

# Capacity building activities of POPs monitoring in East Asia

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# Risk assessment-based approach for sound chemical management

- Toxicity to human beings
- Ecotoxicity

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Levels of

- Human exposure
- Environment



*National*

Identify  
Sources



Set Env. Std./target  
→ periodical monitoring  
to check clearance



*International*

Background  
Monitoring  
for Effectiveness  
Evaluation

Proper  
Regulation /  
Management

<Nat.> <Inter.>

Levels: Higher > Lower

Frequency: Higher / Lower



# Examples of capacity building programs on pollutants monitoring

## <National monitoring/management>

### JICA (Japan International Corporation Agency):

- Set up research facilities, such as;  
Environ. Res. Training Center, Thailand (1992)  
Environ. Management Center, Indonesia (1993)  
Sino-Japan Friendship Center for Environ. Protect., China (1996)
- Training of POPs and other pollutants analysis

### UNU/Shimadzu : Environ. Monitor. Governance in Asia (1996~2018)

: China, India, Indonesia, Republic of Korea, Malaysia, Pakistan,  
Philippines, Singapore, Thailand, Vietnam

### Japan Society for Environmental Chemistry

International conference (ICAEC2014, Bangkok)

### Many professors, researchers



## <International programs to support related activities>

### Japan-Korea cooperative joint research on POPs and other relative chemicals (2001~present)

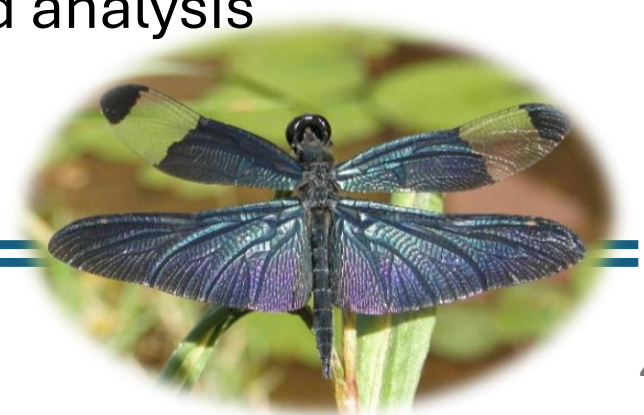
- : exchange information on policy and management on POPs
- : harmonize POPs monitoring / analytical methods

### Workshop on POPs monitoring in East Asia (POPsEA) (2002~)

- : Cambodia, Indonesia, Japan, R. Korea, Lao, Malaysia, Mongolia, Philippines, (Singapore), Thailand, Vietnam (+SC secretariat)
- : share information on policy / management / monitoring of POPs
- : conduct POPs monitoring in air

### POPs training workshop (Republic of Korea) (2011~)

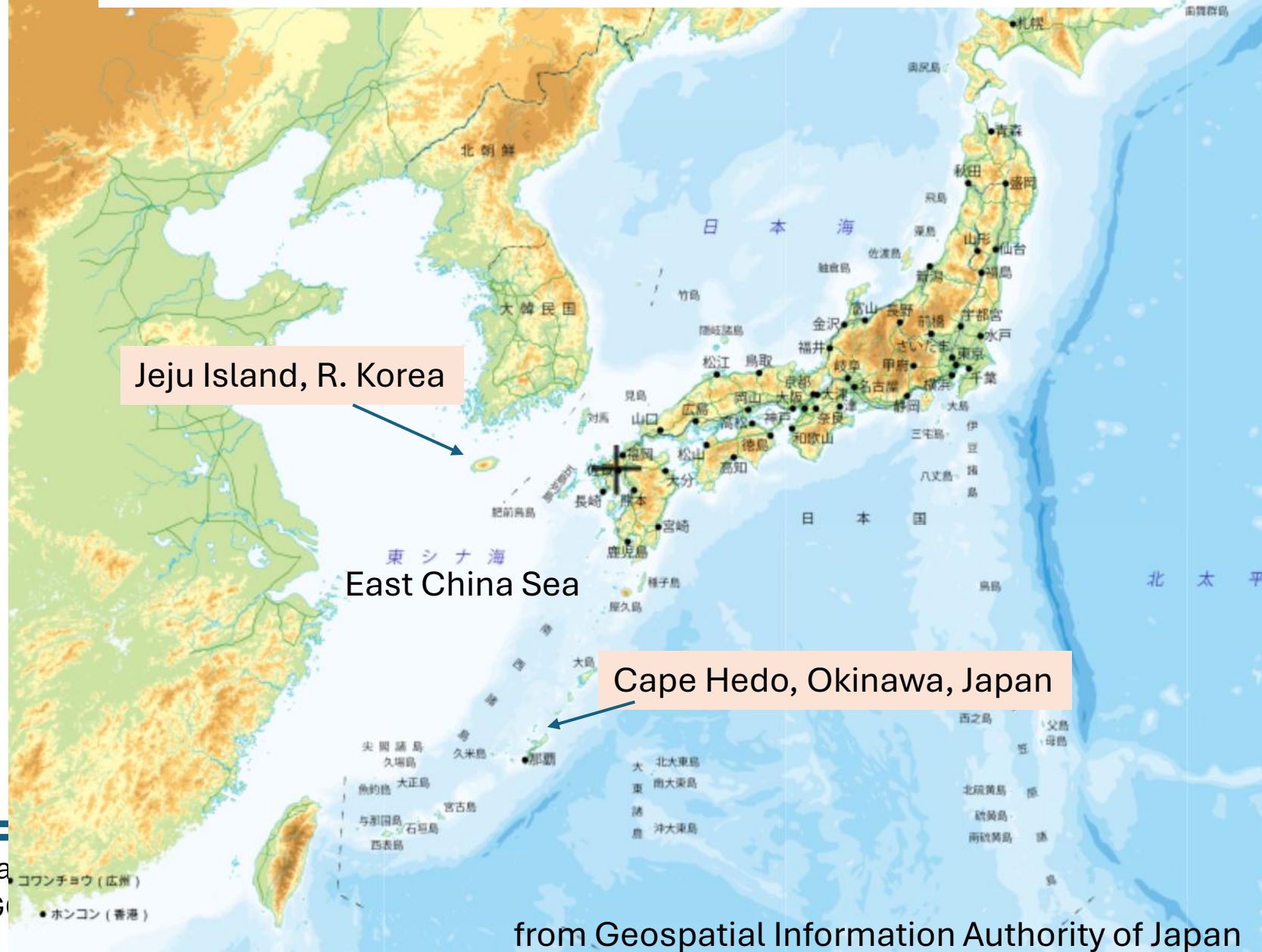
- : conduct training of POPs monitoring and analysis
- : under the framework of POPsEA





# Background air POPs monitoring sites in East Asia

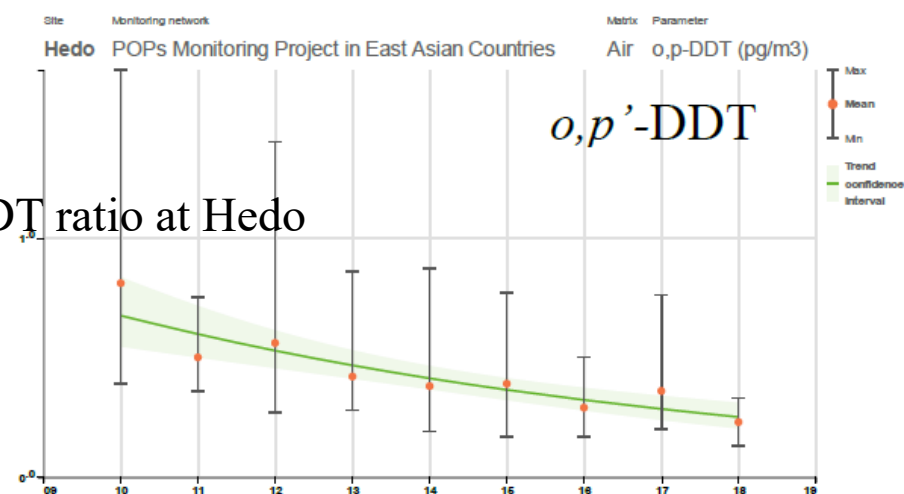
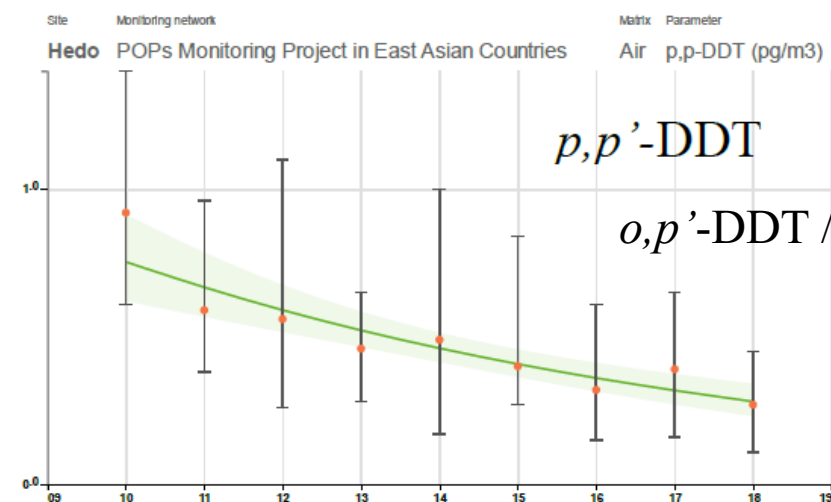
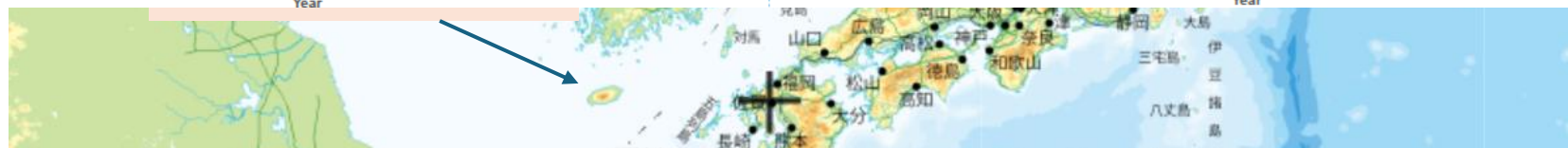
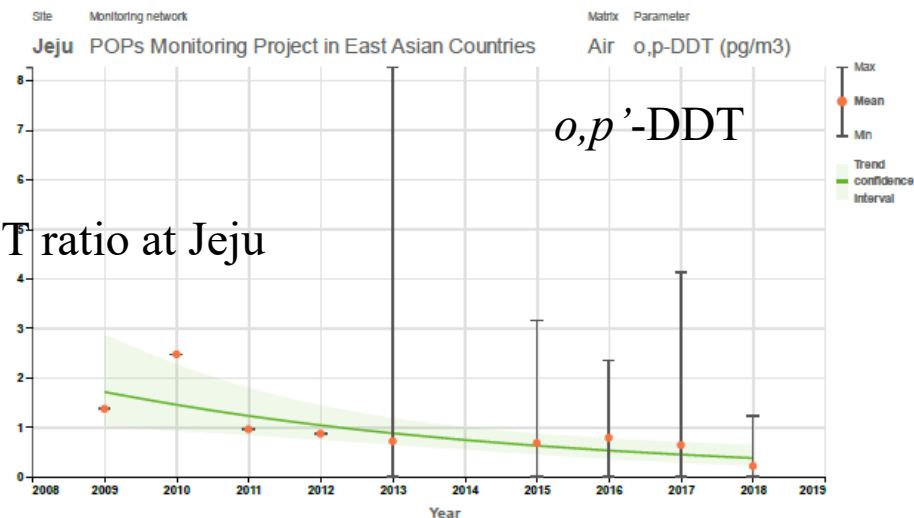
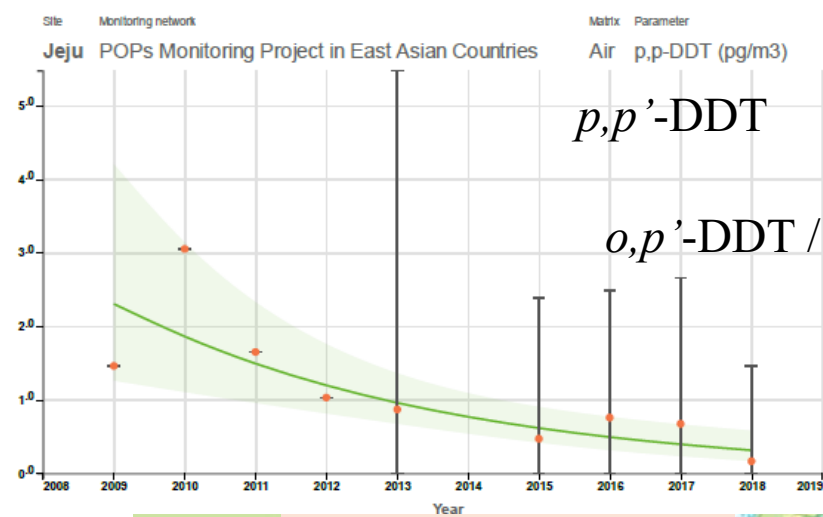
(from 3<sup>rd</sup> Regional Report in Asia/Pacific to support EE, SC (p.84))



from Geospatial Information Authority of Japan

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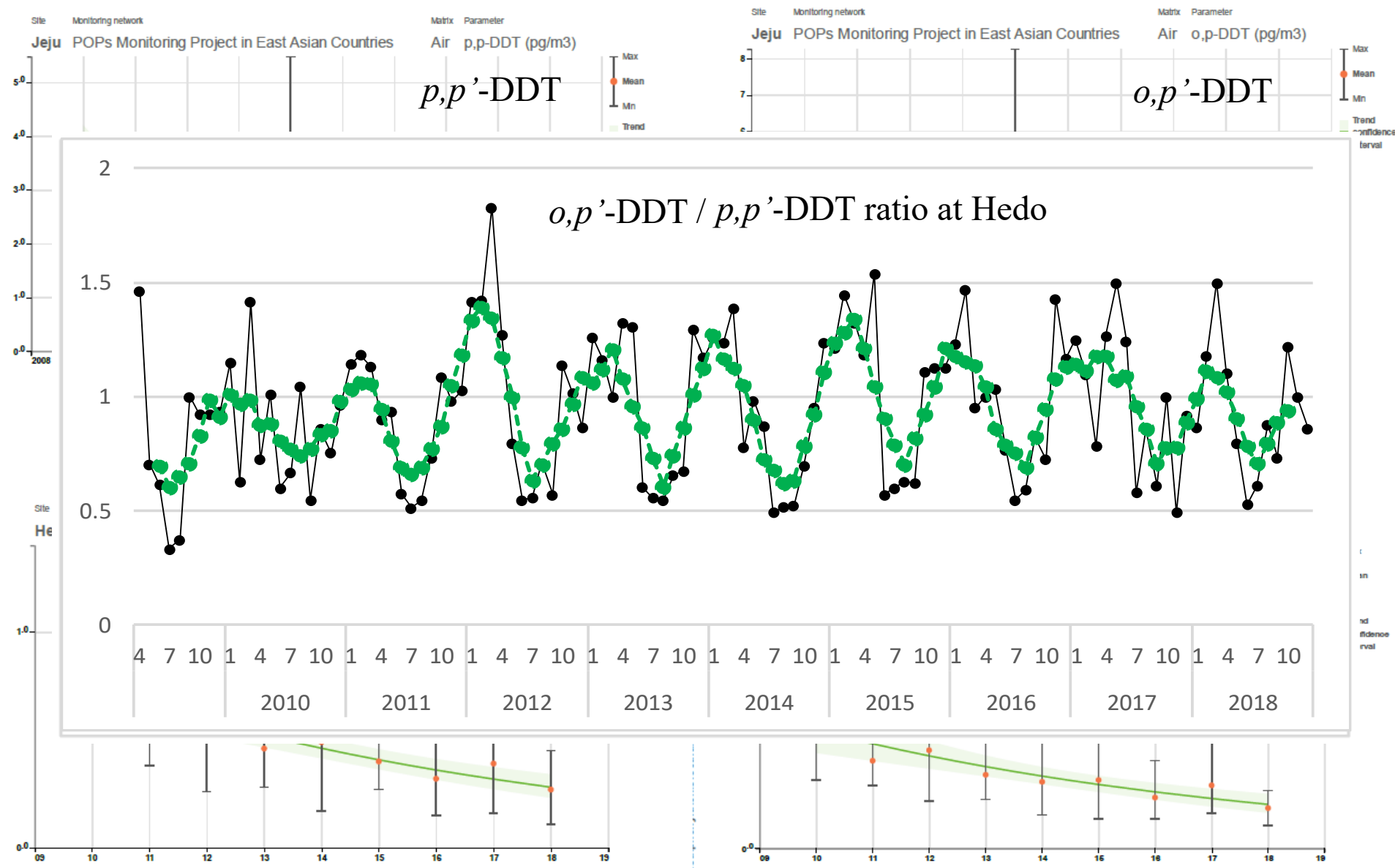
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(G) ホンコン (香港)

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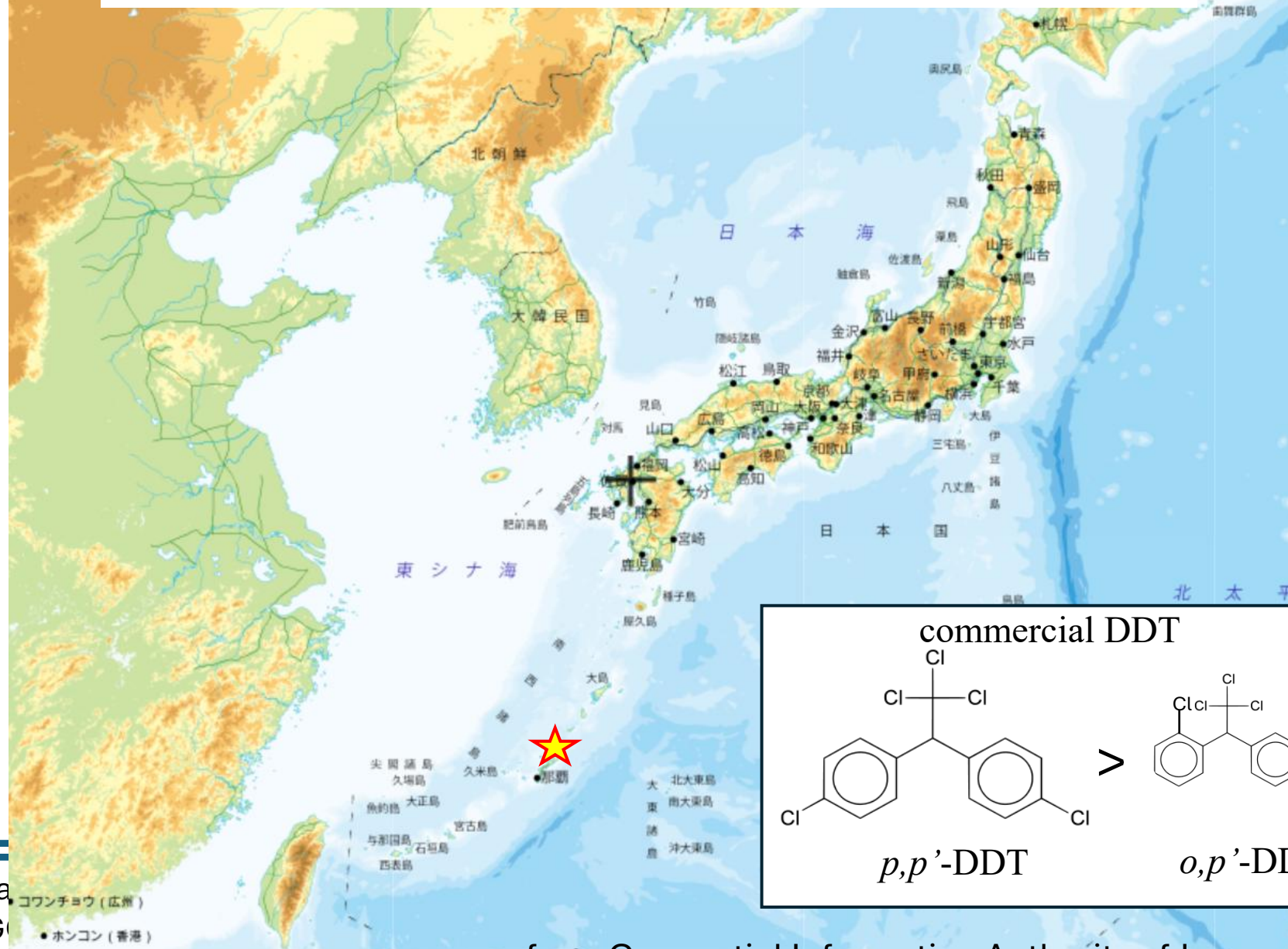


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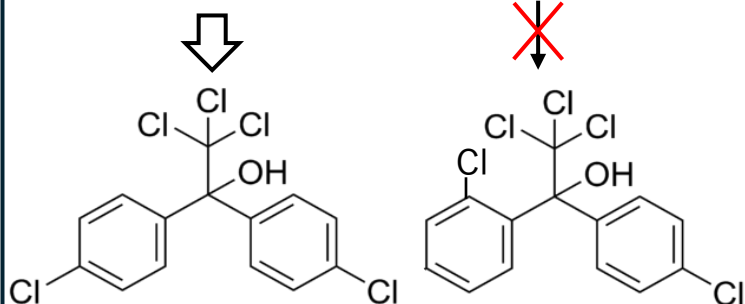


# Background air POPs monitoring sites in East Asia

(3<sup>rd</sup> RR in A/P; Takazawa et al., Environ. Pollut., 217,134 (2016))

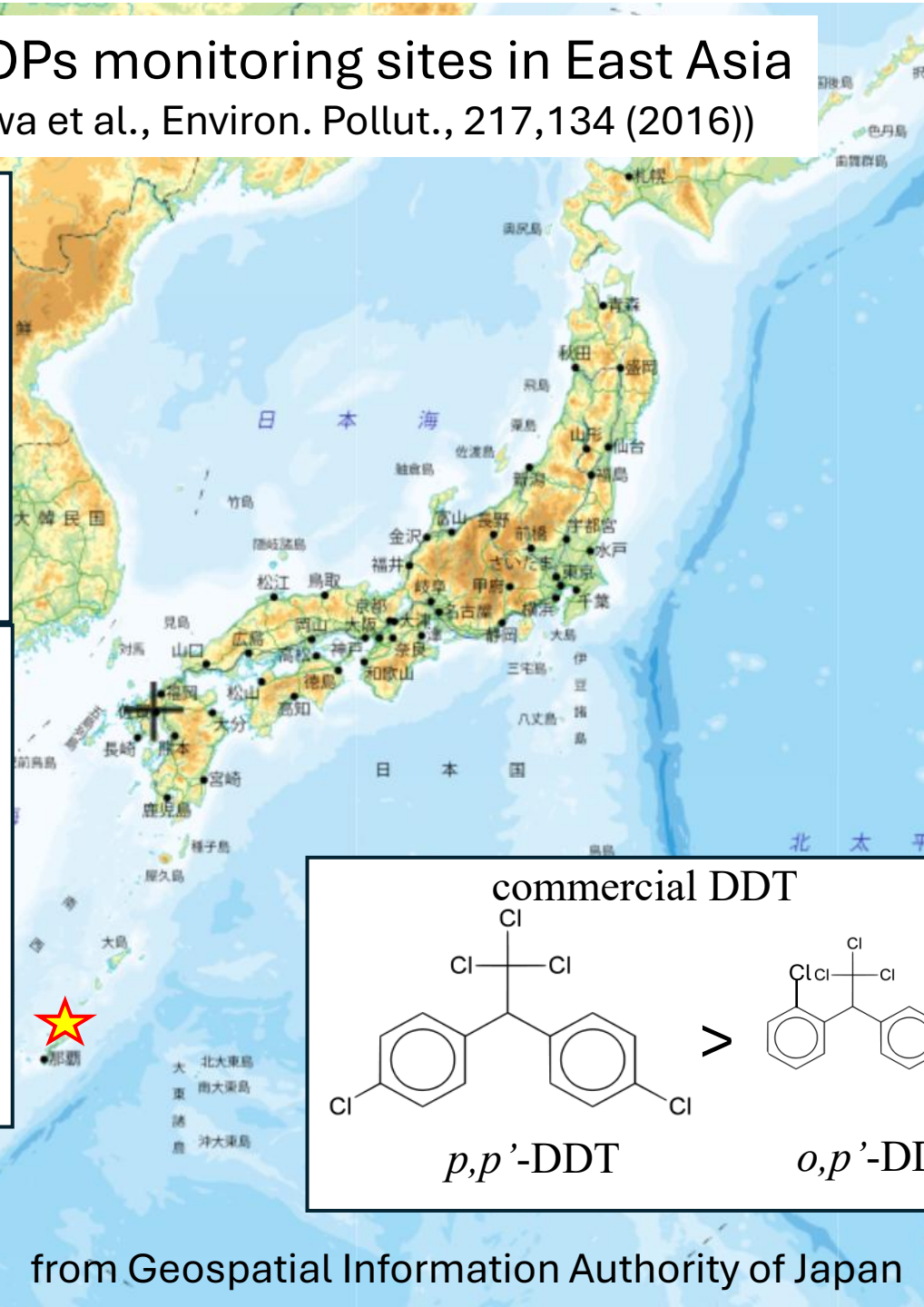
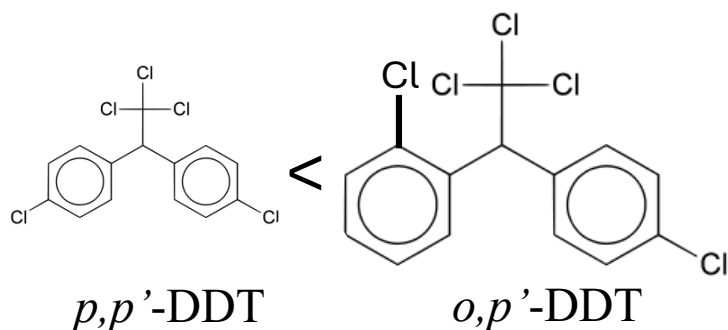
*p,p'*-DDT

*o,p'*-DDT

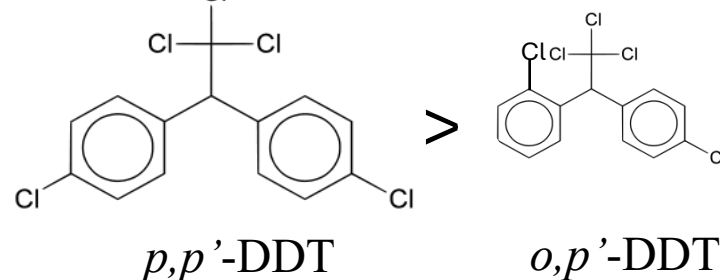


Dicofol

DDT in air in China: X. Qiu, T. Zhu,  
*Chemosphere* **81**, 1033-38 (2010)



commercial DDT



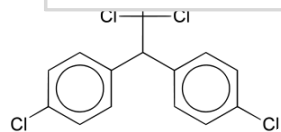
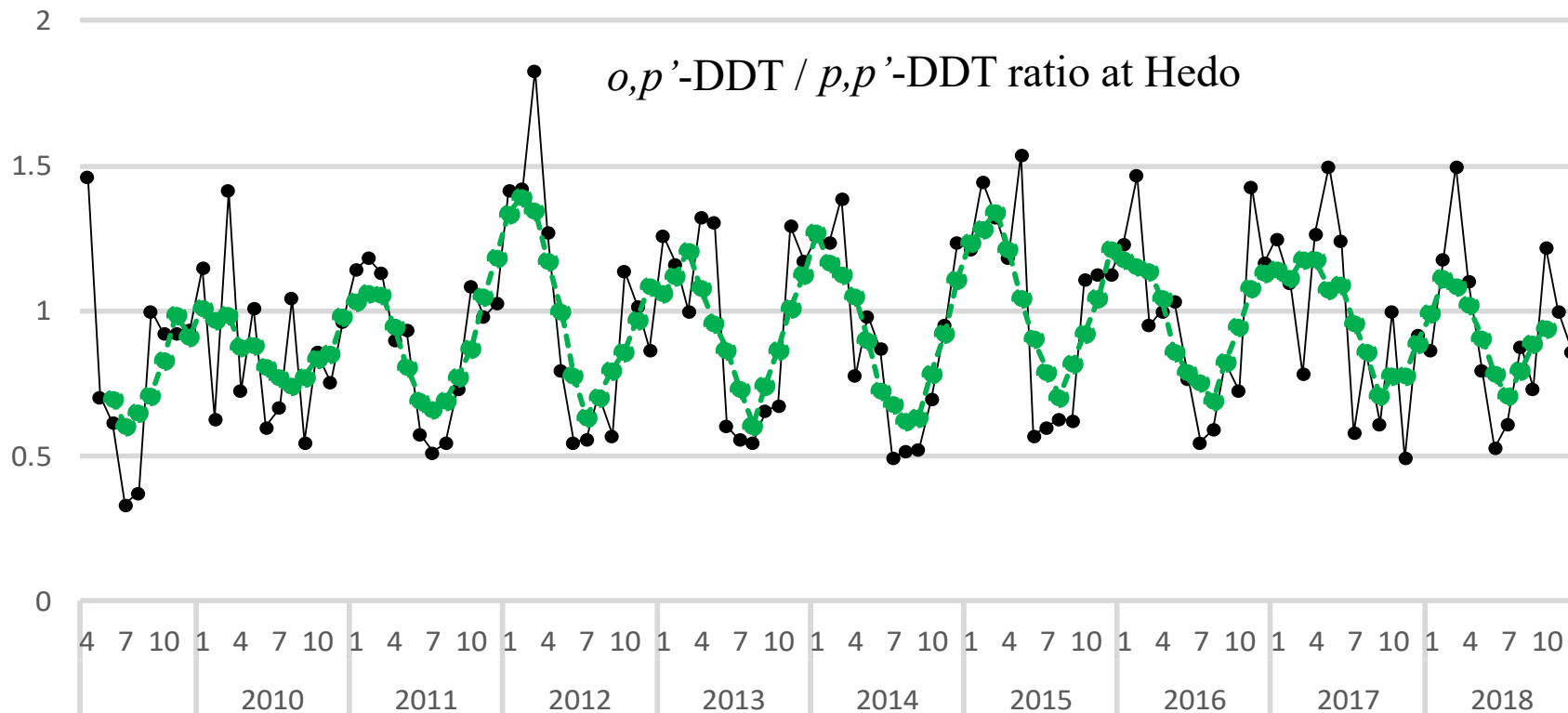
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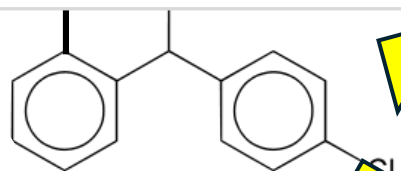


*o,p'*-DDT / *p,p'*-DDT ratio at Hedo



*p,p'*-DDT

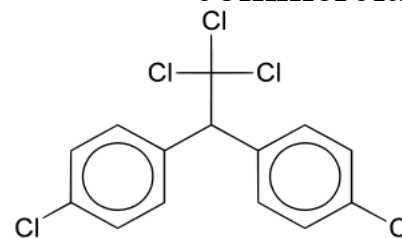
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*o,p'*-DDT

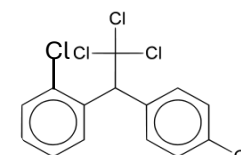


commercial DDT



*p,p'*-DDT

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*o,p'*-DDT

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(G  
コワンチョウ (広州)  
● ホンコン (香港)

from Geospatial Information Authority of Japan

## [ Summary]

### Environmental monitoring plays key role in chemical management

- : revealing clearance status of standards
- : identifying major emission sources
- : assessing effects of chemical managements and international activities, including Stockholm Convention.

### Capacity building of environmental monitoring includes;

- : national level (higher POPs levels/high frequency measurements)
- : international level (low POPs analysis at background sites)

Several capacity building / enhancement activities have been conducted in East Asia to support proper management of POPs.

Capacity building should include not only analytical techniques but also monitoring design and interpretation of data.

(note: Please see 3<sup>rd</sup> regional report in Asia Pacific (p.64, p.86) and 3<sup>rd</sup> global report (p.40) on HCBd increase in East Asia:

<https://www.pops.int/Implementation/GlobalMonitoringPlan/MonitoringReports/tabid/525/Default.aspx>)