

Making Your Media More Accessible

October 8, 2019



The Carl and Ruth Shapiro Family
National Center for Accessible Media



Today's Presenters



Rachael Bower
Director/PI
AccessATE & ATE Central
University of Wisconsin-
Madison



Madeleine Rothberg
Senior Subject Matter Expert
National Center for
Accessible Media at WGBH



Bryan Gould
Director of Accessible Learning
and Assessment Technologies
National Center for Accessible
Media at WGBH

Poll: What is your reason for joining us today?

- A. I am new to accessibility and want to learn more about the topic
- B. I have students with disabilities enrolled in my courses and want to learn how to create accessible content for them.
- C. I lead others who develop content and want to provide my team with tips and resources on accessibility
- D. Other: Please share in the chat

ATE: Advanced Technological Education

- NSF Funding – focus on technician education; program development; professional development; community colleges
- Approximately 311 projects & centers currently funded
- Not just a funding program; a true community
- Variety of cross-cutting support for community members baked into the program

About AccessATE

AccessATE supports the work of the NSF-funded Advanced Technological Education (ATE) projects and centers in making the materials and activities they develop more accessible for all students and faculty, including those with disabilities.

The project aims to increase awareness and understanding of accessibility requirements and provide guidance, tools, and support that offers solutions and helps achieve compliance with accessibility standards.



National Center for Accessible Media at WGBH

6

The Caption Center (est. 1972)

- Captions television, home videos, feature films
- CD & DVD-ROM
- Streaming video and webinars

Descriptive Video Service (est. 1990)

- Describes television, home videos, feature films by inserting key visual elements during pauses in dialogue

National Center for Accessible Media (est. 1993)

- supports national policy decisions
- develops technical solutions
- conducts research
- promotes advocacy via outreach



The Carl and Ruth Shapiro Family
National Center for Accessible Media

Poll: What is your current role?

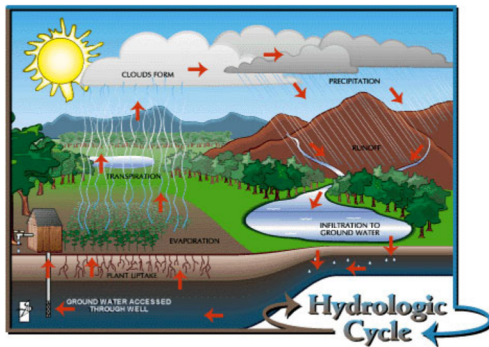
7

- A. I belong to an ATE project or center
- B. I am seeking ATE funding
- C. I am at a non-ATE institution
- D. Other: Please share in the chat

Accessible Media: Images & Video



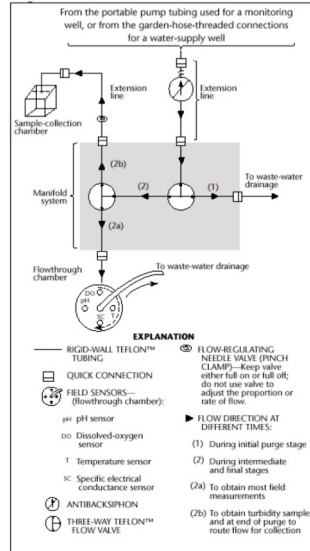
Figure 1. The Hydrologic Cycle



Source: U.S. EPA.



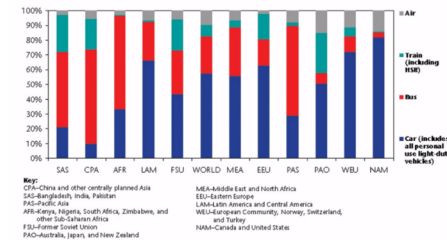
Figure 4. Sample Page from Field Manual



Source: National Field Manual for the Collection of Water-Quality Data, U.S. Geological Survey. Screenshot



Figure 1. Comparison of Modal Share of Passenger-Kilometers Across Different World Regions



Source: World Business Council on Sustainable Development, *Mobility 2001*, 2001.

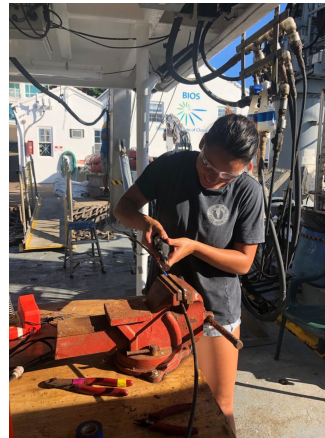


Image Description Guidelines

Diagram Center:

<http://diagramcenter.org/table-of-contents-2.html>

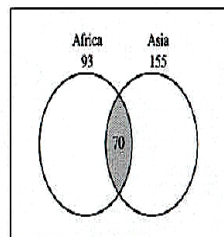
based on NCAM's research on Effective Practices for
STEM Description (NSF)

- **Brevity**
- **Data**
- **Clarity**
- **Drill-down organization**

PREFERRED Descriptive Practice:
The Venn diagram shows 2 intersecting circles, one labeled Africa 93 and the other labeled Asia 155. The area of intersection is labeled 70

PREVIOUS Descriptive Practice:
The figure is a Venn diagram and shows 2 intersecting circles inside a large rectangle. The circles do not touch the rectangle. The circle on the left is labeled Africa and the number 93 is under Africa and above the circle. The circle on the right is labeled Asia and the number 155 is under Asia and above the circle. The intersection of the 2 circles is shaded and has the number 70 in the shaded region.

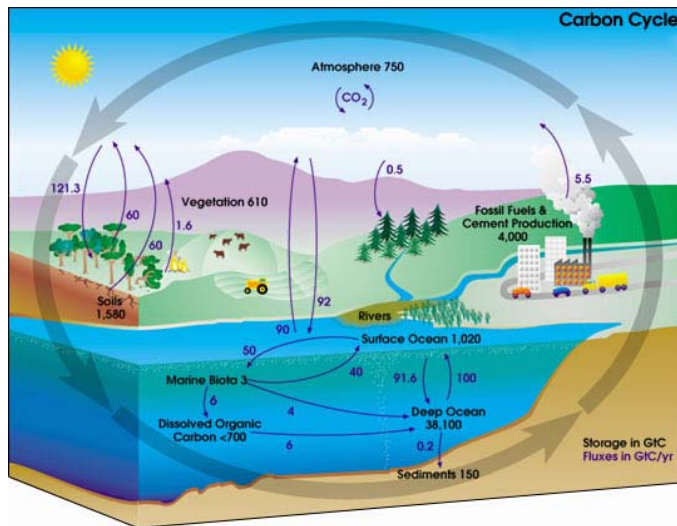
Example 5.



In a survey of 250 European travelers, 93 have traveled to Africa, 155 have traveled to Asia, and 70 have traveled to both of these continents, as illustrated in the Venn diagram above.

Principles

- Brevity
- Data
- Clarity
- Drill-down organization



A diagram titled: Carbon Cycle.

Colorful pictures depict farms, forests, rivers, oceans and industry. Four long arrows encircle the diagram, representing the cycling of carbon. Smaller arrows illustrate Storage of Carbon and Fluxes in Carbon through Earth's atmosphere, oceans and land. Amounts are measured in GtC - giga tons of carbon.

Carbon Storage and Annual Fluxes in Carbon are depicted in the following tables.

Carbon Storage

Storage Area	G t C
Atmosphere	750
Vegetation	610
Fossil Fuels and Cement Production	4,000
Soils	1,580
Surface Ocean	1,020
Deep Ocean	38,100
Marine Biota	3
Underwater Dissolved Organic Carbon	less than 700
Ocean Sediments	150

Fluxes in Carbon

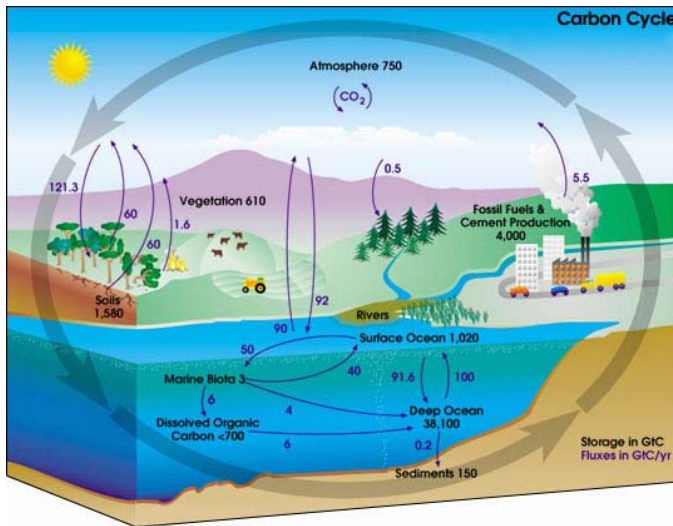
Flux	G t C
Atmosphere to Vegetation	121.3
Vegetation to Atmosphere	60
Soils to Atmosphere	60
Forest Fires to Atmosphere	1.6
Atmosphere to Evergreen Forest	.5
Fossil Fuels and Cement Production to Atmosphere	5.5

- Brevity
- Data
- **Clarity**
- Drill-down organization

If the reader needs to listen to a description several times because it is poorly written or is presented in a confusing manner, then it is not accessible.



- Brevity
- Data
- Clarity
- Drill-down organization



A diagram titled: Carbon Cycle.

Colorful pictures depict farms, forests, rivers, oceans and industry. Four long arrows encircle the diagram, representing the cycling of carbon. Smaller arrows illustrate Storage of Carbon and Fluxes in Carbon through Earth's atmosphere, oceans and land. Amounts are measured in GtC - giga tons of carbon.

Carbon Storage and Annual Fluxes in Carbon are depicted in the following tables.

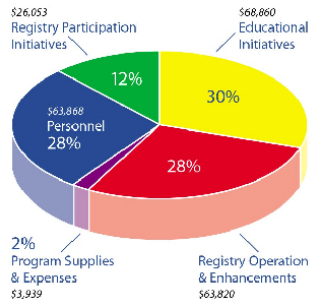
Carbon Storage

Storage Area	G t C
Atmosphere	750
Vegetation	610
Fossil Fuels and Cement Production	4,000
Soils	1,580
Surface Ocean	1,020
Deep Ocean	38,100
Marine Biota	3
Underwater Dissolved Organic Carbon	less than 700
Ocean Sediments	150

Fluxes in Carbon

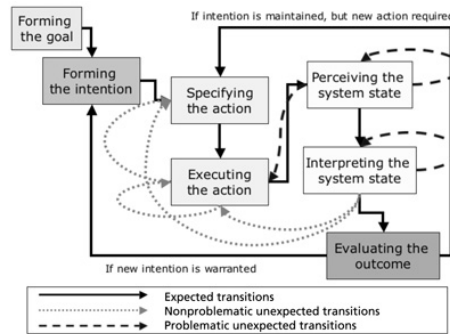
Flux	G t C
Atmosphere to Vegetation	121.3
Vegetation to Atmosphere	60
Soils to Atmosphere	60
Forest Fires to Atmosphere	1.6
Atmosphere to Evergreen Forest	.5
Fossil Fuels and Cement Production to Atmosphere	5.5

Navigational Control: Tables, Flow Charts, and More



The figure is a pie chart. The data can be shown in the following table.

Program Expenses		
Expense	% of total	Dollar Amount
Program Supplies and Expenses	2%	\$3,939
Registry Participation Initiatives	12%	\$26,053
Registry Operation and Enhancements	28%	\$63,820
Personnel	28%	\$63,868
Educational Initiatives	30%	\$68,860



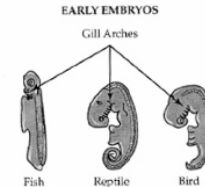
The figure is a flow chart with 7 stages of action. 3 types of lines represent different transitions between the stages of action.

The lines are labeled: Expected transitions, Non-problematic unexpected transitions, and Problematic unexpected transitions.

Here the flow chart is described as a series of lists in which possible transitions are listed beneath each stage of action.

1. Forming the goal
 - o Expected transition to Forming the intention
2. Forming the intention
 - o Expected transition to Specifying the action
3. Specifying the action
 - o Expected transition to Executing the action
4. Executing the action
 - o Expected transition to Perceiving the system state
 - o Non-problematic unexpected transition to Executing the action
 - o Non-problematic unexpected transition to Specifying the action
5. Perceiving the system state
 - o Expected transition to Interpreting the system state
 - o Problematic unexpected transitions to Perceiving the system state
 - o Problematic unexpected transitions to Executing the action
6. Interpreting the system state
 - o Expected transition to Evaluating the outcome
 - o Problematic unexpected transition to Interpreting the system state
 - o Non-problematic unexpected transitions to Executing the action
 - o Non-problematic unexpected transitions Specifying the action
7. Evaluating the outcome
 - o If intention is maintained, and a new action is required then Expected transition to Specifying the action
 - o If a new intention is warranted then Expected transition to Forming the intention

The diagram below shows the early embryos of a fish, a reptile, and a bird. The embryos of these organisms are similar in structure and appearance.



The fish embryo is long, narrow and straight. Its head is small, round, and contains gill arches. A large flap extends to the left, from just below the head to the middle of the embryo. A segmented bony structure runs the length of the embryo on the right.

The reptile embryo is much longer and fatter than the fish embryo, but is curled into a fetal position. Its head is bent forward and is twice as large as that of the fish embryo. The reptile embryo has twice as many gill arches as the fish embryo, but the flap on the left side is only half as long. A segmented bony structure runs the length of the embryo on the right.

The bird embryo is curved more than the fish embryo, but is not as long or as curved as the reptile embryo. The head of the bird embryo is almost as large as that of the reptile embryo, but has fewer gill arches. A flap the same size as that of the reptile embryo extends to the left. A segmented bony structure runs the length of the embryo on the right. Arrows point to the gill arches of all three embryos.

Math

Images of math are not accessible

- Use MathML markup
- Put linear math in image description if necessary
- Handbook for Spoken Mathematics (Larry's Speakeasy)

$$z = 2 \frac{(a+b)^2}{c}$$

$$z = 2a + \frac{b^2}{c}$$

Questions About Image Description?



Poll: Would you be interested in training for your staff on image description?

17

- A. Live online training with Q&A
- B. On-demand pre-recorded training
- C. Workshop at future ATE PI Conference
- D. Other

- Captions
 - Text of the audio for students who can't hear
- Audio description
 - Describes visuals for students who can't see
- Accessible player tool
 - Keyboard access for students who can't use a mouse
 - Screen reader access for students who can't see
 - YouTube player, JW Player
 - Designed for accessibility: [Able Player](#), [VideoPlayer](#) from the [Fluid Project](#)
 - Browser native players are pretty good and improving

Poll: How much video do you create each year?

A. None

B. A few videos per year

C. Many, video is an important component of our project

Tool Demo: Caption and Description Editing Tool

CADET: Caption and Description Editing Tool

Media: /Users/bryan_gould/Desktop/ATE_CADET/sintel_4_min.mp4
Speed: 1x

File Edit Style Events Player Tools Help

!! Unsaved Changes !!

Mode: Edit Project Type: Caption
Edit Review Caption Description ● Media Time 00:01:46.22

#	START	END	CAPTION
1			This blade has a dark past. It has shed much innocent blood.
2			You're a fool for traveling alone so completely unprepared. You're lucky your blood's still flowing.
3			Thank you.
4			So...
5			What brings you to the land of the gatekeepers?
6			I'm... I'm searching for someone.
7			Someone very dear?
8			A kindred spirit?
9			A dragon.
10			(fire crackling)
11			OLD MAN: A dangerous quest for a lone hunter.
12			(birds cawing)
13			SINTEL: I've been alone for as long as I can remember.
14			(boards thud to ground)
15			(flies buzzing)
16			(birds cawing)
17			(sniffs)
18			(hollow thump)
19			(gasps)

Version: 2.0.029

STATUS:
Elapsed time=[00:00:01]
EDITOR: doimportWhere: ENTER
EDITOR: importWhere: ENTER
Importing from file=[3_text_script_sintel_1.txt] type=[plain].
It should take roughly 0 seconds to import 55 events. Wait for it...
Import events from file=[3_text_script_sintel_1.txt] type=[plain] complete.
Elapsed time=[00:00:00]

Questions About Video?



- Image description guidelines
<http://diagramcenter.org/table-of-contents-2.html>

- CADET
<http://ncamftp.wgbh.org/cadet/>

- CADET Tutorials on YouTube
Search “WGBH Cadet Tutorial”

What will be your next steps for creating more accessible media?



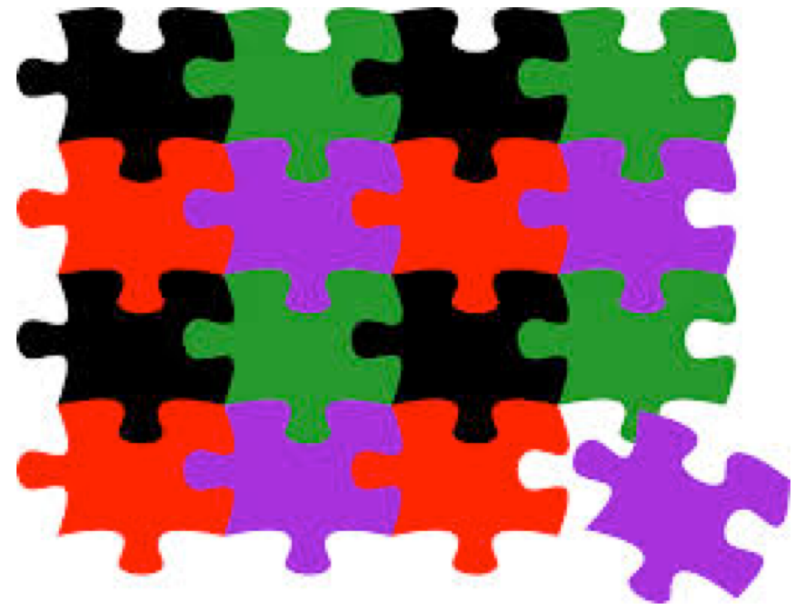
Connect with NCAM

- Email us at ncam@wgbh.org
- Follow us on Twitter
@AccessWGBH
- Like us on Facebook
@MediaAccessGroup



Connect with AccessATE

- Visit us at –
<https://accessate.net>
- Email us at
info@accessate.net
- Join us for future webinars and live events – including the AccessATE Universal Access Lab at the 2019 ATE PI Conference October 24!



Thank you for attending!

The contents of this presentation were developed under a cooperative agreement with the US Department of Education, #H327Z140001. However, those contents do not necessarily represent the policy of the US Department of Education and you should not assume endorsement by the Federal Government, Project Officer, Tara Courchaine, Ed.D.

This webinar is brought to you by the AccessATE project which is funded by the National Science Foundation under DUE#1836721. Any opinions, findings, and conclusions or recommendations expressed in this material are those of the author(s) and do not necessarily reflect the views of the National Science Foundation.