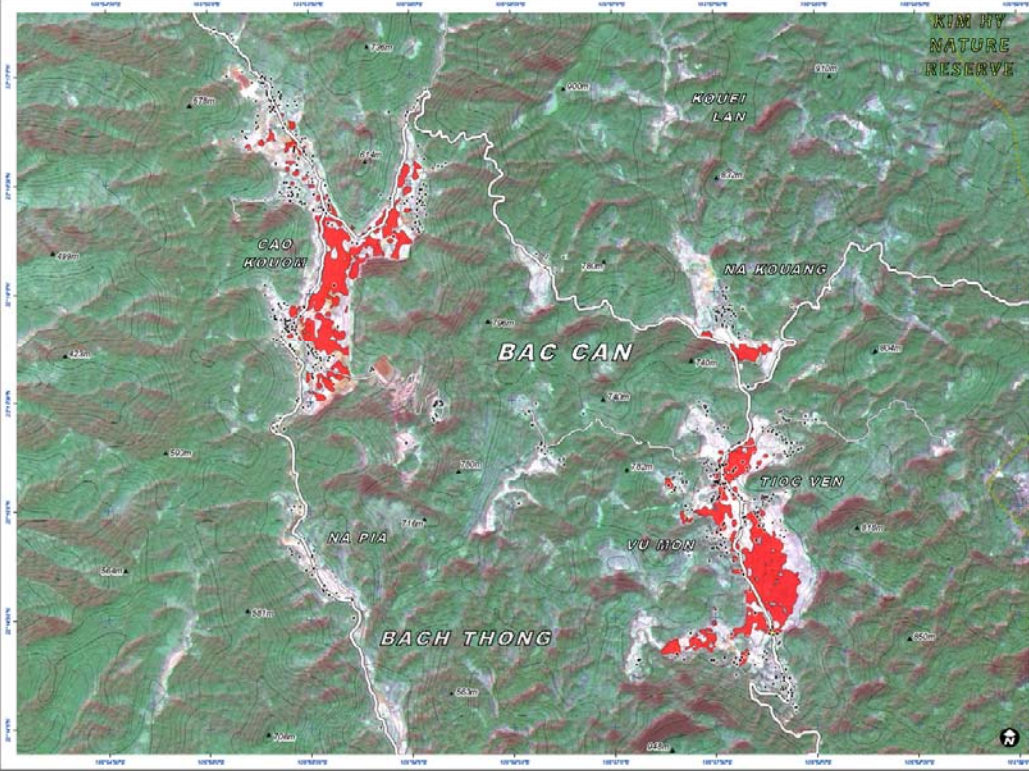
Analysis with RADARSAT 2 & 1 data acquired on 11 July 2009 & 19 March 2001

The map illustrates satellite-detected areas affected by flash-flooding in the province of Bac Kan. The data is based on change detection analysis using Landsat 5 TM imagery from the year 2001 and RADARSAT 2 SAR imagery from 11 November 2009. The data was processed using the change detection software developed by the Disaster Management Centre, UNOSAT, and the results are presented in this map.

Disaster coverage by the International Charter 'Space and Major Disasters' is provided on the Charter website at www.internationalcharter-spaceandmajordisasters.org



Heavy Rainfall & Flooding
 14 July 2009
 Version 1.0
 Globe No: FL-2009-000124 UNM



- Legend**
- International Border
 - Province Boundary
 - Road
 - Water
 - Flash Flood
 - Secondary Rd
 - Tertiary Rd
 - Thick / Trail
 - Thin
 - Water

SATELLITE ASSESSMENT CLASSIFICATION:
 Double High Flood Affected Land (Radarsat 2 - 11 July 2009)

Map Scale for A3: 1:26,000

Scale: 1:26,000
 0 700 1400 2100 Meters

Imagery Date 19: RADARSAT 2 & 1
 Imagery Date 01: 11 Jul 2009 19 Mar 2001
 Processor: 25
 Copyright: © UNOSAT 2009
 Contact: info@unosat.org
 Imagery Date 02: 11 November 2009
 Processor: 25
 Copyright: © UNOSAT 2009

Imagery Date 03: ASTER 300M
 Processor: 25
 Copyright: © UNOSAT 2009

Source: UNOSAT

Map Production: UNOSAT

Projection: UTM Zone 48 North
 Datum: WGS 84 (GSM 84)

unitar
 United Nations Institute for Training and Research

UNOSAT
 United Nations Office for Space Research

Contact Information: unosat@unosat.org
 2401 Wellington - #11 250 0000
www.unosat.org

*Completion of these fields is mandatory.