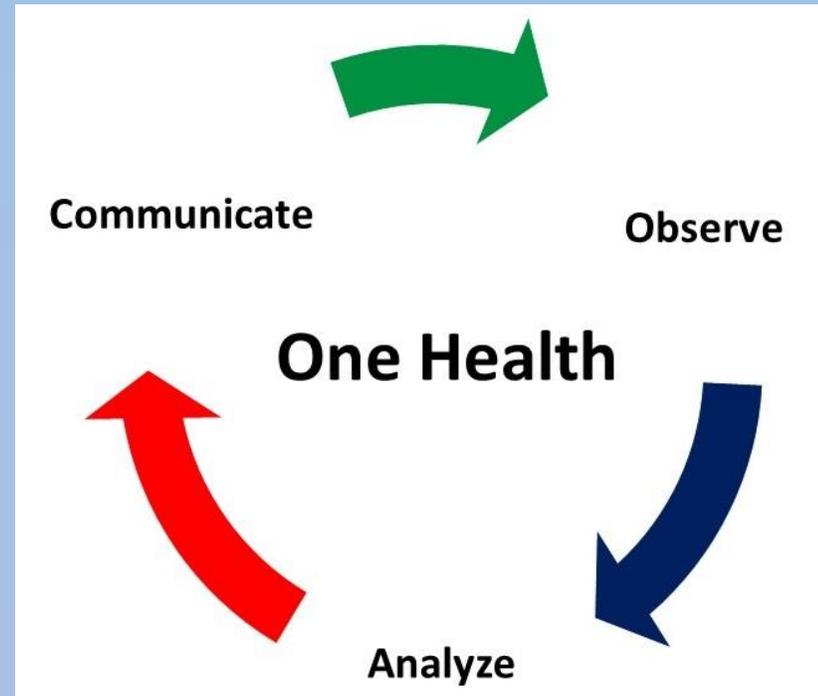


Introduction to One Health and the Three-Step Cycle



*Helena Chapman, MD PhD
AAAS Science & Technology Policy Fellow
NASA Applied Sciences Program*

Definition of “One Health”

❑ One Health Initiative

- “The One Health concept is a worldwide strategy for expanding interdisciplinary collaborations and communications in all aspects of health care for humans, animals and the environment”

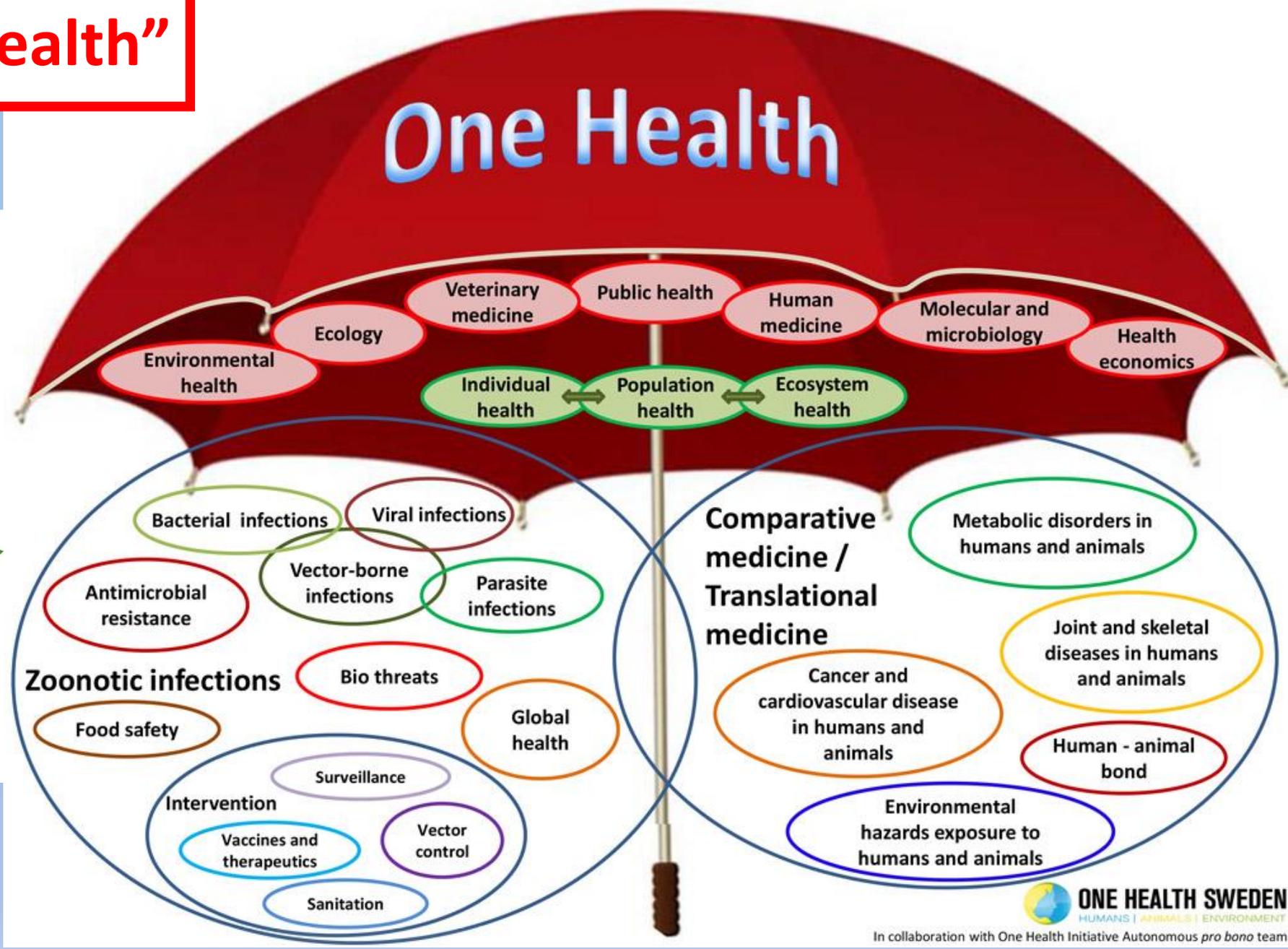
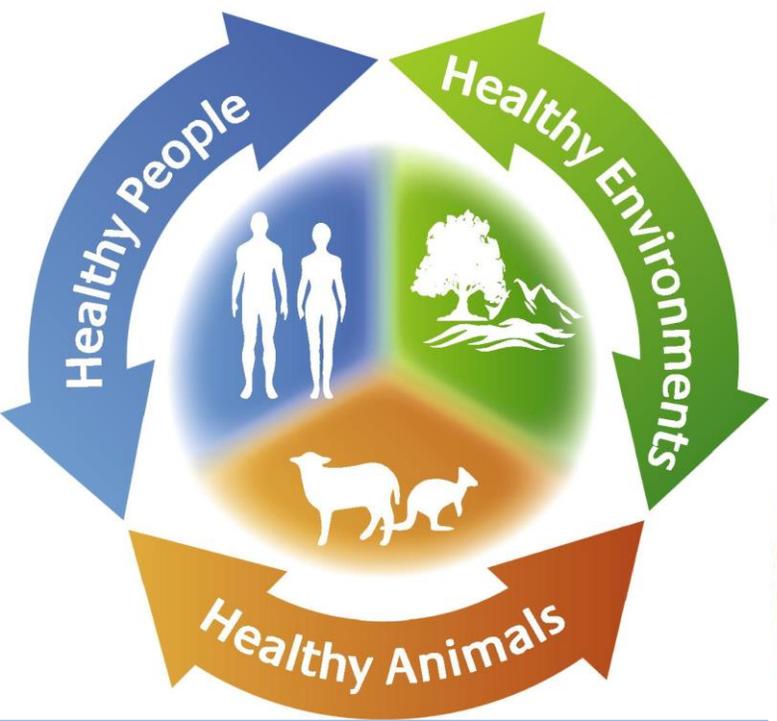
❑ One Health Global Network

- “To improve health and well-being through the prevention of risks and the mitigation of effects of crises that originate at the interface between humans, animals and their various environments”

- ❑ Fostering collaborations
- ❑ Strengthening communication across sectors
- ❑ Coordinating disease surveillance
- ❑ Increasing public awareness through dissemination

Visualizing "One Health"

The One Health Triad

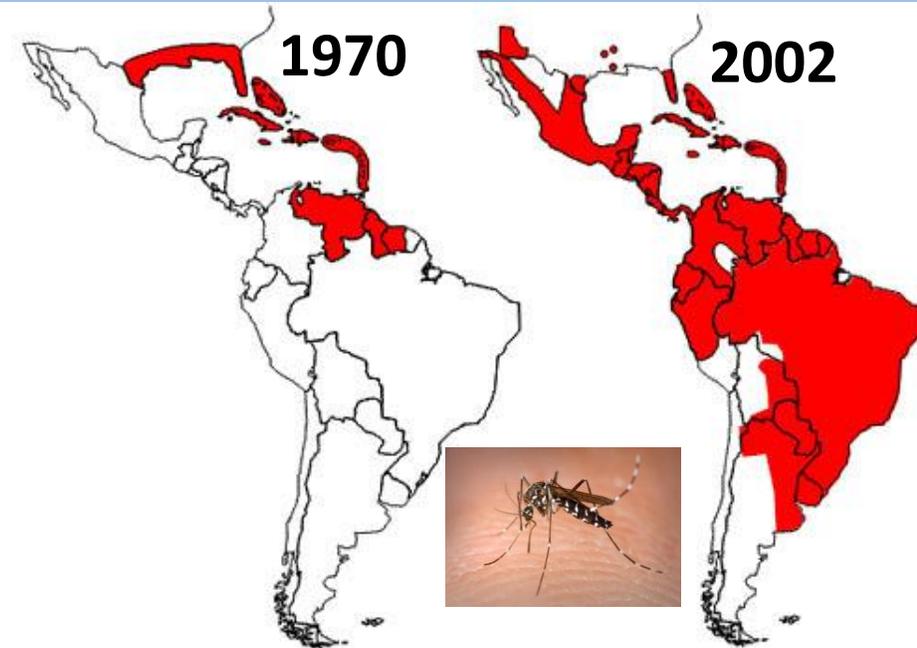


ONE HEALTH SWEDEN
HUMANS | ANIMALS | ENVIRONMENT

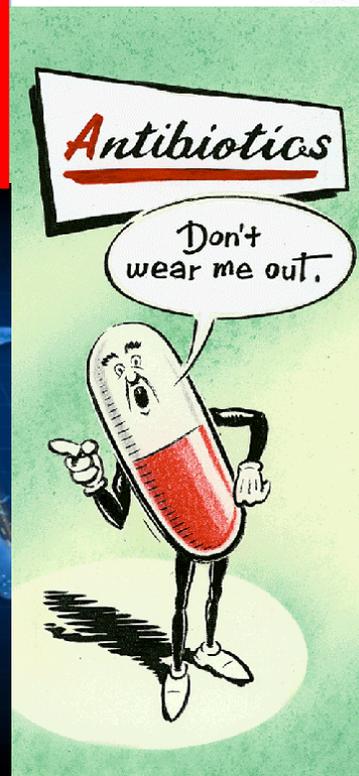
In collaboration with One Health Initiative Autonomous *pro bono* team

International Journal for Parasitology. 2013;43:1079-1088. One Health Initiative, 2014:

<http://www.onehealthinitiative.com/news.php?query=The+One+Health+%93big+picture%94+view+via+the+%93One+Health+Umbrella%94+graphic>



Globalization: Health of our Planet



Floods



Hurricanes and Typhoons



Natural Disasters

Tornados



Earthquakes

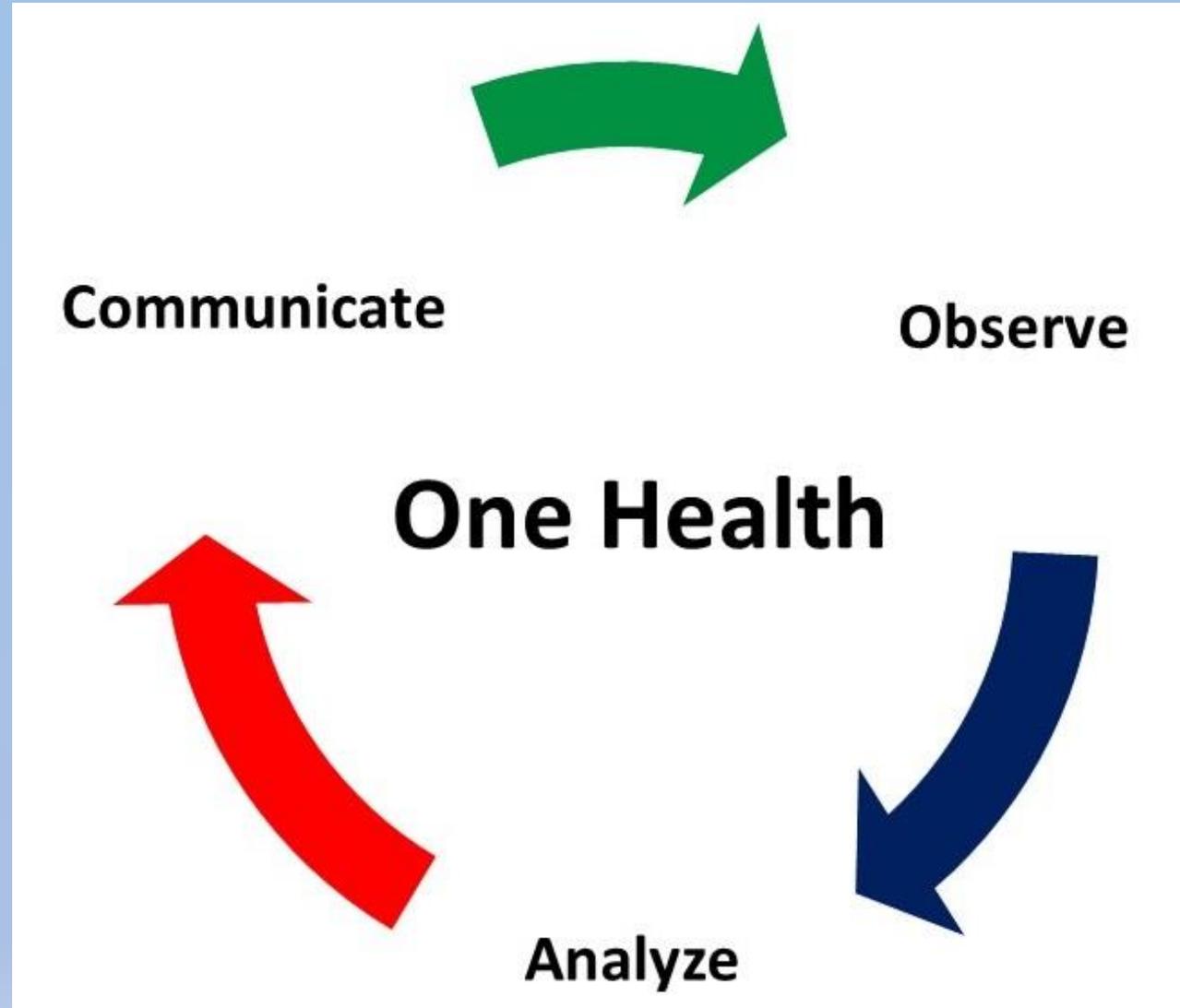


Effective Use of our Technology and Data

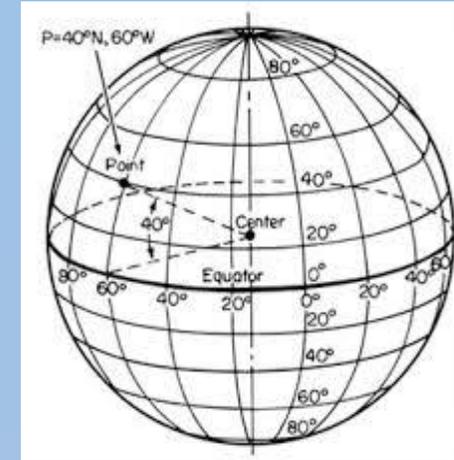
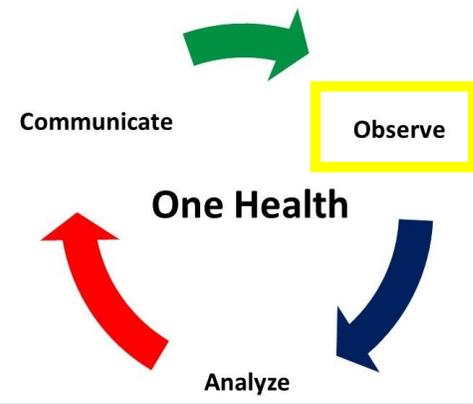


NASA, 2017: <https://www.nasa.gov/audience/forstudents/k-4/stories/nasa-knows/what-is-a-satellite-k4.html>. Pulsifer P, McNeave C, 2014: <https://eloka-arctic.org/about/manual/index.html>.

One Health: Vision to Implementation



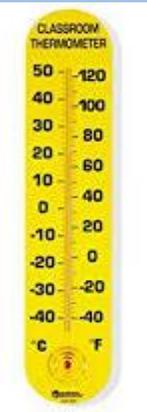
Step 1: Observe

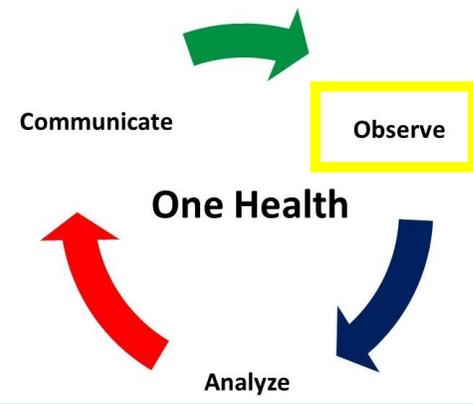


- Action: To monitor the external world through our senses and record information (data)

- Based on:

- ✓ Our scientific definition of the observed phenomenon
- ✓ Our understanding of the One Health definition and scope
- ✓ Our recognition of complex factors that influence the phenomenon: biological, community relationships and social interactions, environmental, local narratives, socioeconomic/political



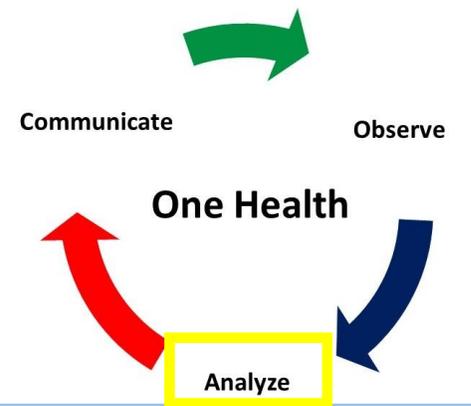


Step 1: Observe

- Considerations:

- Are the definition and scope of One Health consistent across disciplines?
- Are there institutional boundaries among stakeholders?
- How are remote and local observations used in our projects?
- Are there proposed plans to improve scientific training in data observation and collection?



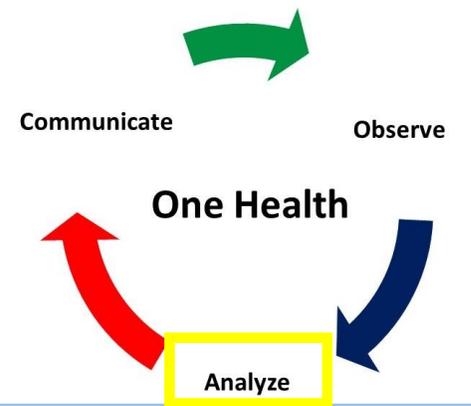


Step 2: Analyze

“When we try to pick out anything by itself, we find it hitched to everything else in the Universe”
(John Muir)

- Action: To examine the collected observations for analysis and interpretation, based on the established purpose
- Based on:
 - Our use and integration of multiple data types and sources for analysis
 - Scientific knowledge
 - Local, indigenous, institutional knowledge
 - Our understanding of various analytical tools for collected observations



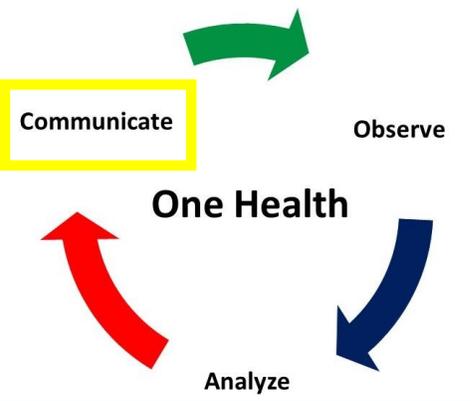


Step 2: Analyze

- Considerations:

- How are we integrating, analyzing and interpreting the remote and local observations collected for our projects?
- Are there programs available for scientific training in Earth observations, new data-driven technologies, or other local observations?

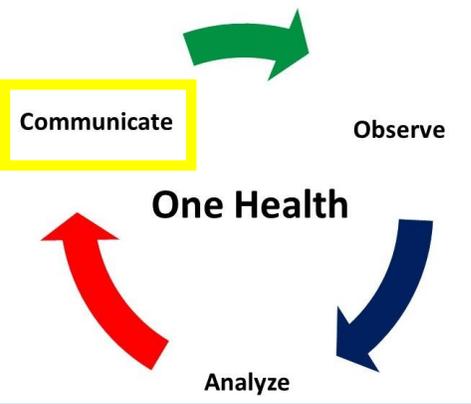




Step 3: Communicate



- Action: To disseminate scientific findings in a public manner that can influence educational outreach to target audiences
- Based on:
 - Our integration of scientific disciplines for expanded dissemination efforts to all audience types (eg, scientists, impacted communities, public)
 - Our foresight to relay information that considers the specific audience type
 - Our use of innovative strategies (eg, case studies) and formats (eg, webinars)



Step 3: Communicate

- Considerations:

- How can we increase engagement at the local community and global levels?
- Are programs adapting curricula to provide training in communication strategies to target audiences?

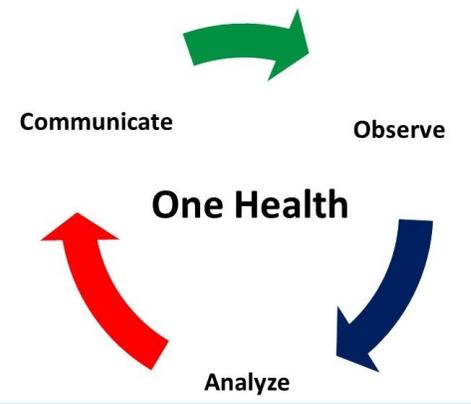


Developing sustainable collaborations in One Health

OIE, FAO and WHO enlarge their collaboration commitment to face health challenges

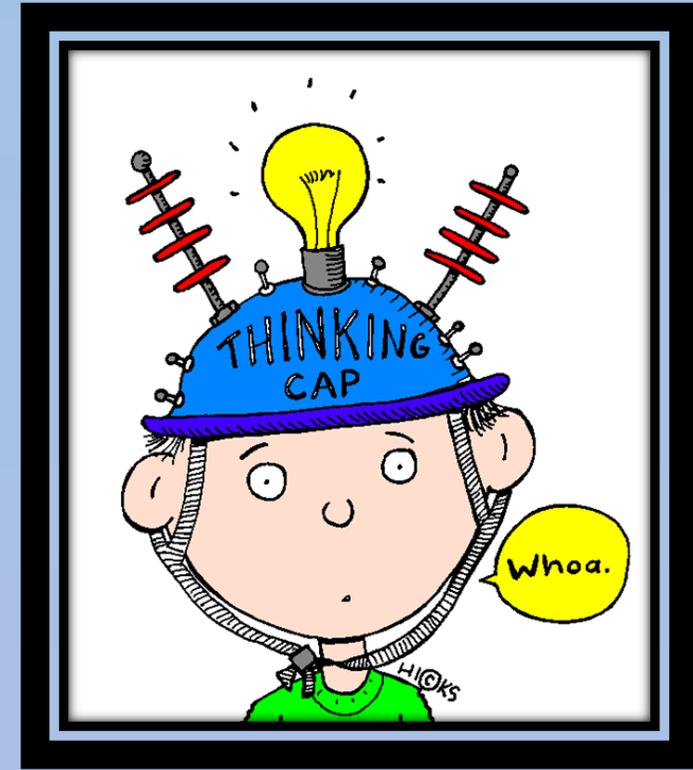
Today, the Food and Agriculture Organization of the United Nations (FAO), the World Organisation for Animal Health (OIE) and the World Health Organization (WHO) have released their second Tripartite strategic document reaffirming their commitment to provide multi-sectoral, collaborative leadership in addressing health challenges. The scope of their collaboration will be enlarged to more broadly embrace the “One Health” approach recognizing that human health, animal health and the environment are interconnected.





Next Steps? Questions to ponder!

- How can we better define the One Health concept?
- How can we strengthen our educational outreach to all stakeholders?
- How can we improve integration and interpretation of local and remote observations?
- How can we motivate local, national and international collaborations in One Health?



Thank you for your attention!

helena.chapman@nasa.gov

A pair of hands, one from the left and one from the right, are shown holding a small, realistic globe of the Earth. The hands are rendered in a dark, almost black color, making the blue and green of the globe stand out. The globe shows the continents of North and South America. The background is solid black.

“You cannot get through a single day without having an impact on the world around you. What you do makes a difference, and you have to decide what kind of difference you want to make.”

(Jane Goodall)