

Challenges and New Approaches in Protecting Systems based Infrastructure

DHS University
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States Perspective on Ag and Food CI/KR



- 2003 HSPD 7 lists our Nations food supply as CI/KR
- DHS Lists 15 National Scenarios / what DHS considers the 15 most plausible ways that the US could be attacked. Attack on the US food supply is listed
- 37 Target Capabilities to address the 15 Scenarios. Two of which list directly AG and Food.
- Funding for developing preparedness for states is the State Homeland Security Grant Program

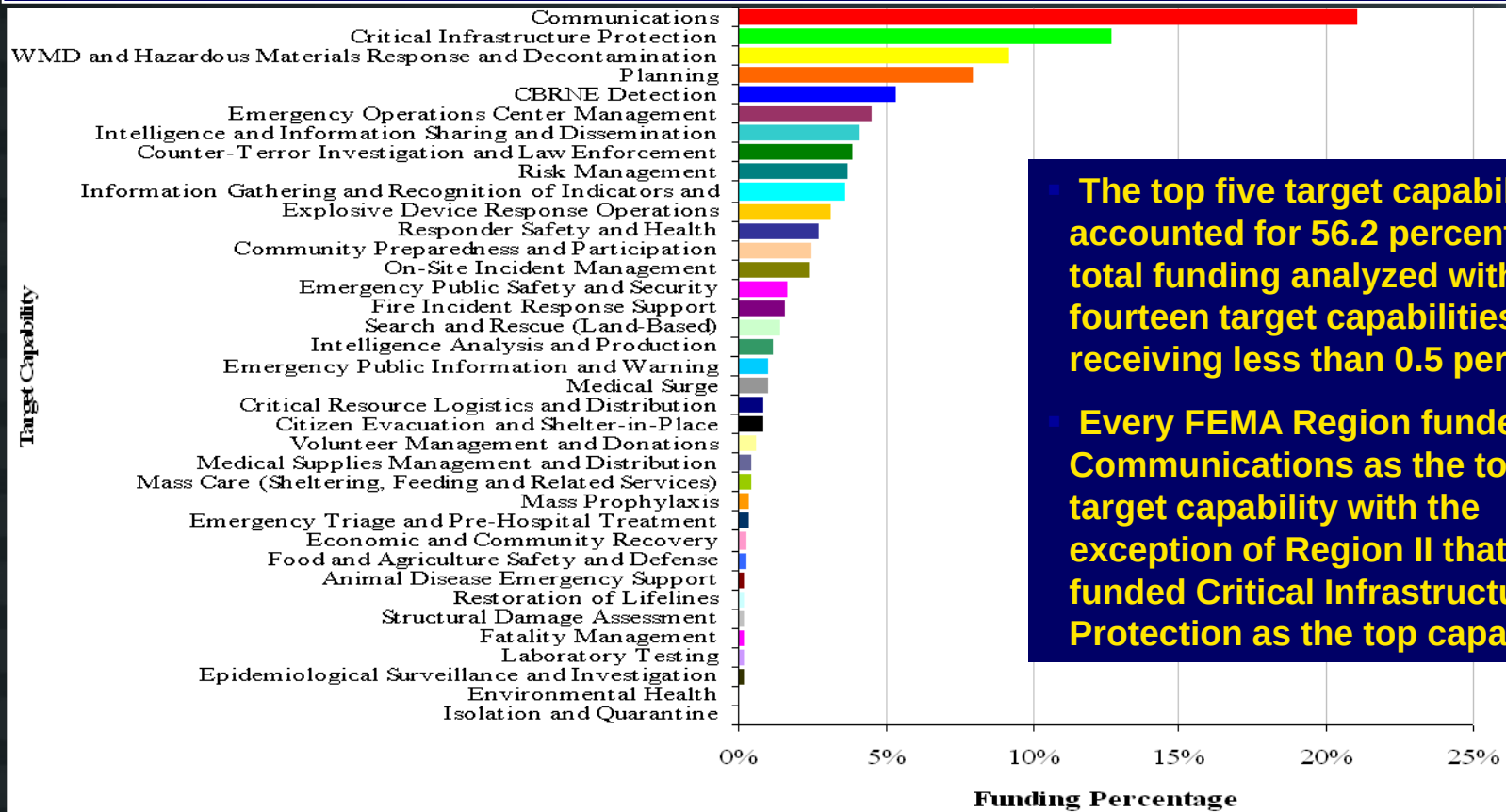
State Homeland Security Grant Program



- The 8 National Priorities
- Expand Regional Collaboration
- Implement NIMS
- Strengthen Information sharing / analysis
- Strengthen Interoperable communication
- Strengthen CBRNE detection & response
- Strengthen Med. Surge & Mass Prophy
- Strengthen Planning, Citizen Preparedness
- Implement the National Infrastructure Protection Plan

The Haves and Have-nots

For the first time, FEMA can see how grantee dollars support target capabilities across the grant portfolio – FY03-07 data is displayed

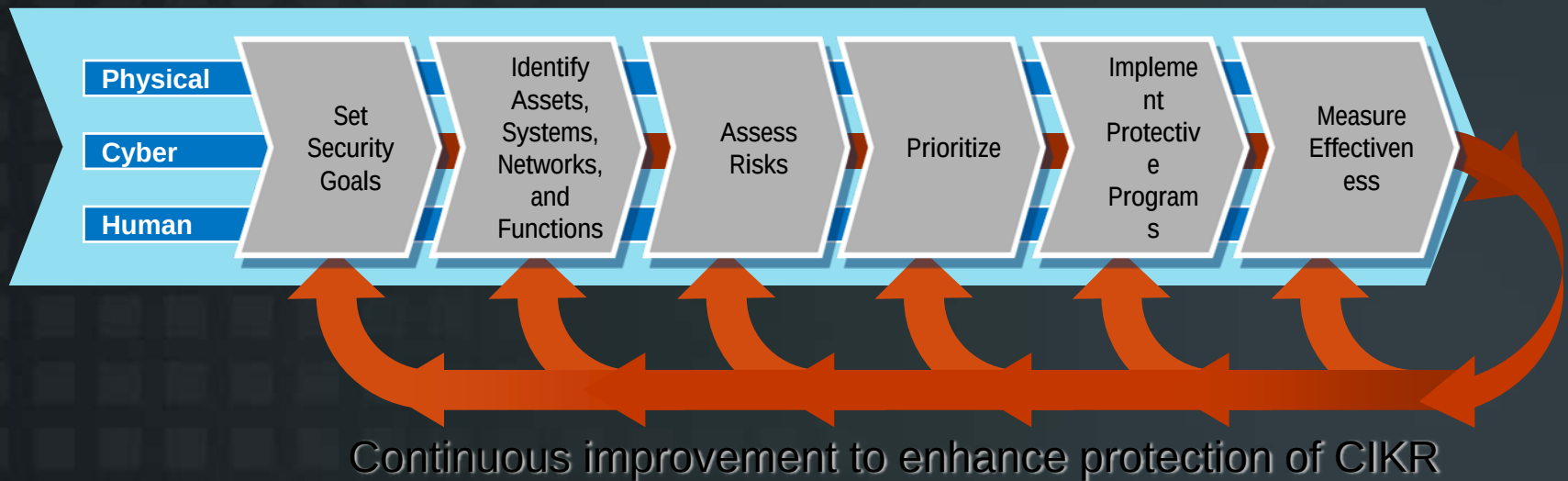


- The top five target capabilities accounted for 56.2 percent of total funding analyzed with fourteen target capabilities receiving less than 0.5 percent
- Every FEMA Region funded Communications as the top target capability with the exception of Region II that funded Critical Infrastructure Protection as the top capability

IMPLEMENTING THE NATIONAL INFRASTRUCTURE PROTECTION PLAN

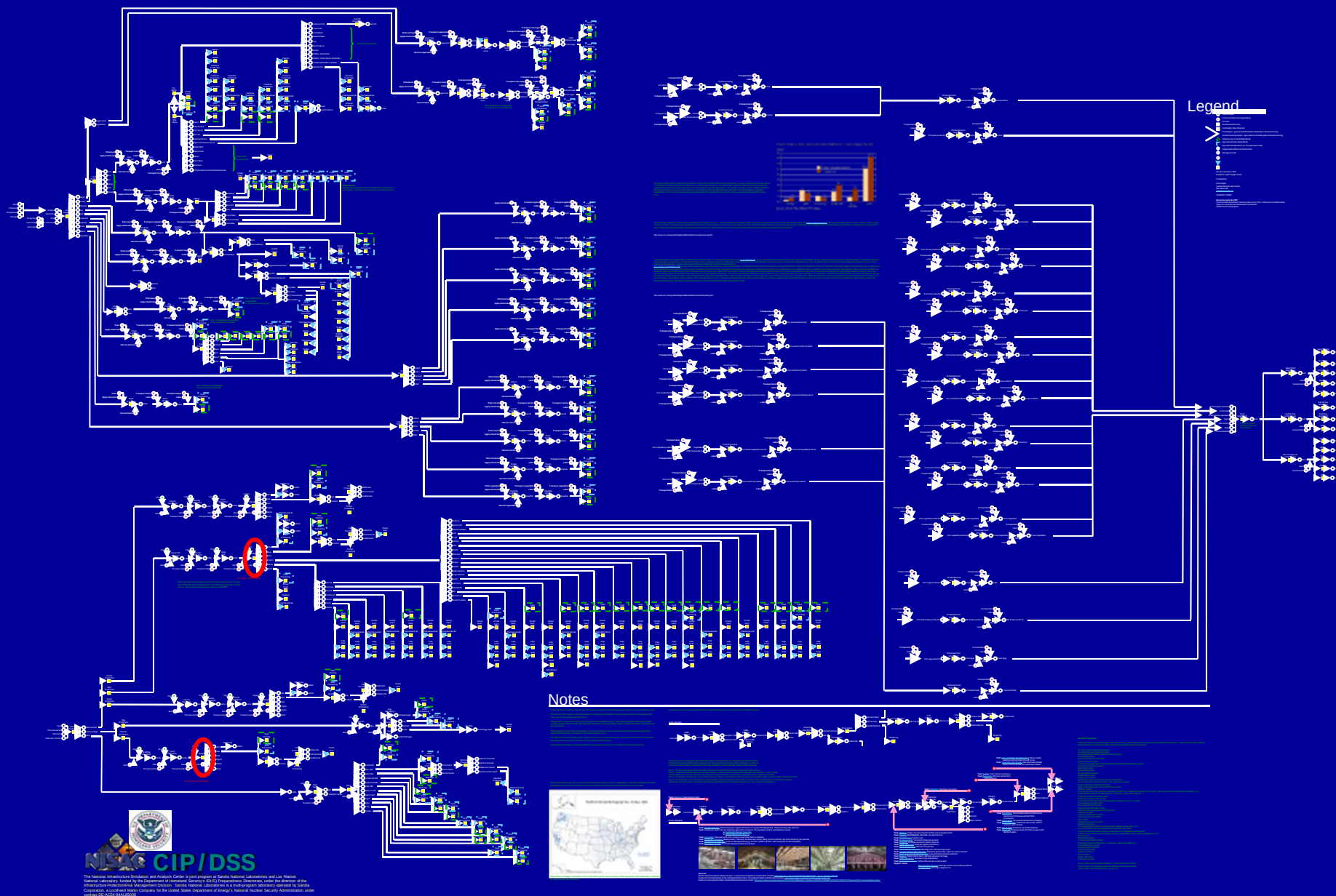


Risk Management Framework



Food & Agriculture Commodity Flow System Labor Inputs Input/Process/Output Diagram

Production Inputs → Livestock & Crop Production → Food Processing → Food Distribution Wholesale → Food Service

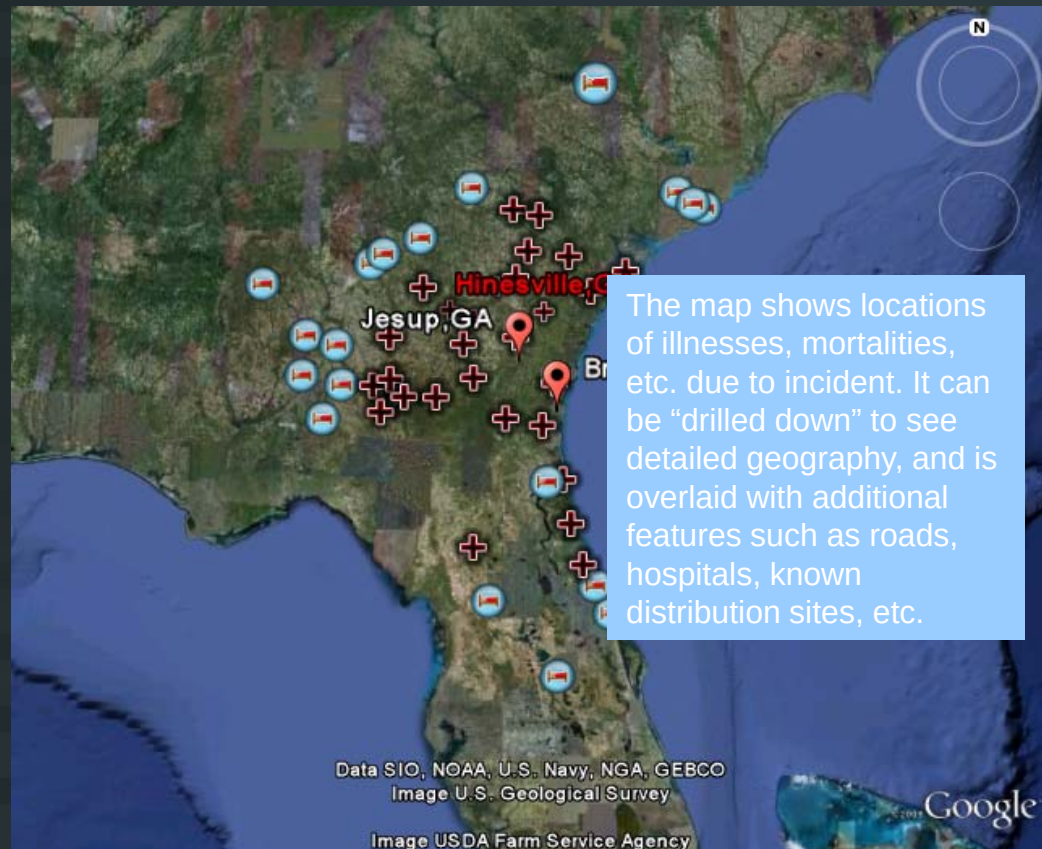


Capabilities Modeled by RRECAP

RRECAP supports a large set of capabilities, and operates in several modes. When used to evaluate an entity many of these capabilities may be measured. However following the exercise small sets of these may be exercised individually to evaluate the sensitivity of outcomes to changes in individual capabilities.

The list shows the capabilities that can be modeled. When values are entered for a selection of capabilities and the 'Run' button pressed RRECAP shows an evolving map of the outcomes.

Run	Continue
Speed(Ms)	500
Profile	Legend
Capabilities(%) ☒	
CONOPS	N/A
Roles & Resp	N/A
Field Sampling	N/A
Communications	N/A
Reporting Mechanisms	N/A
Consequence Accuracy	N/A
Situational Awareness	N/A
Spatial Awareness	50%
Stop Sale Effectiveness	50%
Recall Effectiveness	50%
Recall/Stop Sale Time Span	96
Announcement Effectiveness	50%
Announcement Time Span	24
First Responder Protection	N/A
Surge Effectiveness	N/A
Surge Radius	N/A



Comparison of Capabilities

(Stop Sale only, no announcement)



No Interventions

Observations

Consumer Reports	203
Medical Attentions	53962
PHD Reports	8090
Hospital Admissions	19424

Interventions(time)

Recall/Stop Sale	0
Announcement	0
Medical Mitigation	0

Consequences

Illnesses	71995
Mitigated Mortalities	39980
Unmitigated Mortalities	39980
Responder Events	0

(FAS-CAT)
Spatial
Awareness;
Recall/Stop sale
effectiveness
set at 25%

Observations

Consumer Reports	143
Medical Attentions	36641
PHD Reports	5490
Hospital Admissions	13190

Interventions(time)

Recall/Stop Sale	84
Announcement	0
Medical Mitigation	0

Consequences

Illnesses	48884
Mitigated Mortalities	27069
Unmitigated Mortalities	27069
Responder Events	0

(FAS-CAT) Spatial
Awareness
Recall/Stop sale
effectiveness set
at 50%

Observations

Consumer Reports	114
Medical Attentions	28921
PHD Reports	4340
Hospital Admissions	10413

Interventions(time)

Recall/Stop Sale	84
Announcement	0
Medical Mitigation	0

Consequences

Illnesses	38586
Mitigated Mortalities	21344
Unmitigated Mortalities	21344
Responder Events	0

(FAS-CAT)
Spatial
Awareness;
Recall/Stop sale
effectiveness set
at 75%

Observations

Consumer Reports	99
Medical Attentions	22588
PHD Reports	3386
Hospital Admissions	8132

Interventions(time)

Recall/Stop Sale	84
Announcement	0
Medical Mitigation	0

Consequences

Illnesses	30138
Mitigated Mortalities	16639
Unmitigated Mortalities	16639
Responder Events	0

Comparison of Capabilities

(including Stop Sale and Public Announcement)



No Interventions

Observations

Consumer Reports	203
Medical Attentions	53962
PHD Reports	8090
Hospital Admissions	19424

Interventions(time)

Recall/Stop Sale	0
Announcement	0
Medical Mitigation	0

Consequences

Illnesses	71995
Mitigated Mortalities	39980
Unmitigated Mortalities	39980
Responder Events	0

(FAS-CAT)
Spatial
Awareness;
Recall/Stop sale
and
announcement
effectiveness all
set at 25%_c

Observations

Consumer Reports	121
Medical Attentions	35260
PHD Reports	5288
Hospital Admissions	12692

Interventions(time)

Recall/Stop Sale	84
Announcement	93
Medical Mitigation	0

Consequences

Illnesses	47040
Mitigated Mortalities	26094
Unmitigated Mortalities	26094
Responder Events	0

(FAS-CAT)
Spatial
Awareness;
Recall/Stop sale
and
announcement
effectiveness all
set at 50%_c

Observations

Consumer Reports	90
Medical Attentions	24612
PHD Reports	3690
Hospital Admissions	8859

Interventions(time)

Recall/Stop Sale	84
Announcement	93
Medical Mitigation	0

Consequences

Illnesses	32840
Mitigated Mortalities	18206
Unmitigated Mortalities	18206
Responder Events	0

(FAS-CAT)
Spatial
Awareness;
Recall/Stop sale
and
announcement
effectiveness all
set at 75%_c

Observations

Consumer Reports	43
Medical Attentions	17286
PHD Reports	2591
Hospital Admissions	6222

Interventions(time)

Recall/Stop Sale	84
Announcement	93
Medical Mitigation	0

Consequences

Illnesses	23068
Mitigated Mortalities	12676
Unmitigated Mortalities	12676
Responder Events	0

FAS/CAT



- Provided a systems based prioritization of States Commodities (sub-system)
- Provided systems based prioritization of Critical Nodes within each commodity or sub-system
- FAS/CAT provided guide to POC's at each Critical Node
- FAS/CAT + realistic scenarios help establish criticality for level 2 submission.
- Effectiveness modeling demonstrates value of spatial awareness provided by FAS/CAT