

# Oil Spill Response to “Xin-gang 7 · 16” Accident

Liaoning MSA, China



# Outline

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- **1 General introduction of the accident**
- **2 Pollution situation**
- **3 Emergency response**
- **4 Clean-up operations**
- **5 Summary**

# 1 General introduction

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- The background and cause of the accident







# 1 General introduction

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**Location of oil spill into the sea :  
Work boat wharf, Dalian Xin-gang Port**

# 2 Pollution



# 2 Pollution

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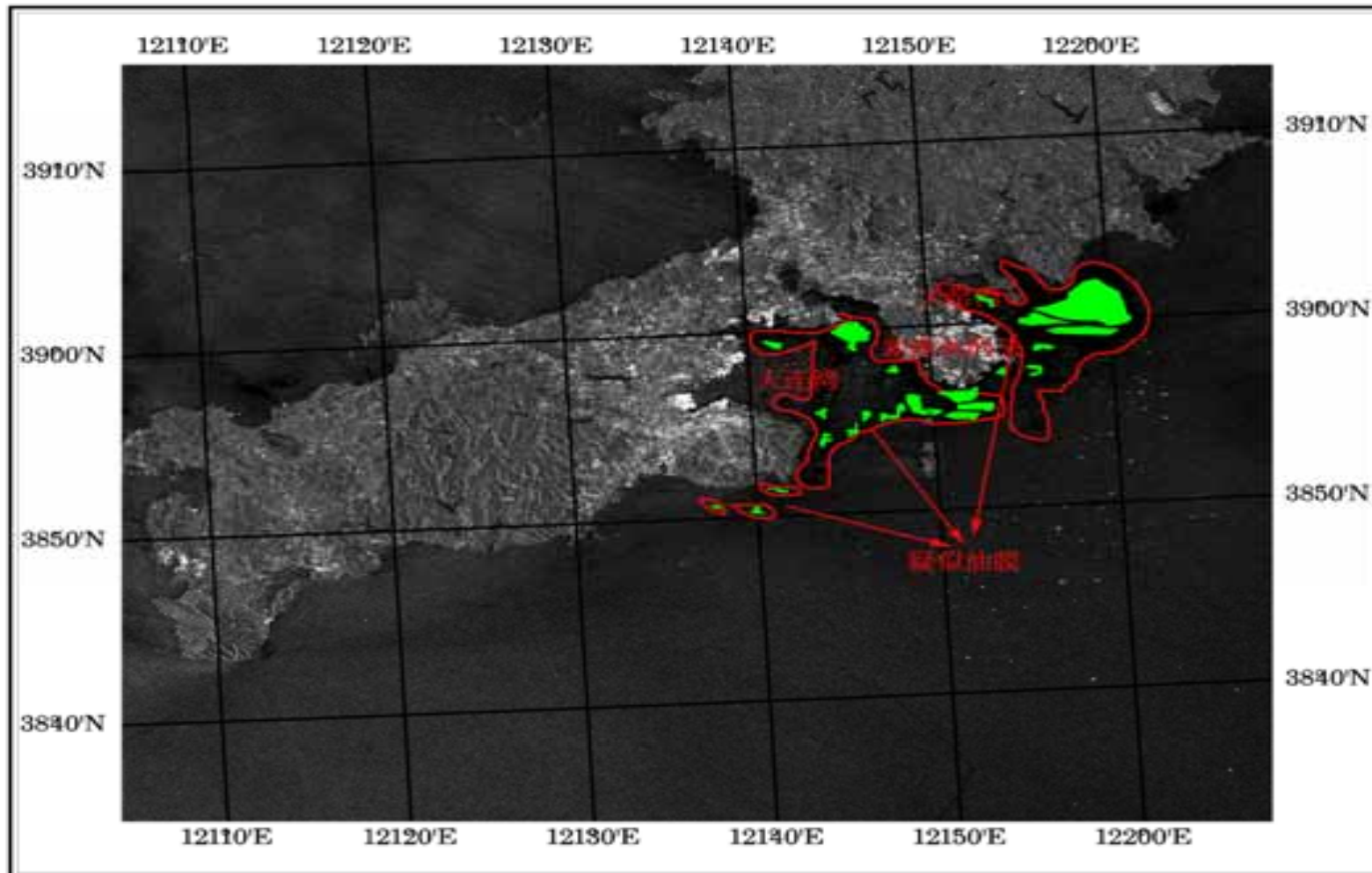


- **Aerial Photo, 17 July 2010**



# 2 Pollution

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Spread of spilled oil as illustrated by Radarsat-2 satellite image 17:47, 19 July 2010

# 2 Pollution

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Thermal infrared image of the polluted sea area,  
20 July 2010

# 2 Pollution

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Spread of the spilled oil on sea, 20 July 2010

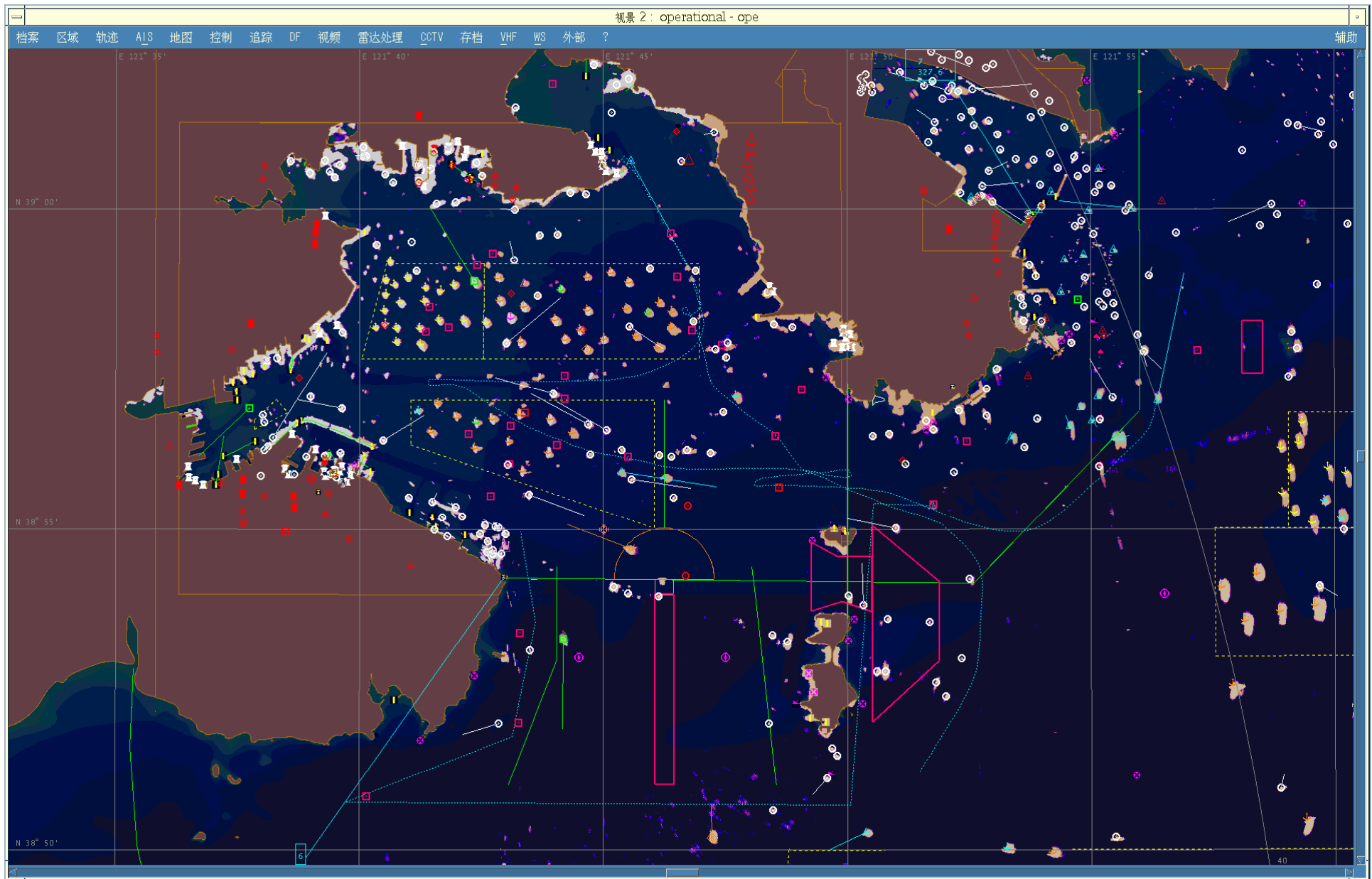
# 3 Emergency response

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## ◆ Measures taken for the oil spill accident

- Liaoning MSA Search and Rescue Center quickly activated the local contingency plan, and reported to China Maritime Search and Rescue Center.
- China Maritime Search and Rescue Center immediately initiated the national contingency plan, provided support to emergency operations, coordinated clean-up resources in other regions to assist Dalian.
- Liaoning MSA Search and Rescue Center make emergency arrangements such as designating traffic control area and evacuating vessels nearby.
- Liaoning MSA Search and Rescue Center quickly arranged oil spill response teams to start clean-up operations.



# Evacuate ships through Vessel Traffic Service System



**Xin-gang Port area, early morning on 17 July**



# 4 Clean-up operations

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- **4.1 Activating contingency plan and making tasks clear**
- **4.2 Developing clean-up action plan**
- **4.3 Monitoring and predicting Oil spill**
- **4.4 Carrying out clean-up operations**



## 4 .1 Activating Contingency Plan

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**The Ministry of Transport and China MSA activated the contingency plan, provide guide and support to the clean-up operations**



## 4 .1 Activating Contingency Plan

*China MSA*



- After activated the Dalian Marine Pollution Contingency Plan, Dalian government set up several working groups, namely, clean-up group, environmental protection group, monitoring group, logistical group, etc.
- Liaoning MSA was appointed as clean-up commanding headquarters by Dalian government. Environmental Protection Agency, Oceanic and Fishery Department, harbor administration, Dalian Port Group were all required to cooperate with Liaoning MSA.

## 4.2 Developing clean-up action plan

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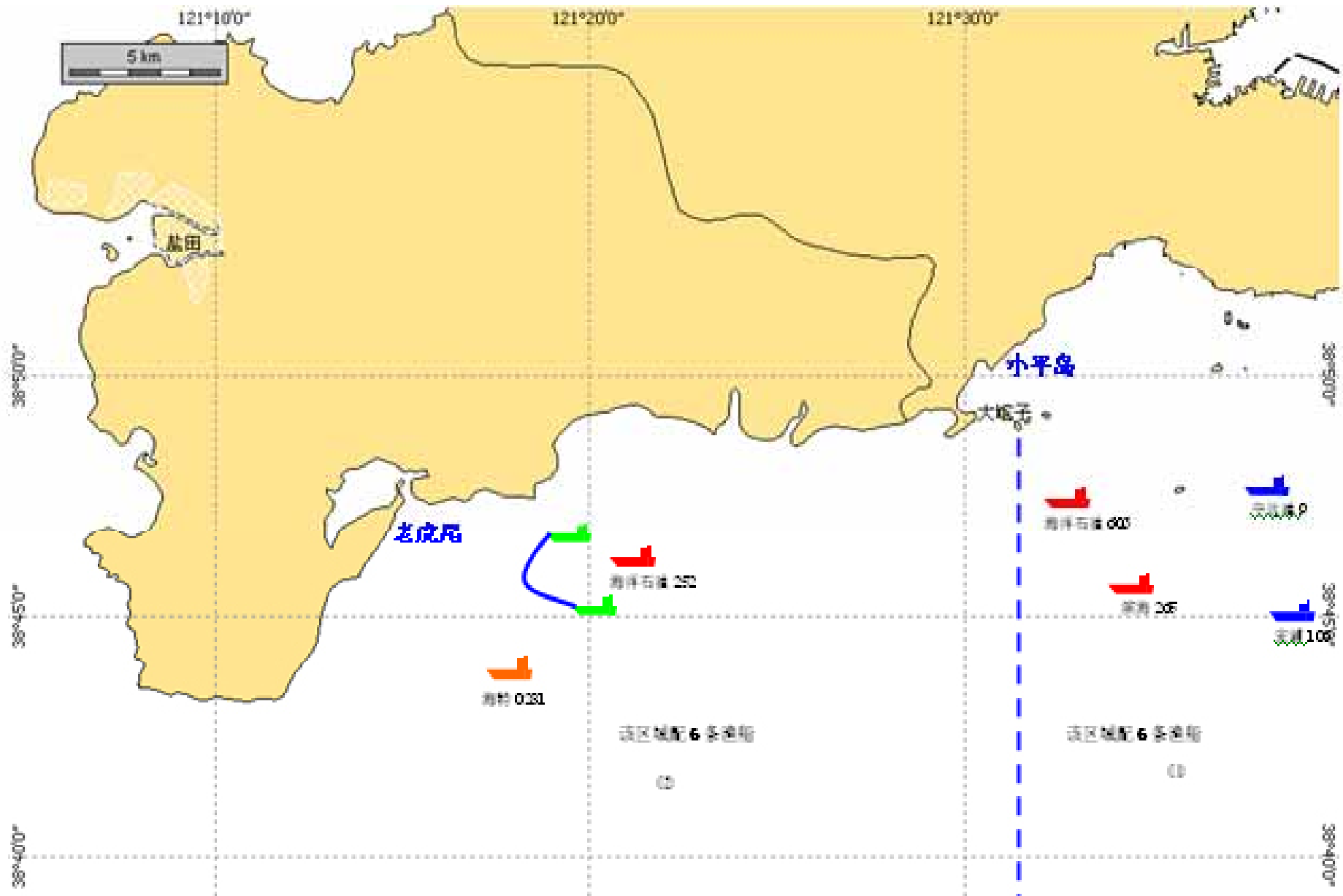


The clean-up **action plan** was drawn up according to assessment of marine pollution

Primary strategy: **containing, pursuing, obstructing, cleaning-up.**







## 4.3 Monitoring and predicting Oil spill *China MSA*



- **Air and Marine Monitoring**
- **Satellite Monitoring**
- **Radar and Thermal Infrared Monitoring**
- **Oil Spill Tracking Buoys**
- **Prediction of the spread of spilled oil**
- **Coastal Surveillance**

## 4.3 Monitoring and predicting Oil spill *China MSA*



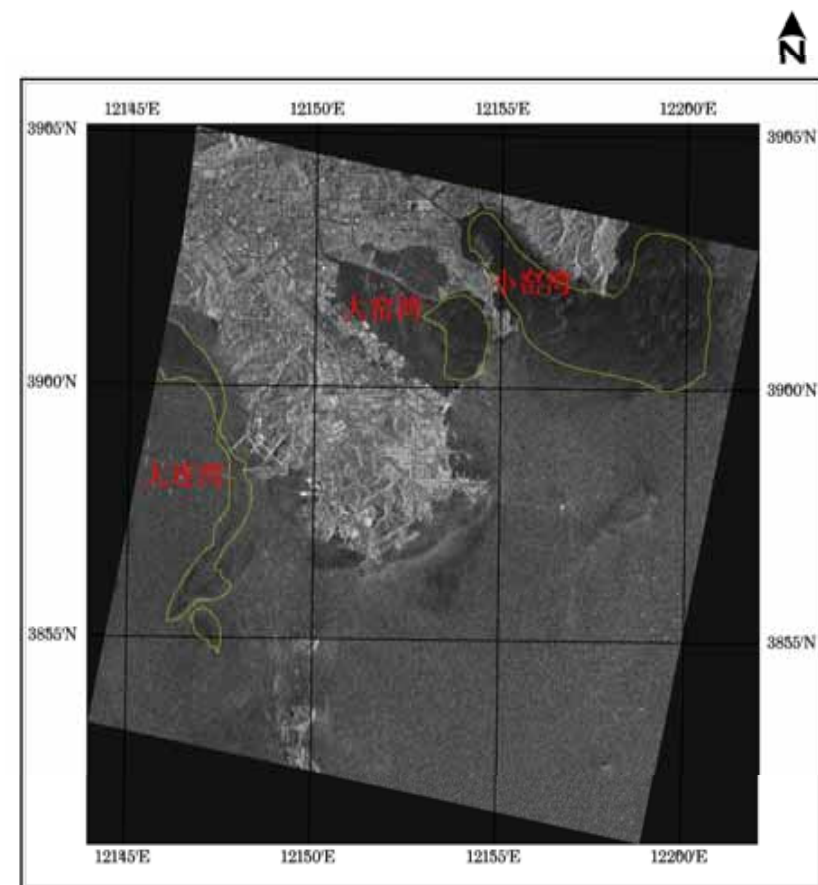
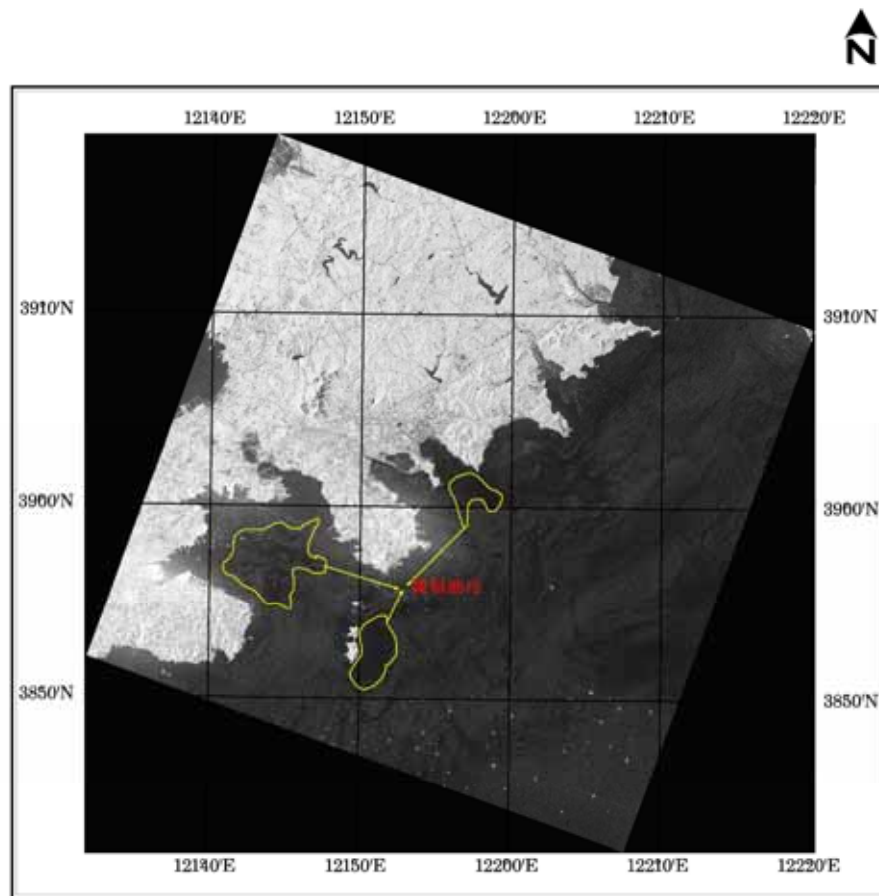
**Air and Marine Monitoring**







# 4.3 Monitoring and predicting Oil spill *China MSA*



**Radasat-2 Satellite Monitoring**

# 4.3 Monitoring and predicting Oil spill

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**Radar Monitoring and Thermal Infrared Monitoring**

# 4.3 Monitoring and predicting Oil spill

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**Oil Spill Tracking Buoys**

# 4.4 Clean-up Operations

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- Containment
  - Deploying Booms to contain the spilled oil and protect sensitive resources
- Recovery of spilled oil
- Microbe degradation, bioremediation, Chemical dispersion
- Monitoring and controlling
  - in peripheral area
- Shoreline clean-up







































## 4.5 Statistics of clean-up operations

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- 45,000 personnel
- 1015 voyages of specialized clean-up vessels
- 27 flights for surveillance
- 8150 voyages of fishing boats
- 38500m boom
- 174.7 ton sorbents
- 27040 m sorbent boom
- 466,000 Plastic bags for collecting garbage
- 430,000 knitted straw
- 50,000 plastic buckets
- 6927 drums
- 1678km<sup>2</sup> clean-up area
- 12376 tons oil recovered
- 7028 tons oily garbage

**By 31<sup>st</sup> of August, Dalian Government announced that clean-up operations accomplished successfully.**



# 5 Summary --experience gained

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## **1. An efficient command system established through local government as the center leadership and MSA as the headquarter**

- **MSA play an important role as the commander and coordinator**
- **Local government and relevant governmental departments provide powerful support**

# 5 Summary --experience gained

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## **.2 The key role of MOT and affiliated professional teams**

- **Instruction and support from MOT and China Maritime Search and Rescue Command Center**
- **Oil spill aerial monitoring carried by MOT facilitated accurate decision-making**
- **The key role of nearly 30 specialized vessels from China MSA and China Resue & Salvage Agencies**

# 5 Summary --experience gained

*China MSA*



## **.3 Application of high-tech means in oil spill surveillance, monitoring and clean-up operations**

- **Analysis of oil spill spread range by reading satellite images**
- **Accurate information gained and mapping oil spill spread obtained by aircraft and ship monitoring**
- **The position of oil slick detected by oil tracking and alarming buoys**
- **The overall trend of oil spill drifting predicted by oil spill prediction system**

# 5 Summary --experience gained

*China MSA*



## **.4 Clean-up technical solutions and actions are generally effective**

- **Timely containment of the spilled oil at the location of leakage**
- **Protection of key sensitive areas**
- **Reasonably delineating work area and deployment of clean-up teams**
- **The significant effect of fishermen manual operation**
- **Integration of marine and coastal clean-up actions**

# 5 Summary --experience gained

China MSA



**.5 Experiences gained in clean-up operations**

**.6 Carrying out a clean-up effect evaluation**



Taking samples

# 5 Summary --experience gained

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**Seabed sampling and diving survey**

# 5 Summary --experience gained

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## Suggestions

- **Improving marine oil spill emergency response mechanism**
- **Promoting oil spill emergency preparedness**
- **Researching and developing new clean-up technologies**

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THANK YOU

