Analytical result of Cyclone Pam in Vanuatu by ALOS-2/PALSAR-2

Remote Sensing Technology Center of Japan

Japan Aerospace Exploration Agency

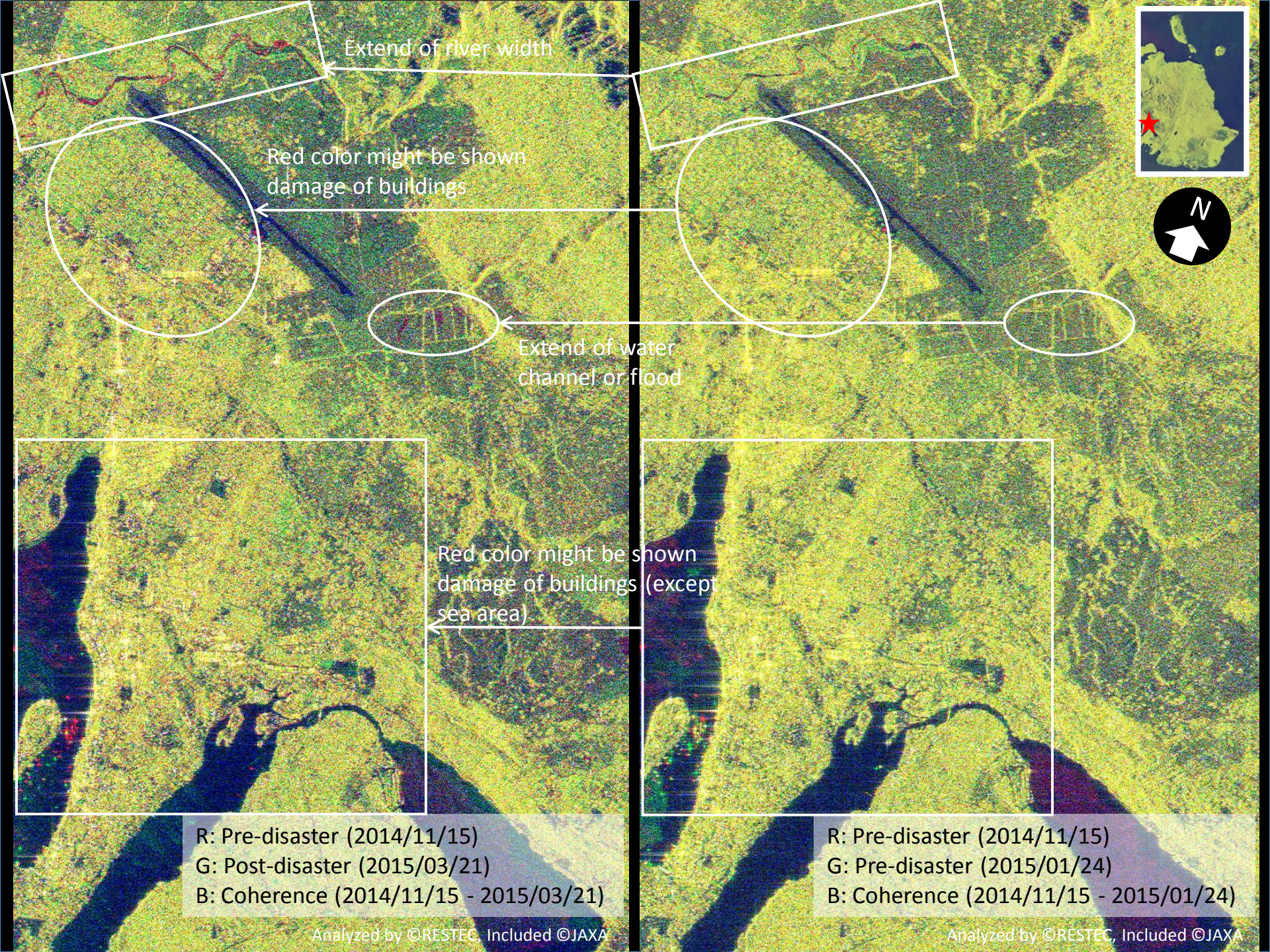
Introduction

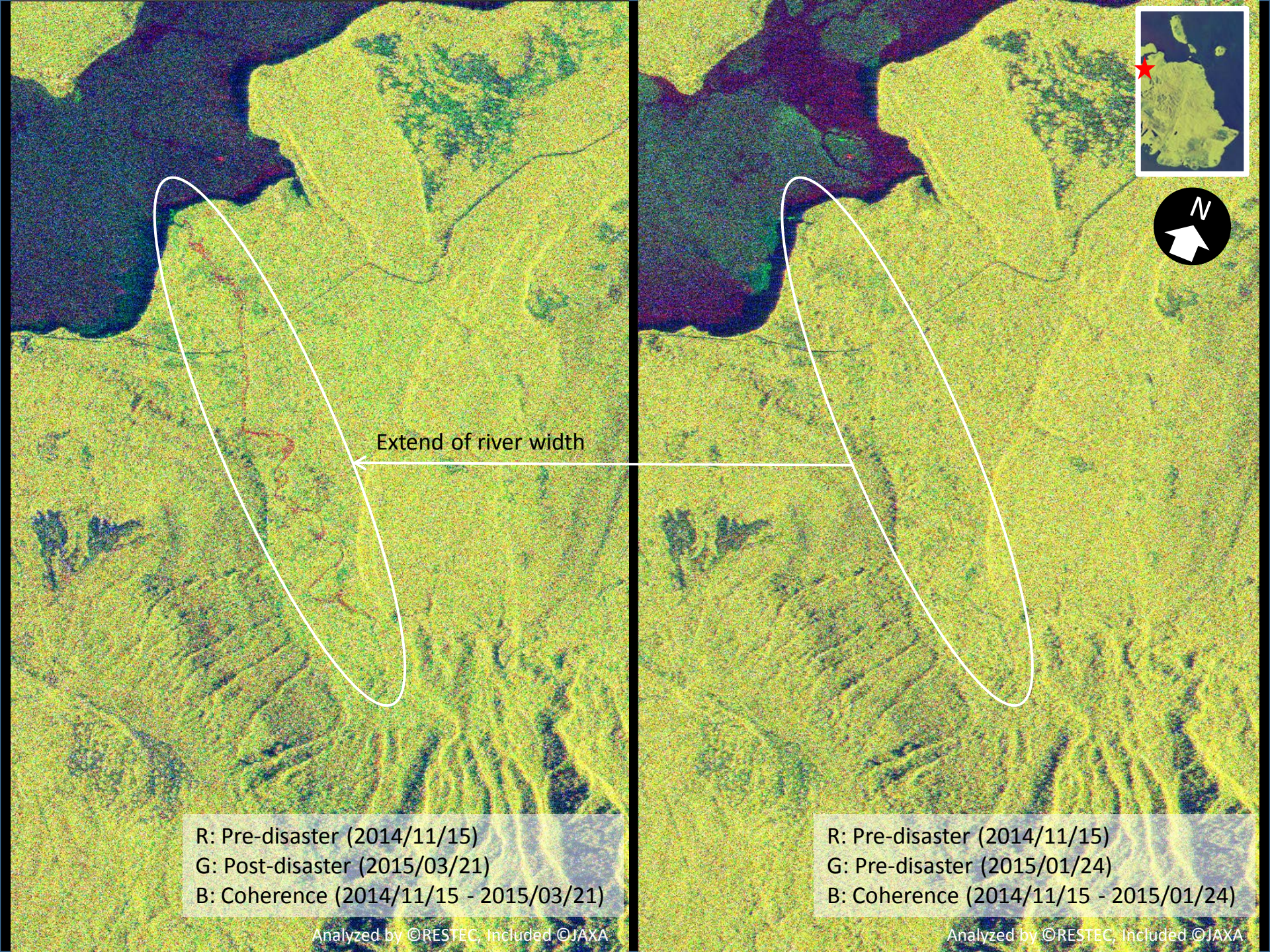
- List of data used in this analysis

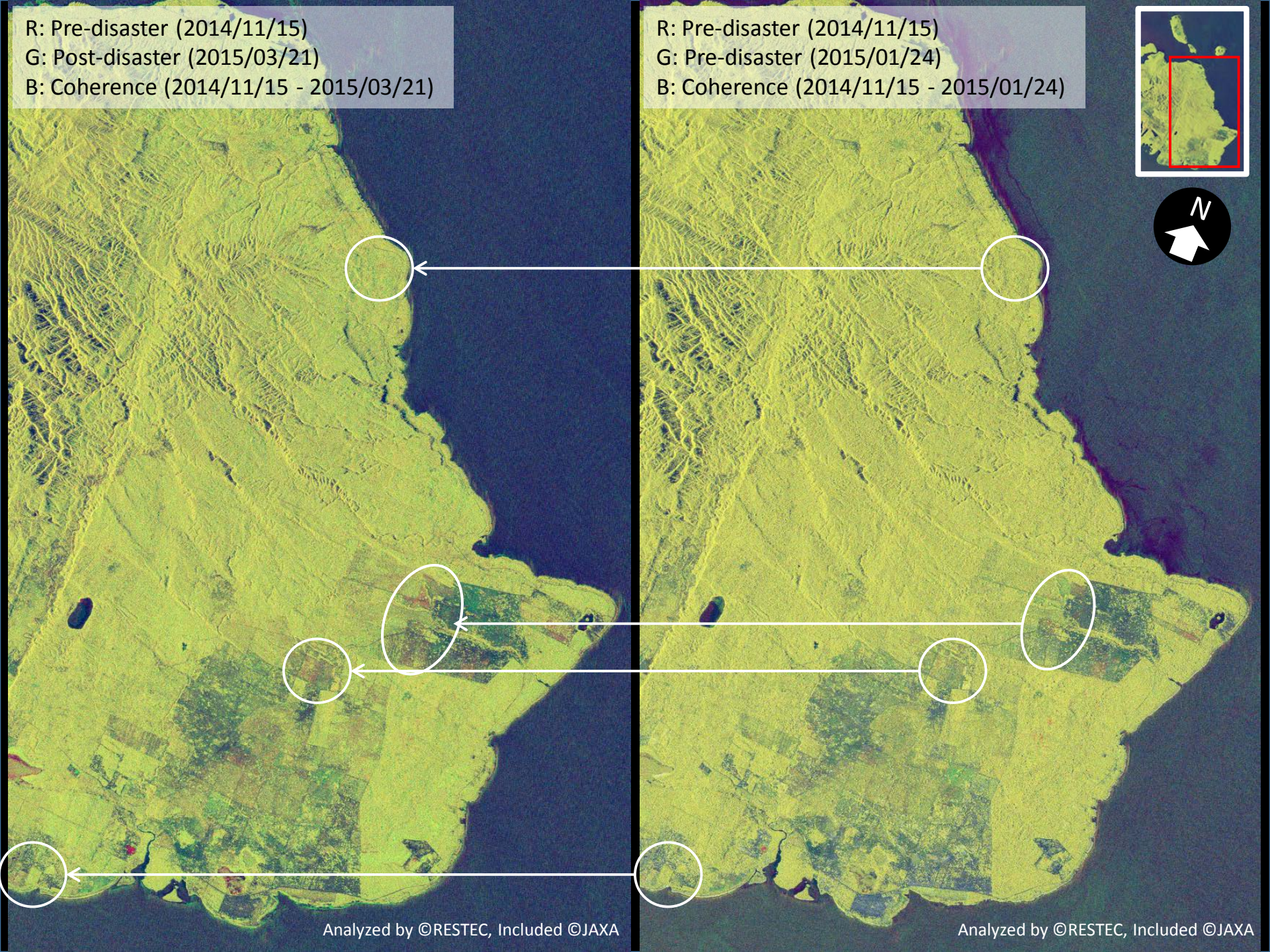
Satellite/Sensor	Obs. date	Obs. mode	Pol.	Flight Direction	Beam Direction	Off-nadir Angle
ALOS-2/PALSAR-2	2014/11/15	FBD	HH + HV	Ascending	Right	36.2
ALOS-2/PALSAR-2	2015/01/24	FBD	HH + HV	Ascending	Right	36.2
ALOS-2/PALSAR-2	2015/03/21	FBD	HH + HV	Ascending	Right	36.2

- Method
  - Multi temporal coherence mapping
    - RGB color composite of two intensity images and a coherence image
    - Coherence image has obtained by interferometric analysis
      - Pair 1: 2014/11/15 – 2015/01/24
      - Pair 2: 2014/11/15 – 2015/03/21

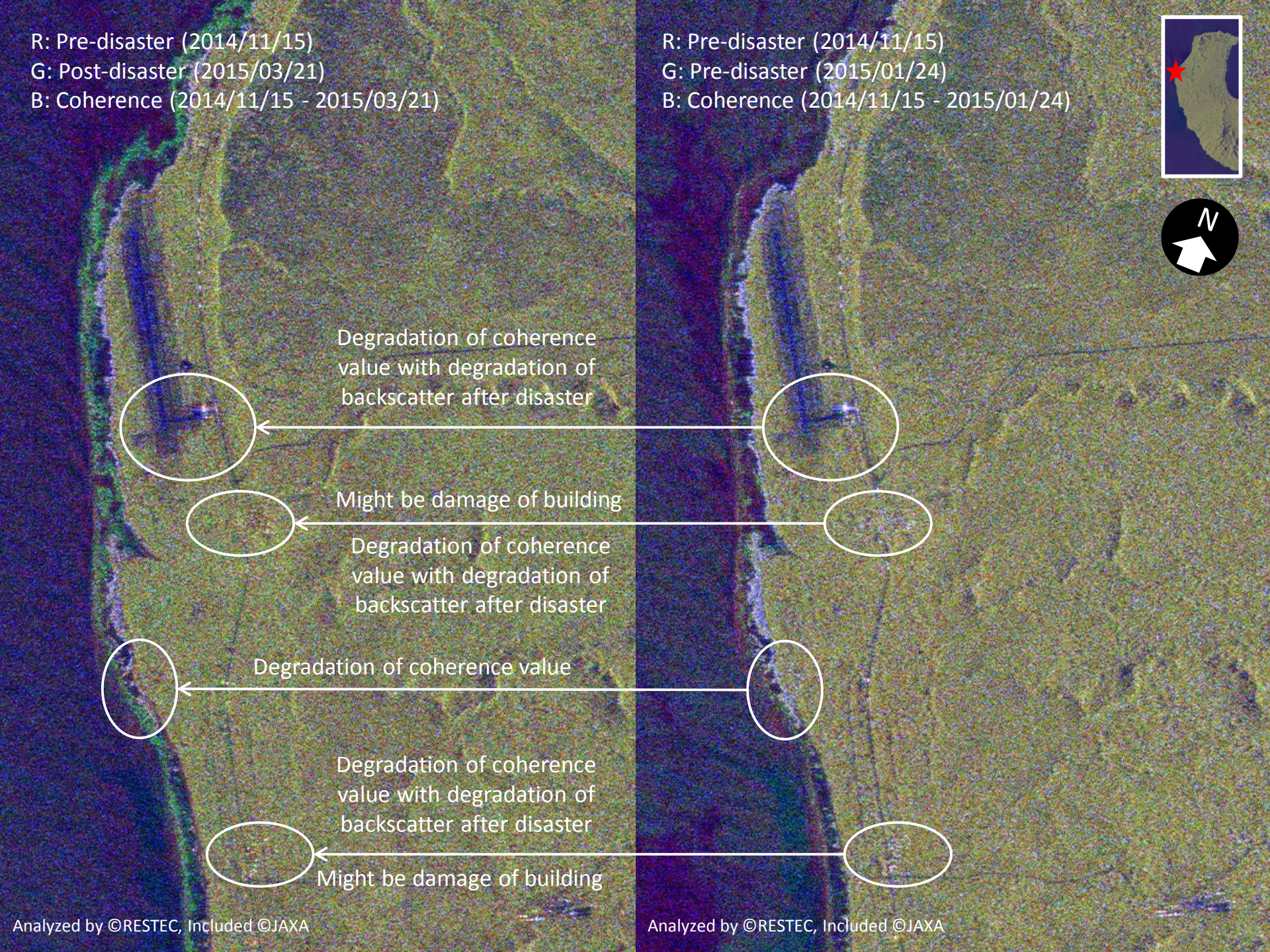
Efate Island

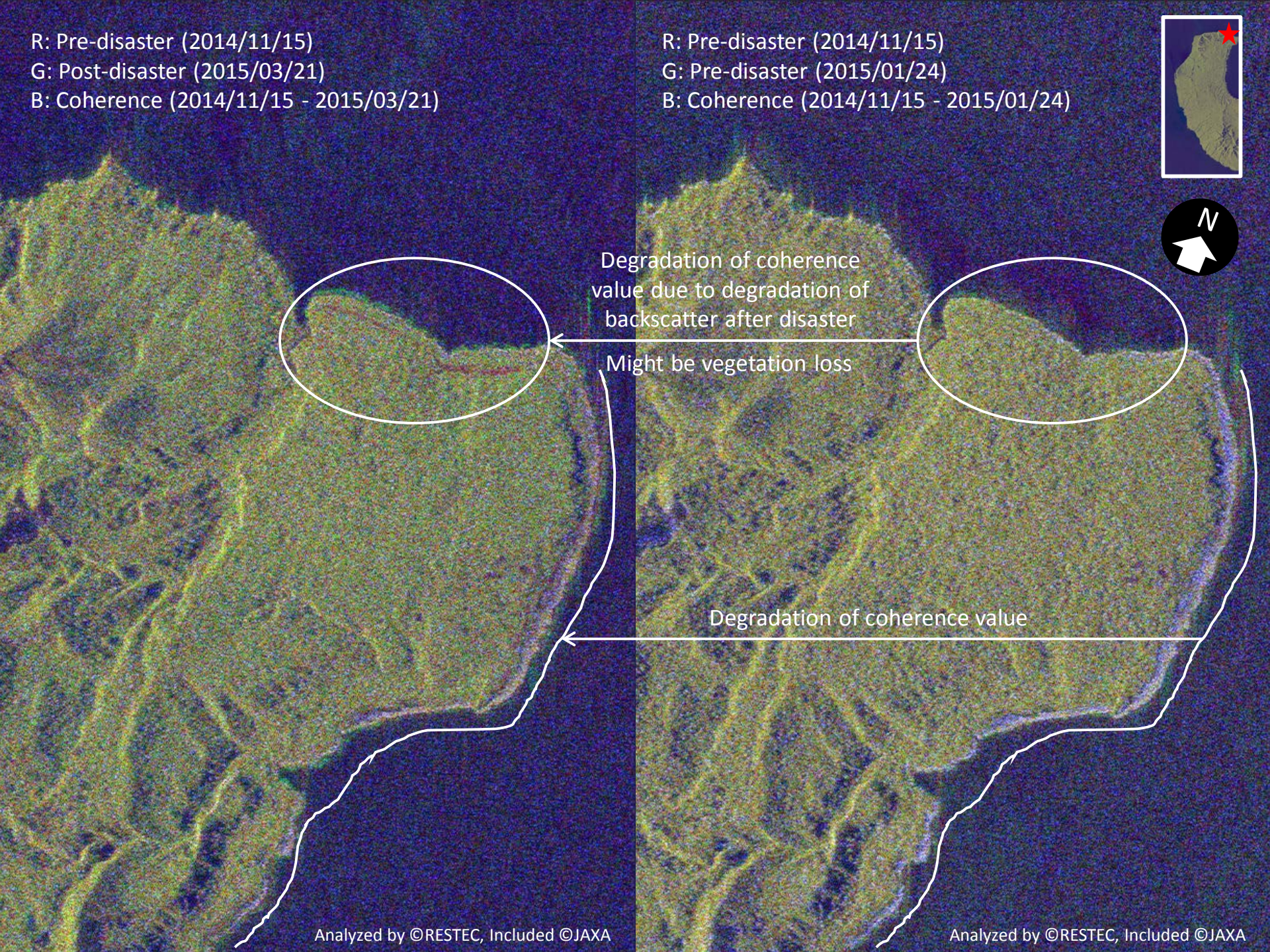



Extend of river width
R: Pre-disaster (2014/11/15)
G: Post-disaster (2015/03/21)
B: Coherence (2014/11/15 - 2015/03/21)
Analyzed by ©RESTEC, Included ©JAXA
N
R: Pre-disaster (2014/11/15)
G: Pre-disaster (2015/01/24)
B: Coherence (2014/11/15 - 2015/01/24)
Analyzed by ©RESTEC, Included ©JAXA


R: Pre-disaster (2014/11/15)
G: Post-disaster (2015/03/21)
B: Coherence (2014/11/15 - 2015/03/21)
R: Pre-disaster (2014/11/15)
G: Pre-disaster (2015/01/24)
B: Coherence (2014/11/15 - 2015/01/24)
N
Analyzed by ©RESTEC, Included ©JAXA
Analyzed by ©RESTEC, Included ©JAXA

Tanna Island


R: Pre-disaster (2014/11/15)
G: Post-disaster (2015/03/21)
B: Coherence (2014/11/15 - 2015/03/21)
R: Pre-disaster (2014/11/15)
G: Pre-disaster (2015/01/24)
B: Coherence (2014/11/15 - 2015/01/24)
N
Degradation of coherence value with degradation of backscatter after disaster
Might be damage of building
Degradation of coherence value with degradation of backscatter after disaster
Degradation of coherence value
Degradation of coherence value with degradation of backscatter after disaster
Might be damage of building
Analyzed by ©RESTEC, Included ©JAXA
Analyzed by ©RESTEC, Included ©JAXA


R: Pre-disaster (2014/11/15)
G: Post-disaster (2015/03/21)
B: Coherence (2014/11/15 - 2015/03/21)
R: Pre-disaster (2014/11/15)
G: Pre-disaster (2015/01/24)
B: Coherence (2014/11/15 - 2015/01/24)
N
Degradation of coherence value due to degradation of backscatter after disaster
Might be vegetation loss
Degradation of coherence value
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