

# Compilation of representative historical flood situations

WP3 – T3.9

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# Objectives

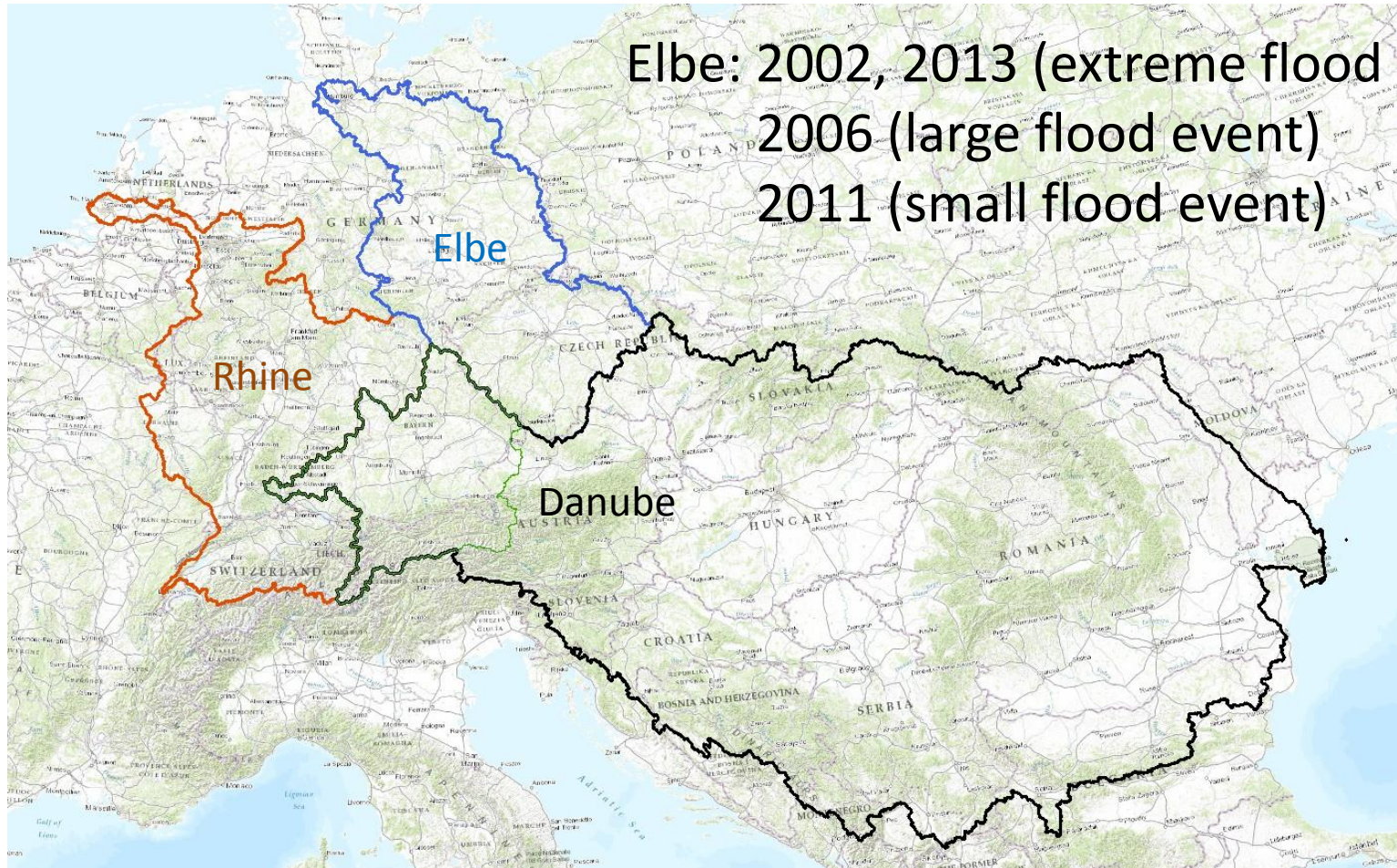
- Compilation of historical flooding situations for validation of GRACE derived flood and drought indices based on
  - Availability of GRACE data and medium resolution satellite data (CHARTER, ZKI, DFO,...)
  - Flood regime and hydrological/environmental settings
  - Satellite data acquired via Copernicus DWH; 2-D flood masks be derived from SAR and optical data

# Data retrieval

- SAR data via Copernicus DWH; estimation of total amount of data was requested by EC
  - HR2: 10-30 m resolution (e.g. TerraSAR-X, SC)
  - MR1: 30-100 m resolution (e.g. Radarsat-2, SCN)
  - MR2: 100-300 m resolution (ENVISAT ASAR, WS)
- Optical data (e.g. MODIS) from open data sources



# Test areas (1)

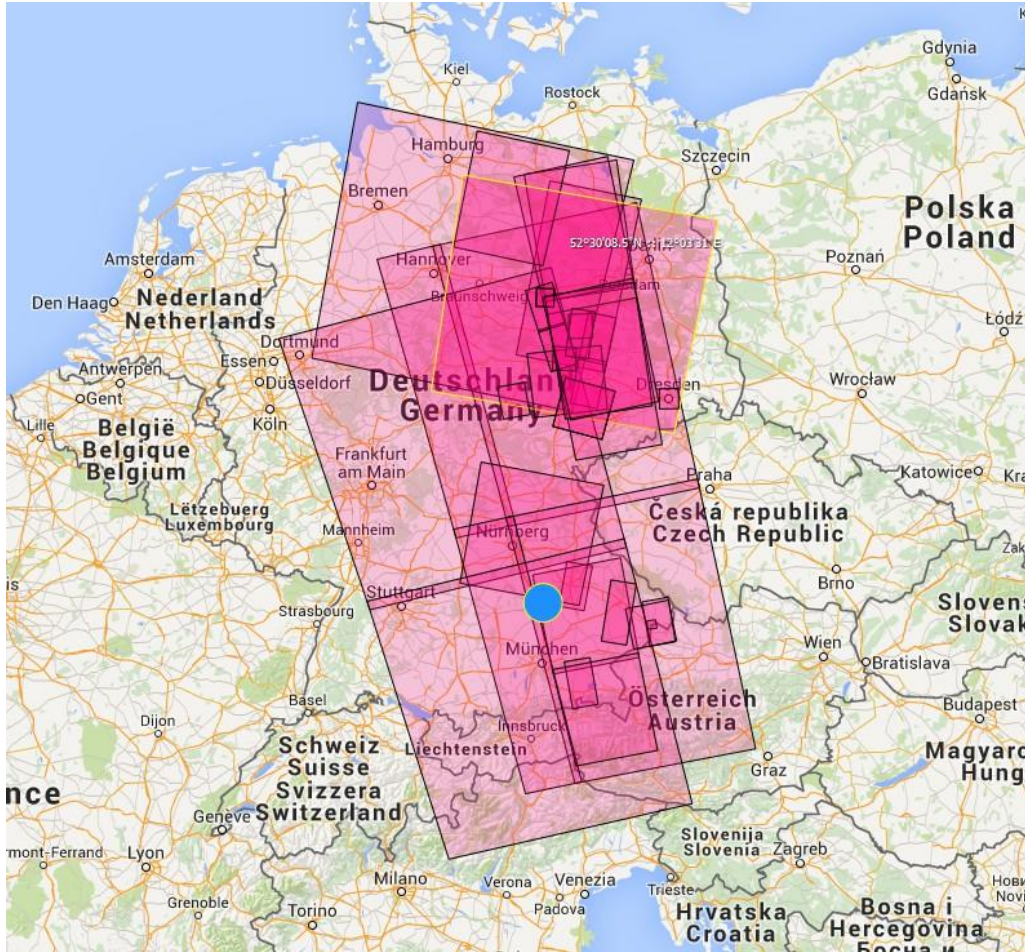




# 2013 Germany



European Gravity Service for Improved Emergency Management



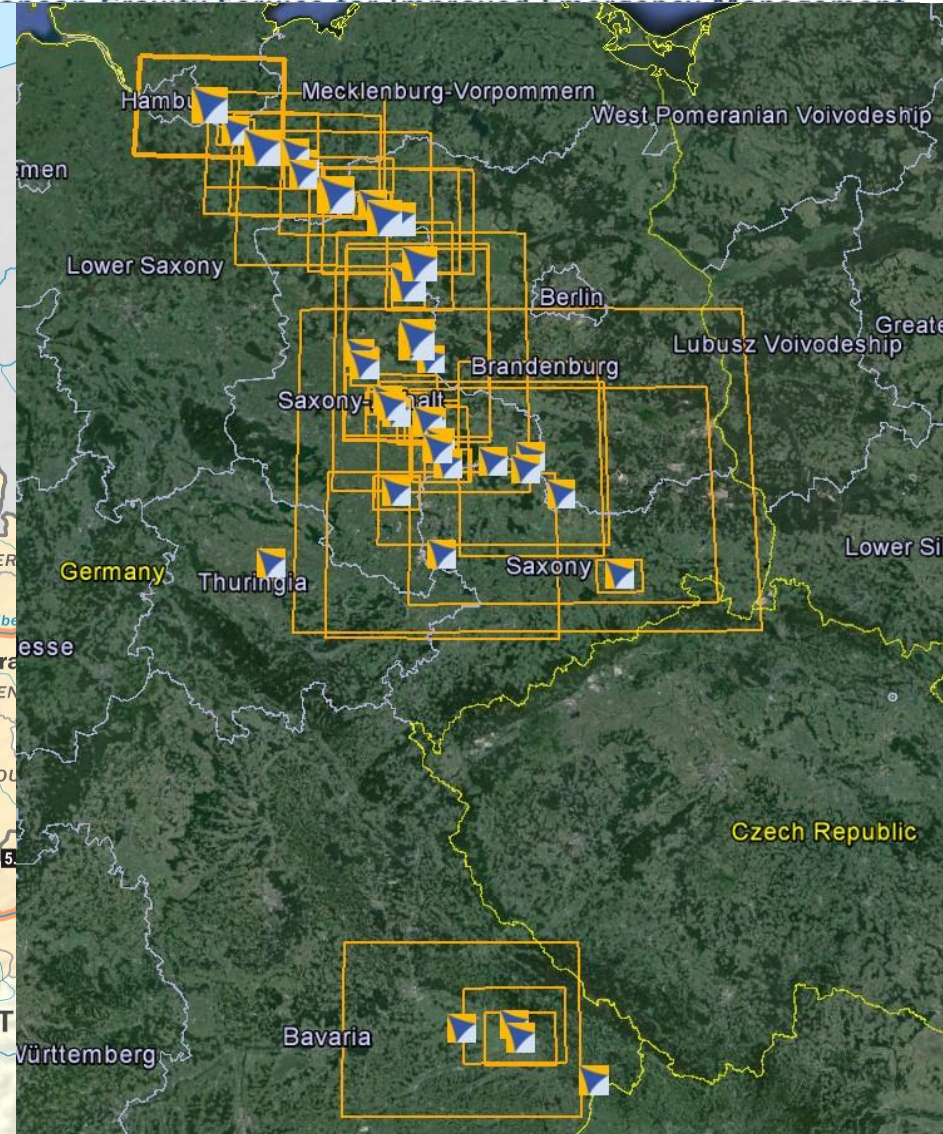
Date	Sensor	Coverage
Mo, 03.06.2013	TSX SM	Elxleben
	TSX SL	Passau
	TSX SC	Elbe, Mulde, Weiße Elster
Tu, 04.06.2013	TSX SC	Donau, Isar
	Radarsat-2	Saale, Weiße Elster
	Risat-1	Zwickau
	Pleiades	Halle, Dresden, Dessau
We, 05.06.2013	Spot-5	Zwickau, Gera
	RapidEye	Saale, Elbe, Mulde
	Radarsat-2	Nürnberg, Bamberg, Regensburg
	3K-Befliegung	Halle, Bitterfeld, Passau, Deggendorf, Regensburg
	DMC	Bayern, Ostdeutschland
Th, 06.06.2013	TSX SC	Elbe (Magdeburg), Muldestausee
	RapidEye	Riesa, Torgau
	Risat-1	Grimma
	TSX SM (LL)	Halle, Bernburg, Calbe, Magdeburg
Fr, 07.06.2013	TSX SM	Deggendorf
	TSX SM	Bitterfeld
	MODIS	Deutschland
	RapidEye	Magdeburg, Wittenberge
Sa, 08.06.2013	Pleiades	Magdeburg
	DMC	Donau, Isar
	Radarsat-2 SCN	Elbeverlauf Dessau bis Geesthacht/HH
Su, 09.06.2013	TSX SC	Elbeverlauf zwischen Riesa und Wittenberge
	Pleiades	Magdeburg
Mo, 10.06.2013	Pleiades	Magdeburg
	TSX SC	Elbeverlauf zwischen Meissen-Dömitz
Tu, 11.06.2013	TSX SC	Elbeverlauf zwischen Wittenberge-Geesthacht
	RapidEye	Elbeverlauf zwischen Wittenberge und Boizenburg
We, 12.06.2013	Radarsat-2 SCN	Elbeverlauf zwischen Dresden bis Geesthacht
	RapidEye	Elbeverlauf zwischen Wittenberge und Hamburg Hafen
	TSX SC	Elbeverlauf zwischen Dessau-Wittenberge
	TSX SC (LL)	Elbeverlauf zwischen Gorleben bis Hamburg Hafen
	RapidEye	Elbeverlauf zwischen Wittenberge bis Hamburg Hafen
Th, 13.06.2013	RapidEye	Elbeverlauf zwischen Wittenberge bis Hamburg Hafen
Fr, 14.06.2013	RapidEye	Elbeverlauf zwischen Wittenberge bis Hamburg Hafen
Sa, 15.06.2013	TSX SM	Deichbruch Fischbeck
Tu, 18.06.2013	TSX SM	Deichbruchregionen um Fischbeck und Breitenhagen



HORIZON 2020



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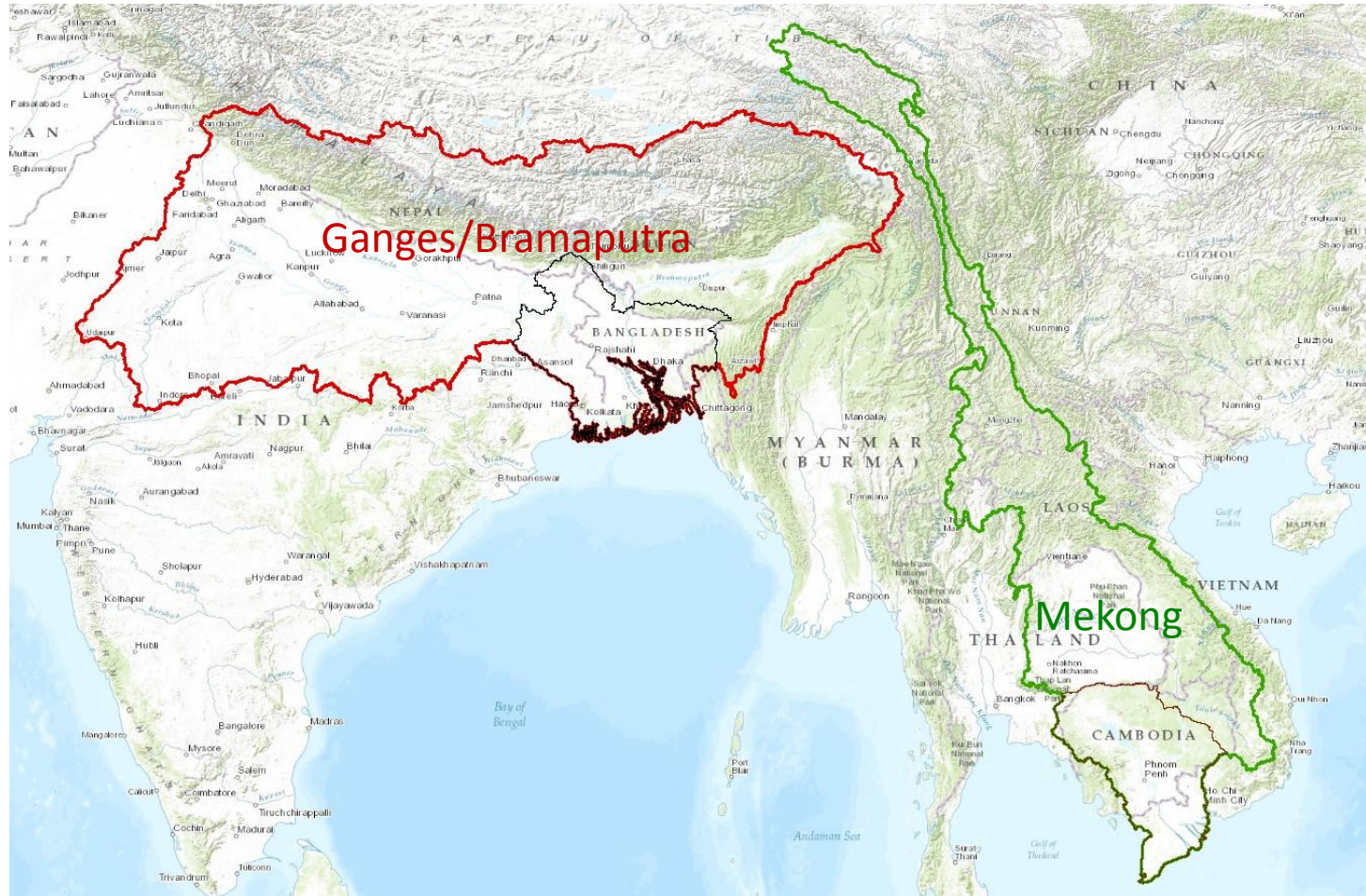


# Germany floods

- Cumulative approach: maximum flood extent over the entire period of the flood (catchment wide)
- (Near) daily coverage: medium or high resolution images close to the flood peak (only part of the catchment)
- SAR and optical images (due to good weather conditions)



# Test areas (2)





# Test areas



- Year 1: central Europe (Elbe, Danube, Rhine)
- Year 2: central and south-east Asia (Ganges/Bramaputra, Mekong)
- Year 3: other test areas (USA, Australia, Pakistan, Namibia, Mocambique, UK, ... )