Effective Communication: Posters and Newsletters

IAN Science Communication Course
NOAA Coastal Science Center

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University of Maryland
CENTER FOR ENVIRONMENTAL SCIENCE

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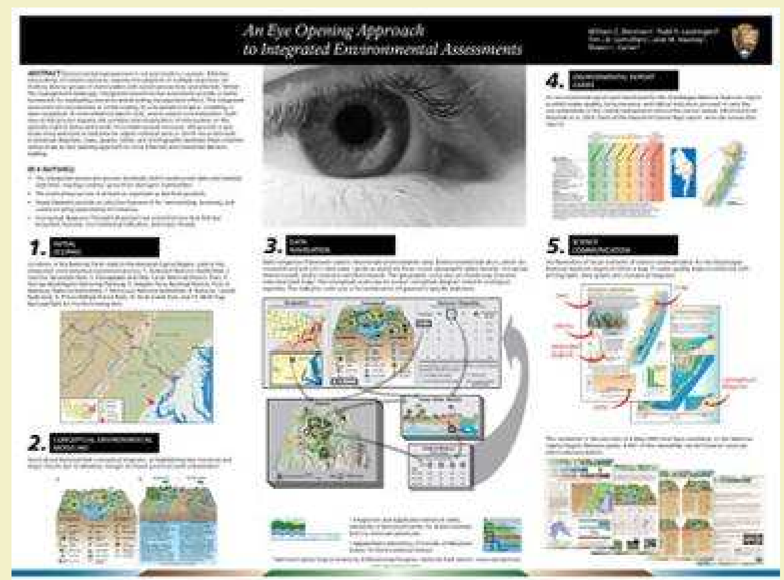
Integration & Application Network

Outline

- General design principles
- Use of maps and aerial photos for context
- Use of color
- Tips for posters
- Tips of newsletters

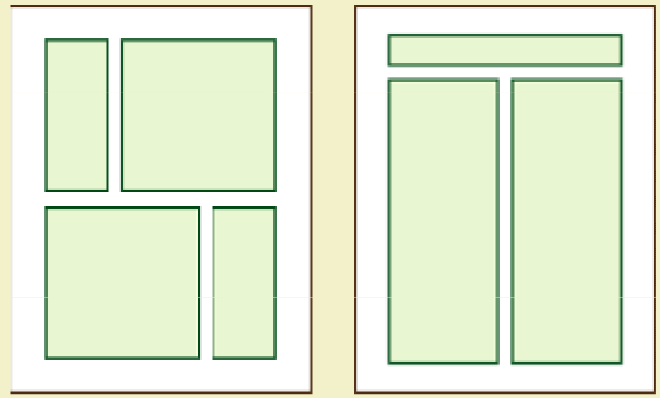


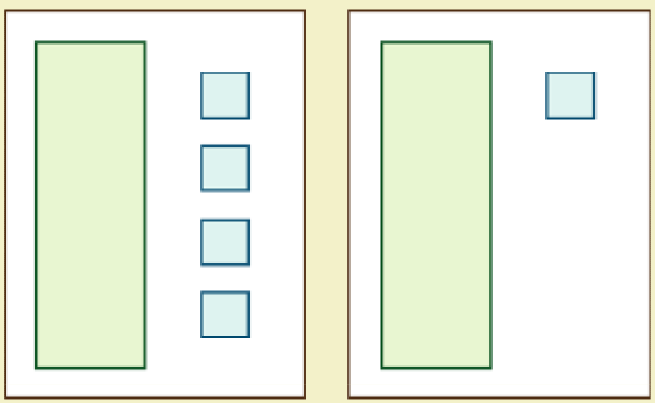
Design principles for effective print documents

- Balance
- Proximity
- Alignment
- Contrast and emphasis
- Blank space

Balance

These designs are symmetrical

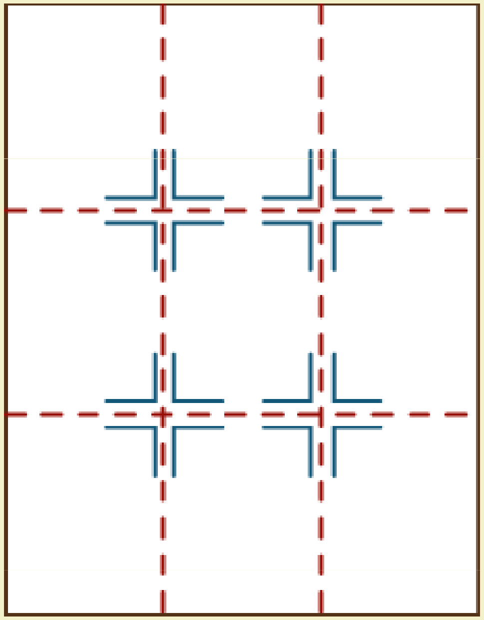


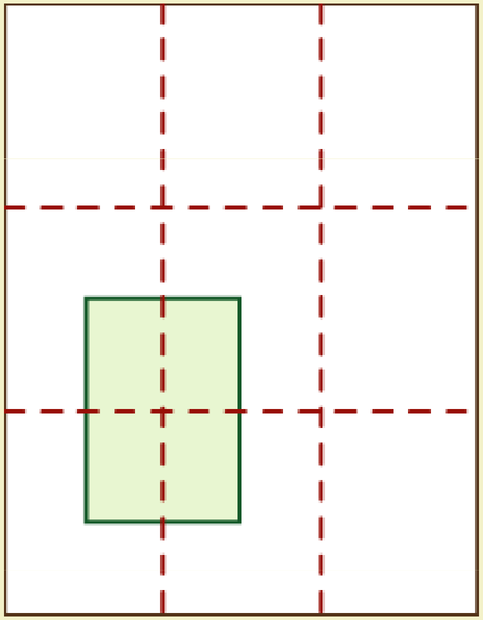


The left design is balanced, the right creates tension

Balance

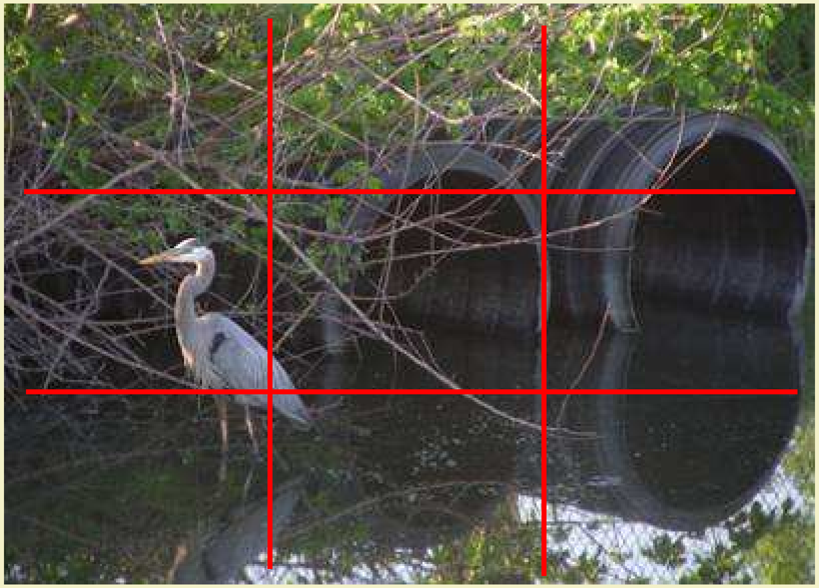
Dividing in thirds is often more subtle than dividing in halves

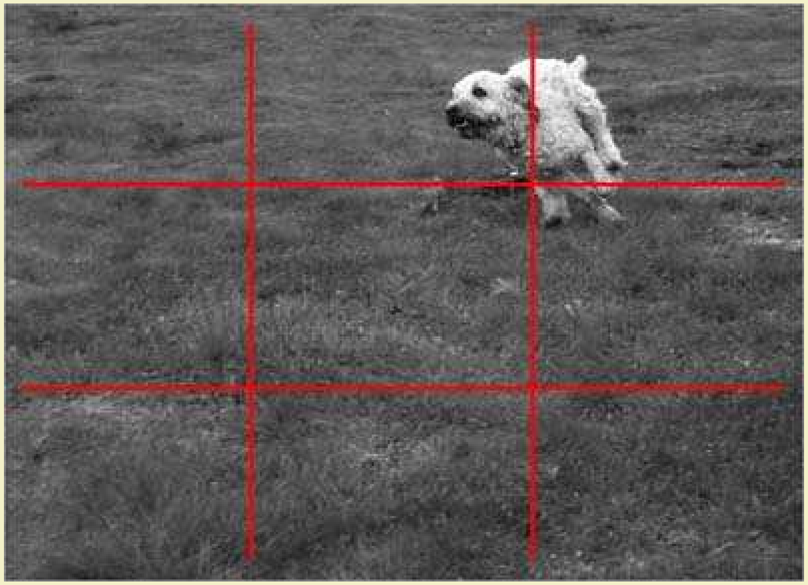




Balance

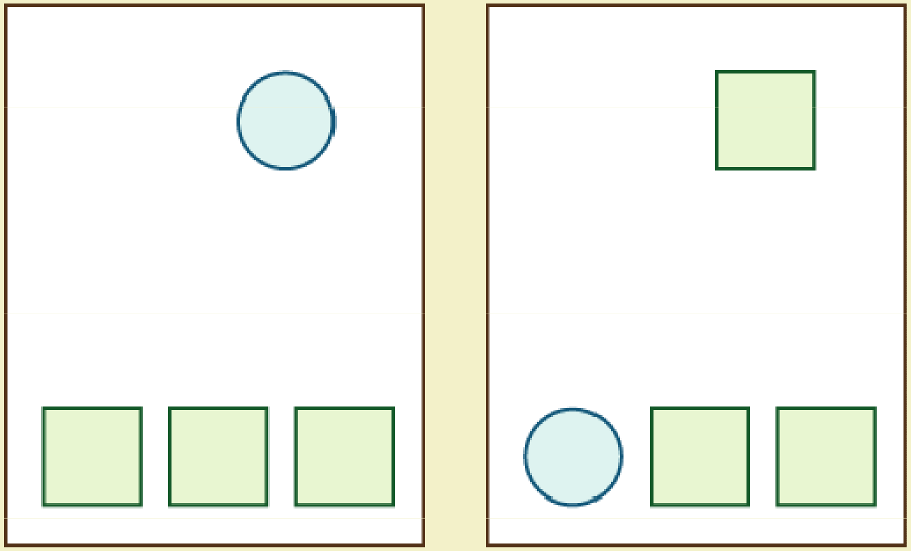
✓ ✓





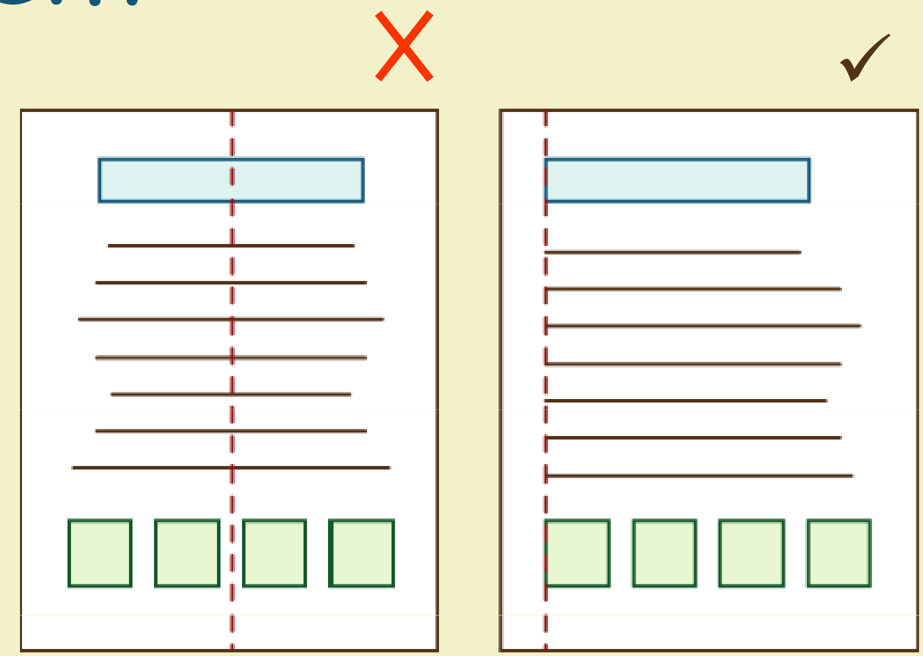
Place the focus of the image along the column line or intersection

Proximity



Proximity of objects can be used to imply association – whether objects are similar or different

Alignment



- Alignment can be used to help draw a reader through a document
- Center alignment of text can be difficult to read

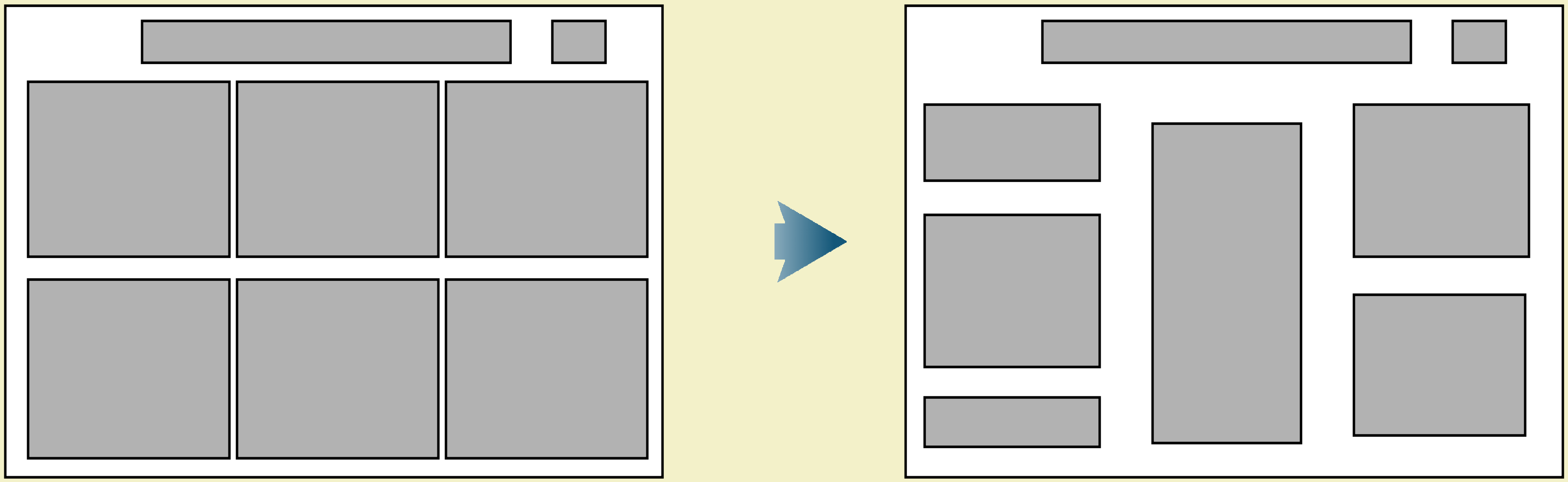
Contrast and emphasis

Contrast with color

Contrast with TYPE

Contrast with SIZE

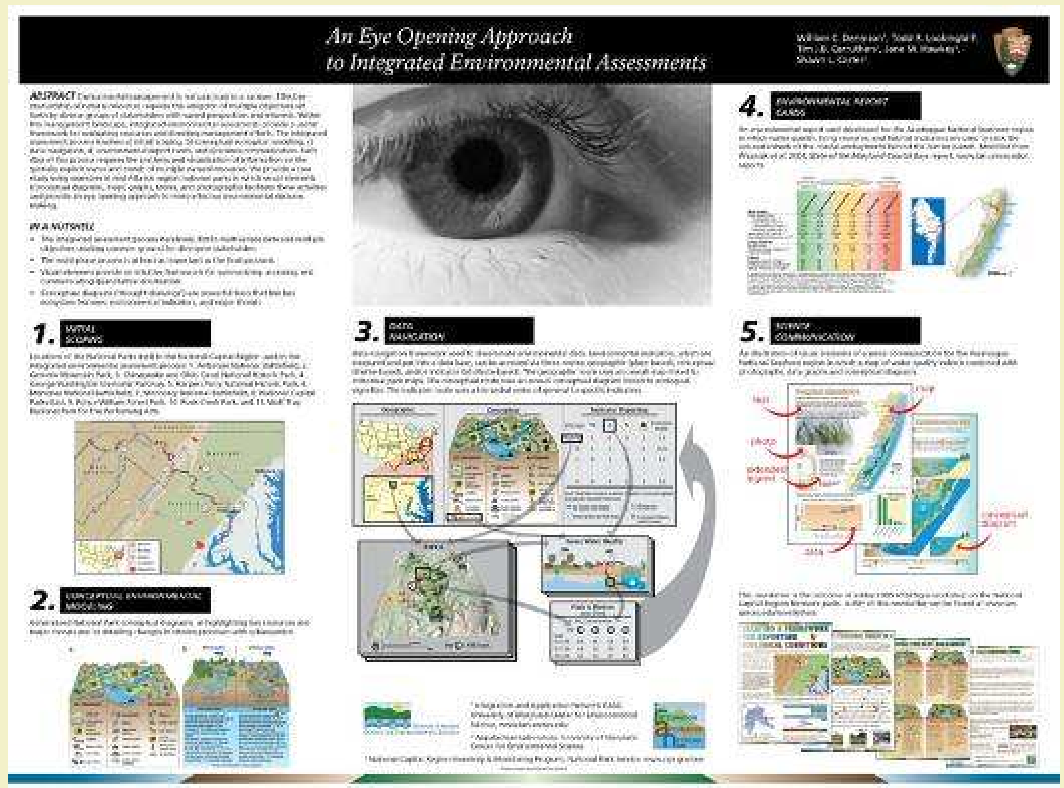
Blank space helps readability



- No blank space creates a ‘crowded’ feel
- Blank space is easier to read, and allows for flow between sections

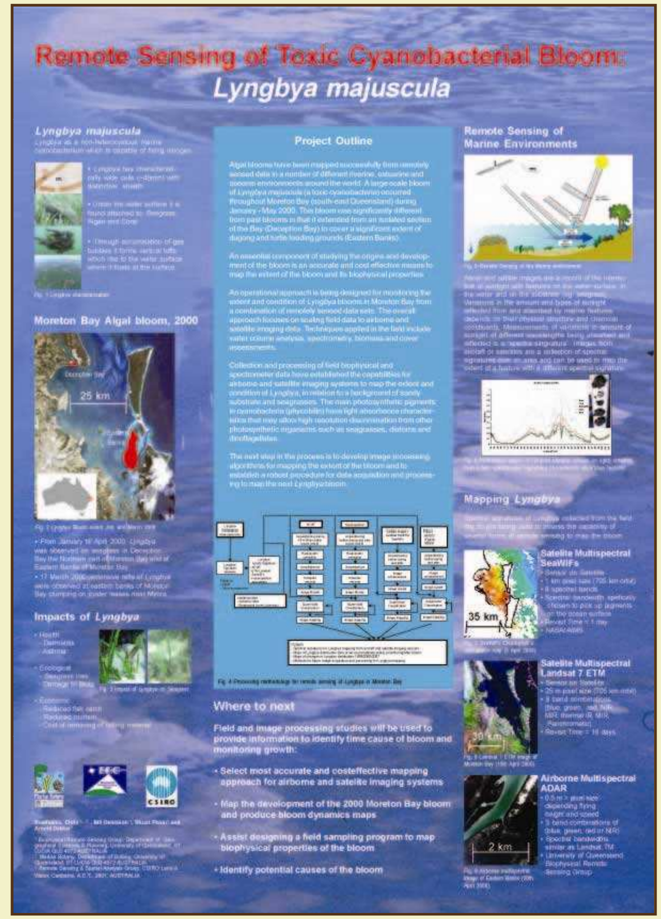
Tips for posters

- Types of posters
- Software
- Titles and text
- Color
- Mock-ups
- Time allocation
- Handouts



Types: Technical/methods

- Audience – specialist scientists
- Includes – detailed methods
- Capturing attention less important
- Need to justify key elements of techniques
- But… still includes photos/ maps/conceptual diagrams

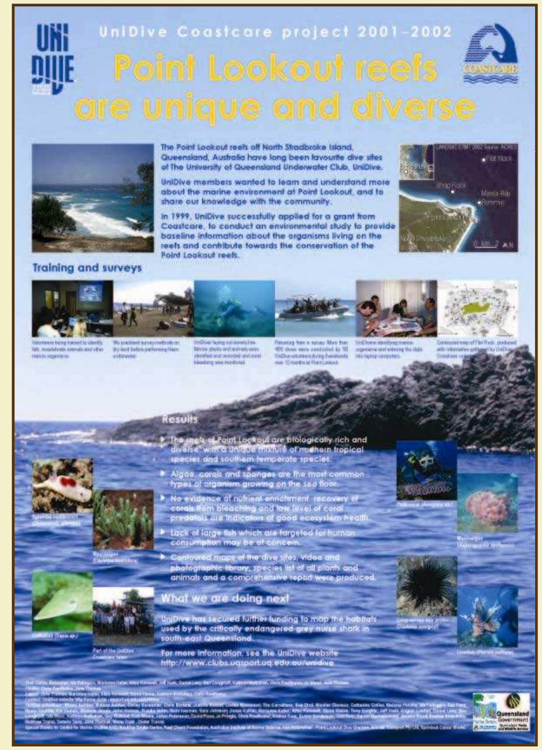


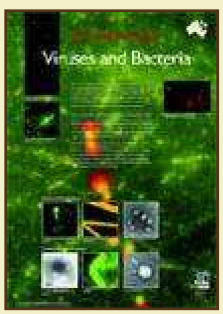
Types: Informed public

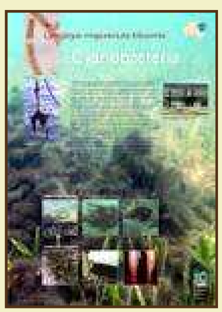
- Audience – informed public or non-specialist scientists
- Includes – clear syntheses
- Capturing attention – important
- Needs to summarize information
- Conceptual diagrams, maps and photos very useful tools

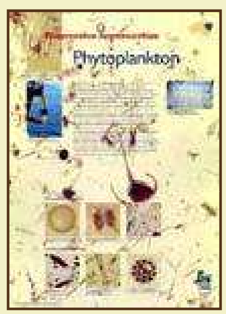
Types: General public

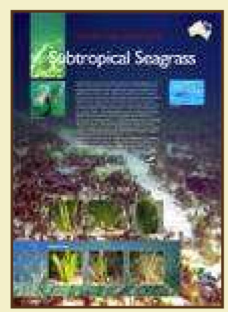
- Audience – general public
- Includes – message, no justification
- Capturing vital attention
- Need to be visually attractive
- So... good photos are key

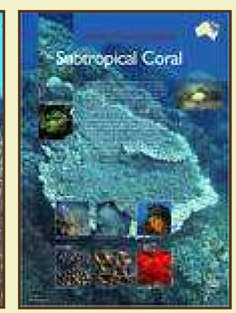






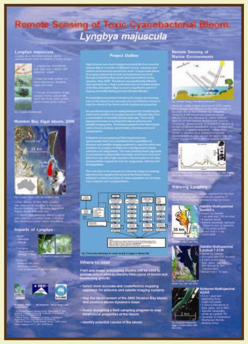






Types of science posters

Your target audience determines the mix of poster elements



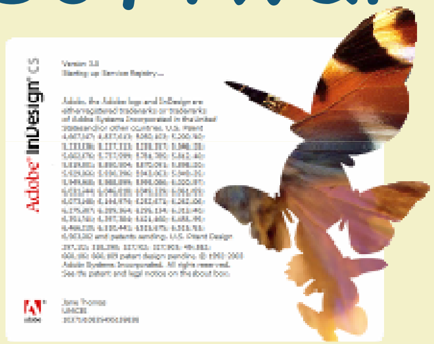
Specialist scientists

Informed public

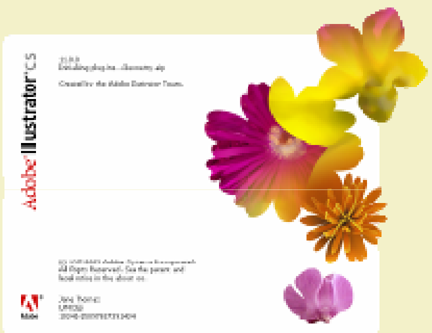
General public

Formatting tip:
If in doubt, use a plain background.

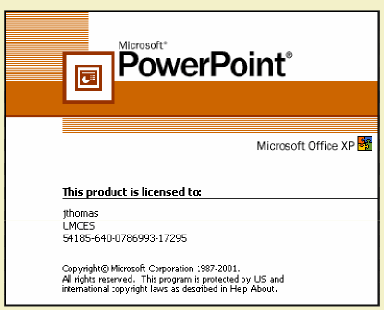
Start right – use the right software!



- Adobe *InDesign* – best…
  - Graphics files can be linked

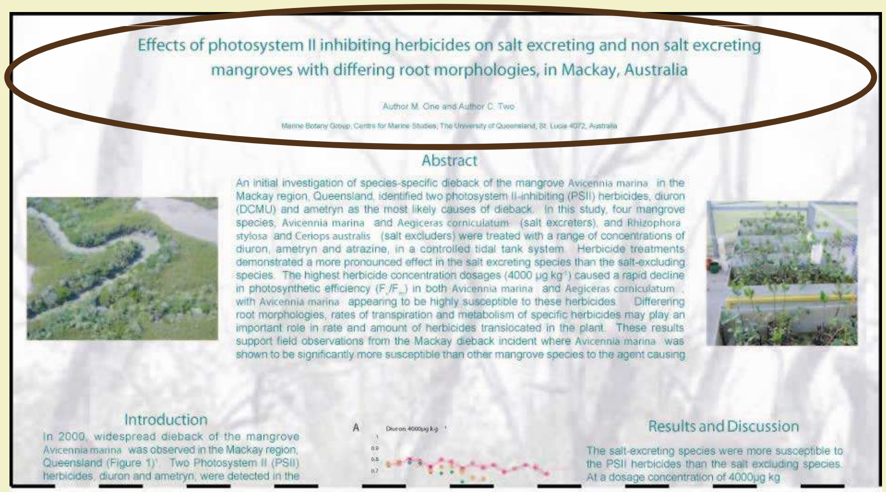


- Adobe *Illustrator* – good…
  - Files get large

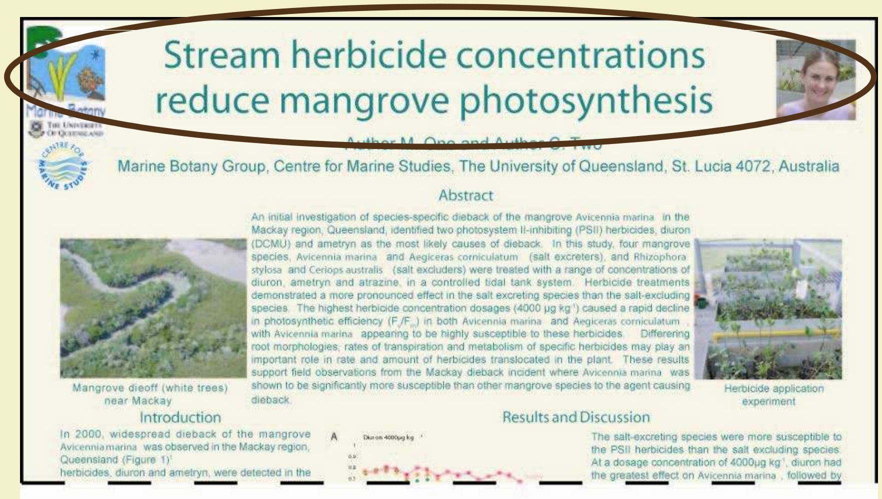


- Microsoft *PowerPoint* – avoid!!!!
  - Inflexible and printing difficulties

Use a short, active, large title



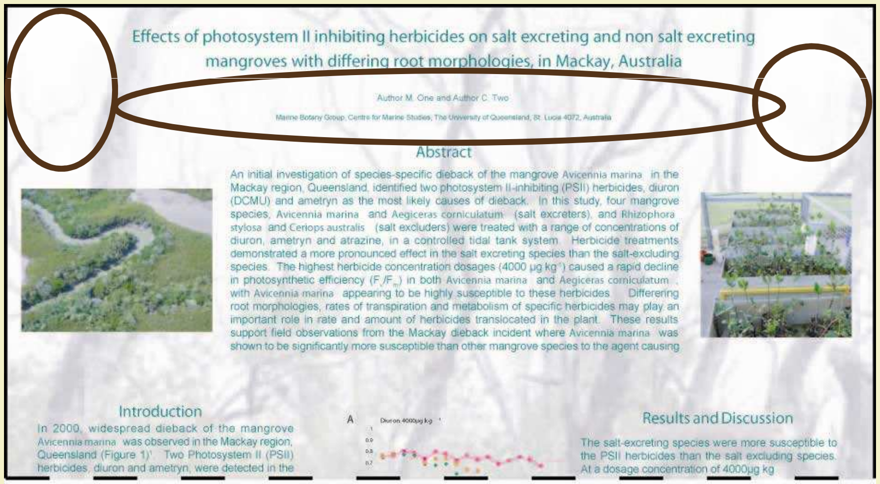
Ineffective



Effective

- The one main message of the document should be summarized in the title
- Title can be a statement or a question
- If you can't read it from ~30 feet/~10 meters, it is too small
- Use san serif font at 96 pt (2 inch/5 cm high letters)

Authors and affiliations second only to title



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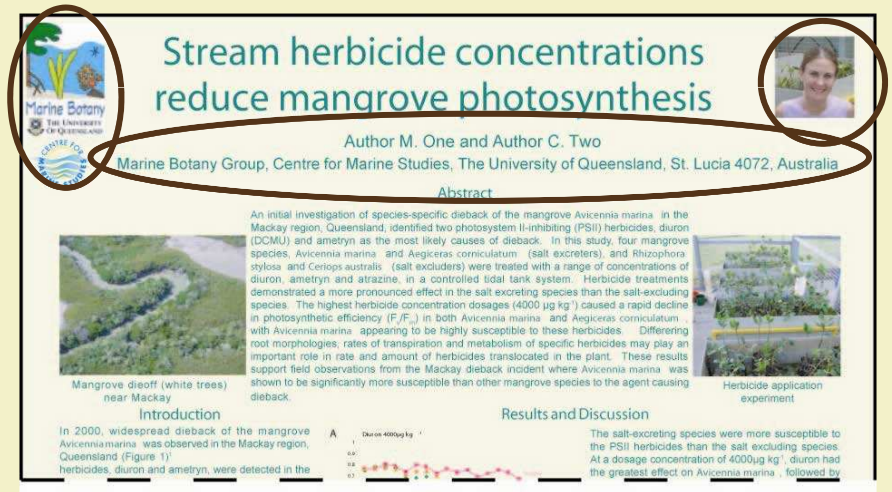
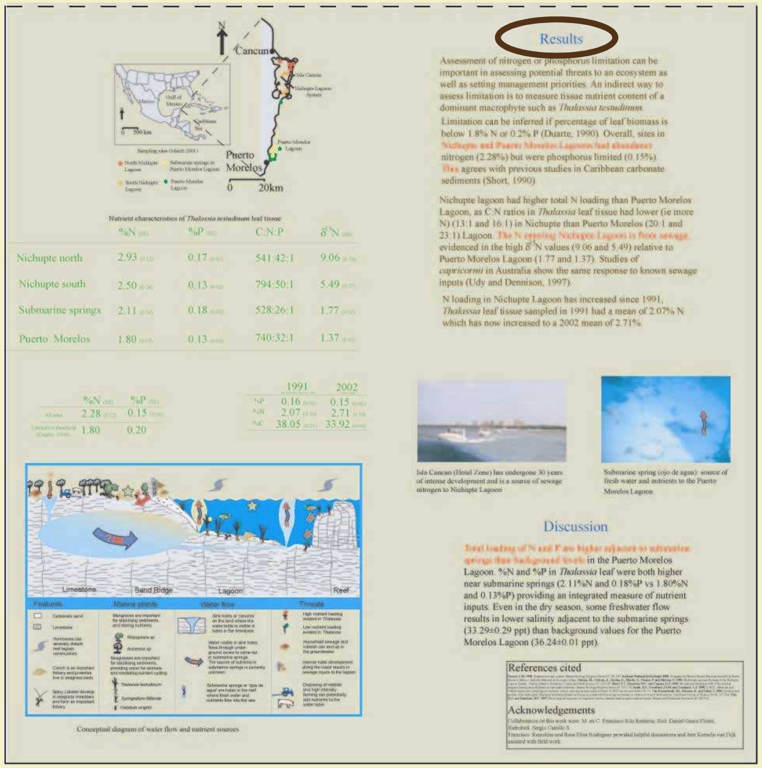


Effective

- Authors' names should be easily legible
- Put authors' names at top
- Include relevant, high quality logos (not web grabs)
- Photo of principal author is useful

Use active subtitles



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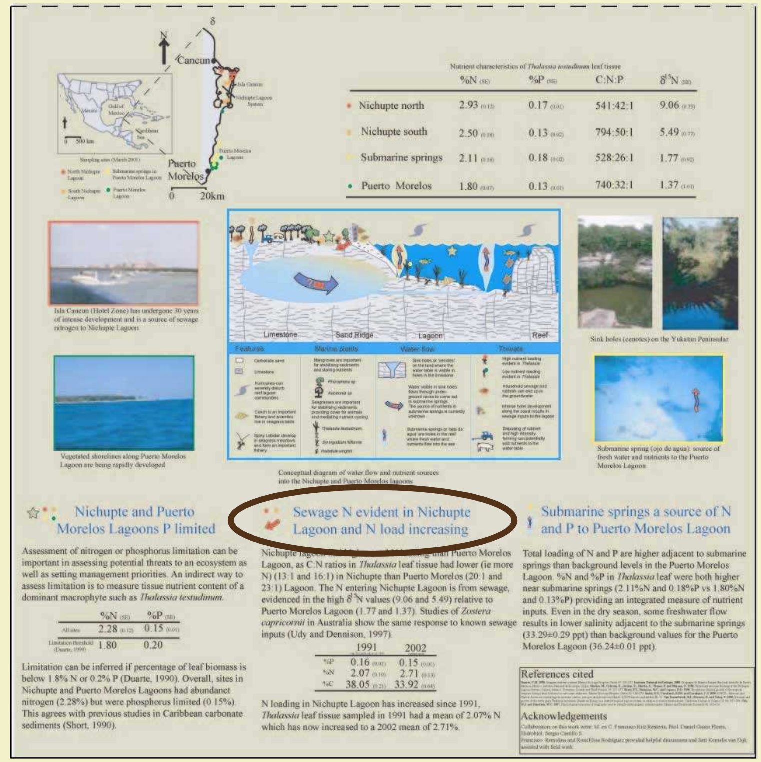
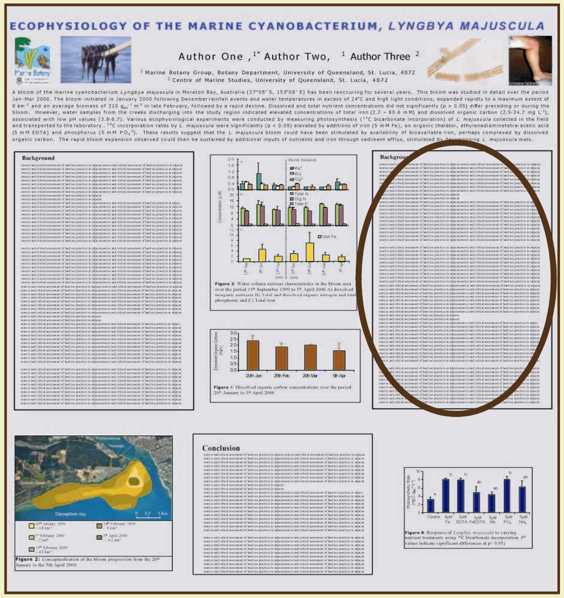


Effective

Replace methods/results/discussion with synthetic active subtitles

Clear, large text should be used to support graphics



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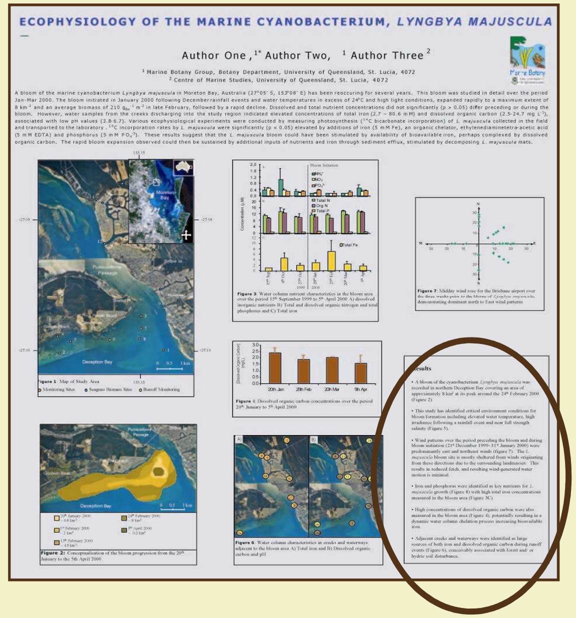
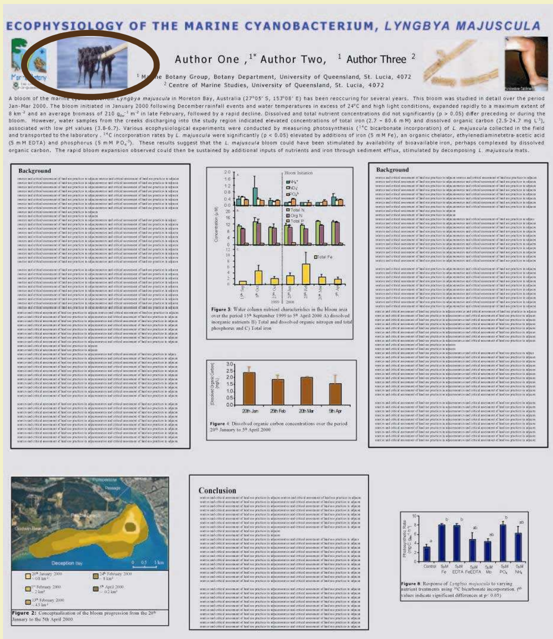


Effective

- Use a clear, system font (e.g. Arial)
- 0.5 inch/1 cm tall when printed, i.e. approx. 24 pt
- Use bullet points and extended legends (not an essay)

Use photos/maps for context - not decoration!



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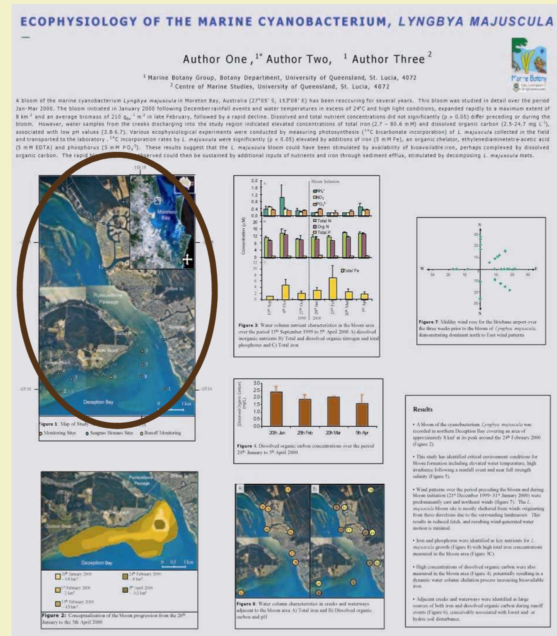
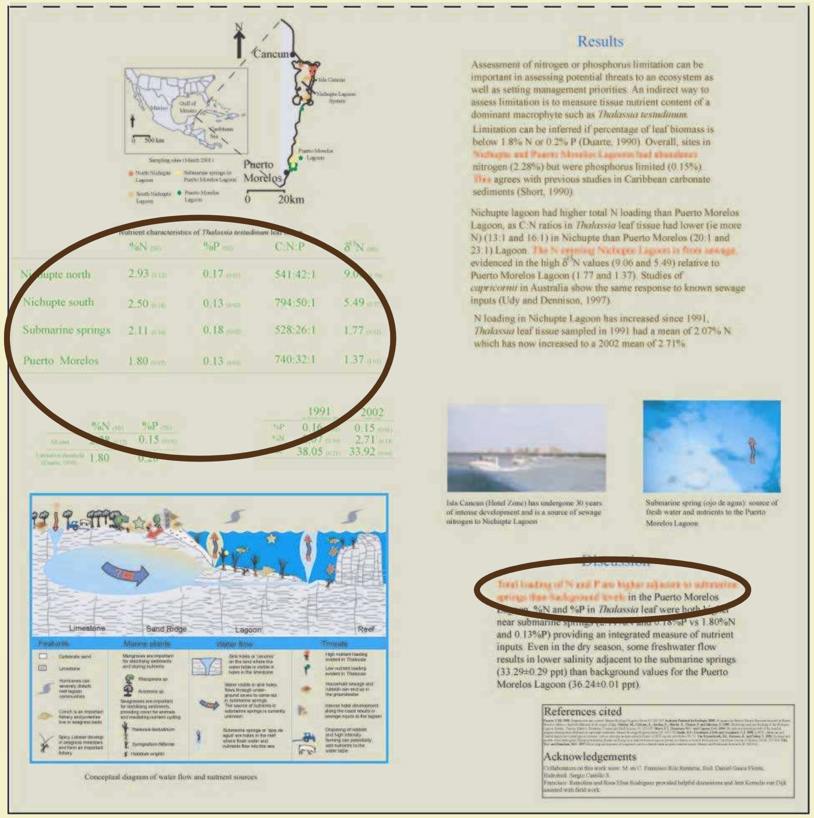


Effective

- Need to provide good context (maps/aerial photos)
- Photos should AT LEAST have a caption!
- Distinguish captions from the rest of the text

Judicious use of color



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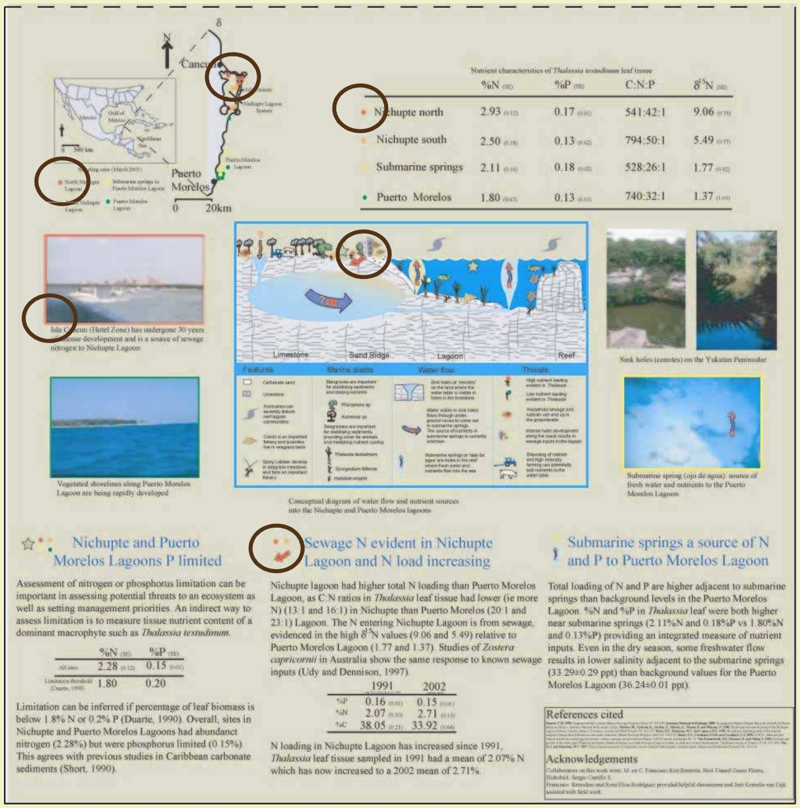
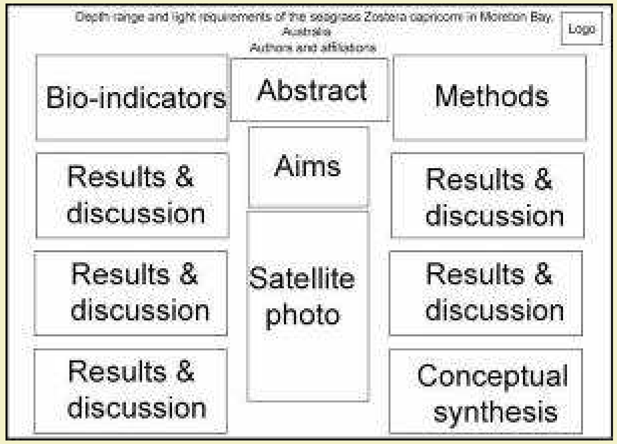


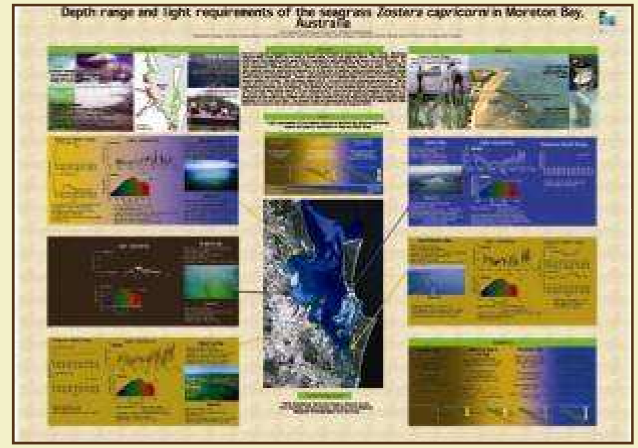
Effective

- Subtle background and one or two high contrast text colors
- Colors and icons can be used to link photos/figures & text

Mock up and review, review, review

Depth range and light requirements of the seagrass *Zostera capricorni* in Moreton Bay, Australia



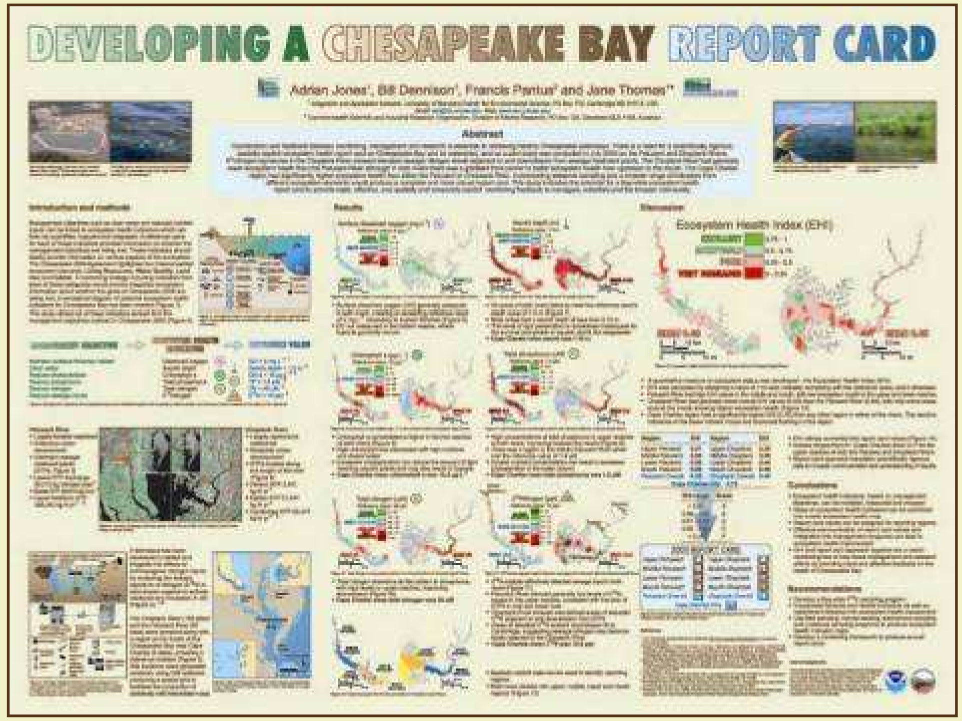


Title ➤ Mock layout ➤ Final poster

- Start with fundamental message – the title
- A mock layout helps plan balance and flow
- Does it work? Get input from others
- Run the 10 second test (the time available on average to get a reader's attention)
- Check the required size requirements/limitations

Do you have a week of your life to spare?

3 – 5 days

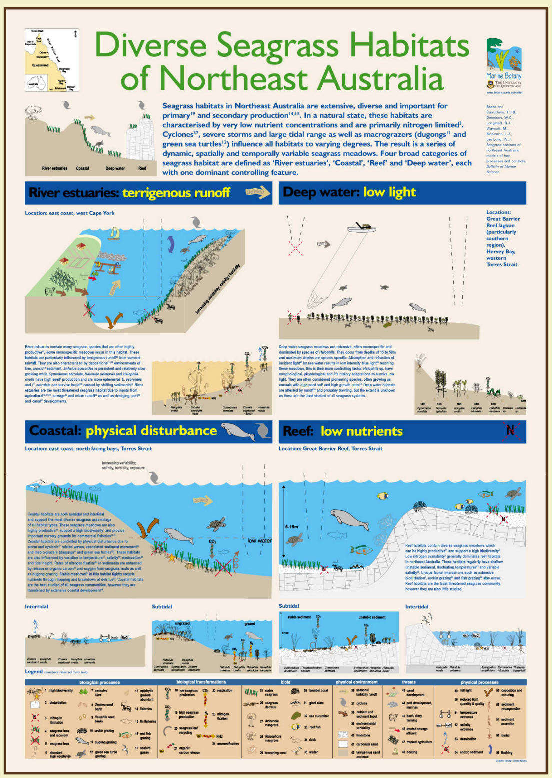


8 –10 days

An effective poster takes time, even after all the data is analyzed

Make handouts

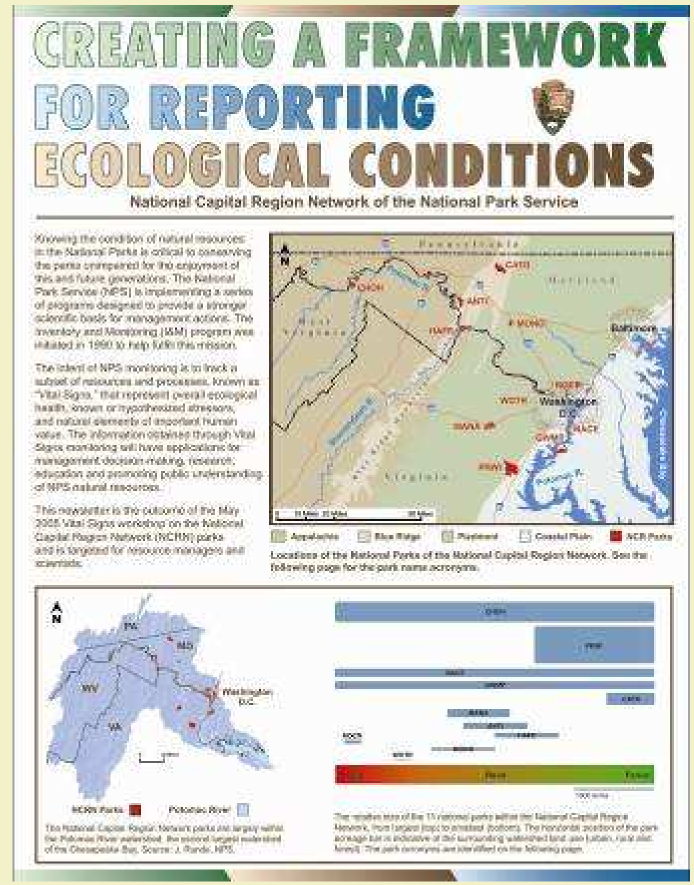
- Should be able to read text printed at A4
- Ensure your address is readable



integration application network

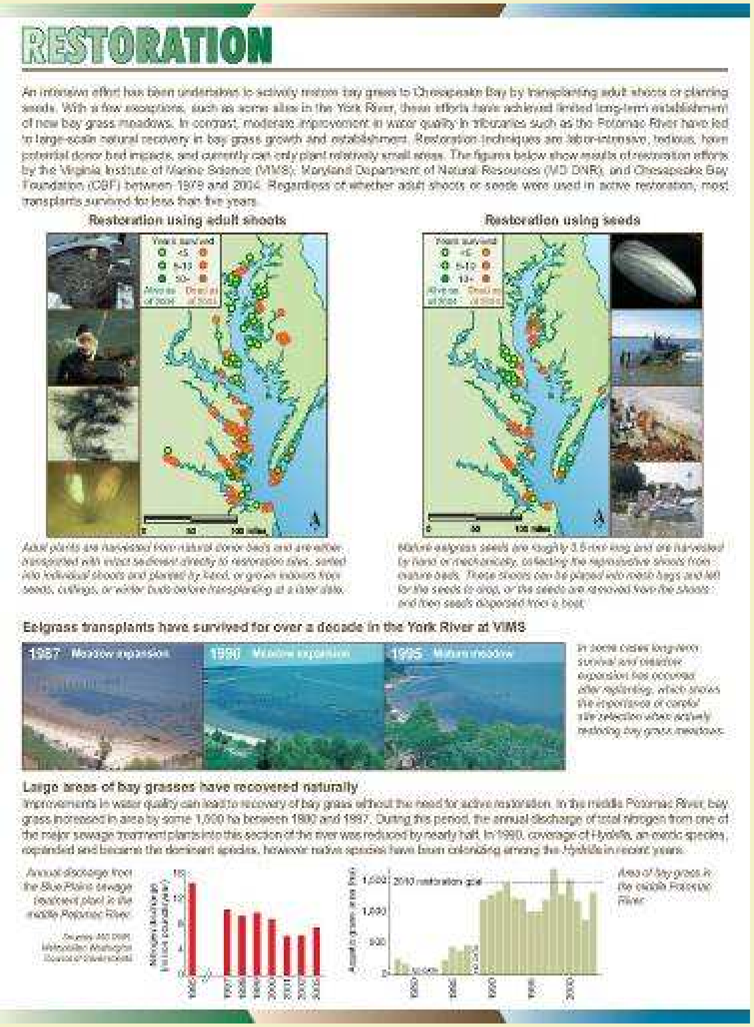
Tips for newsletters

- Many poster tips apply
- Broad audience consideration
- Effective 4-page spread
- Front page elements
- Back page elements

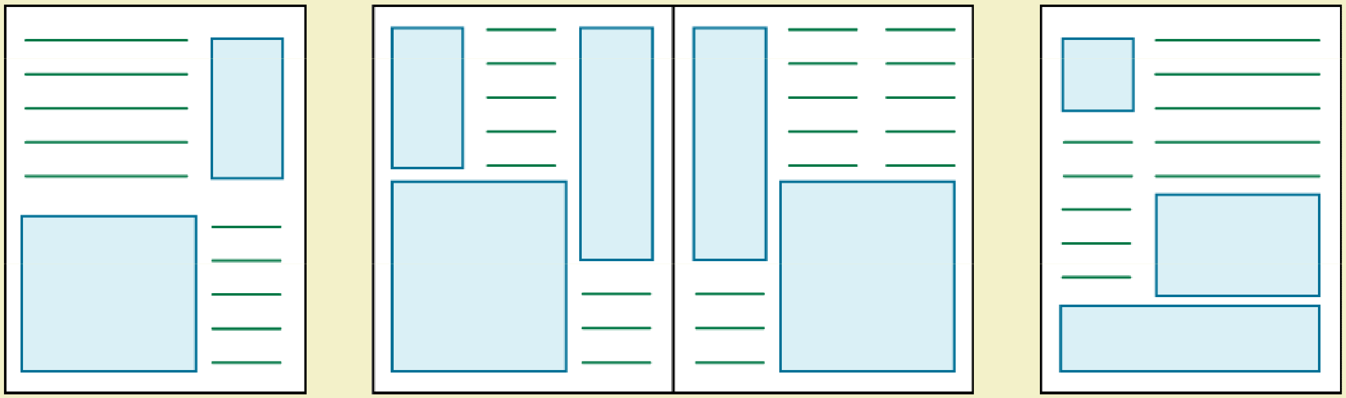


Poster tips that also apply to newsletters

- Active titles and subtitles
- Visuals that provide context
- Use the right software



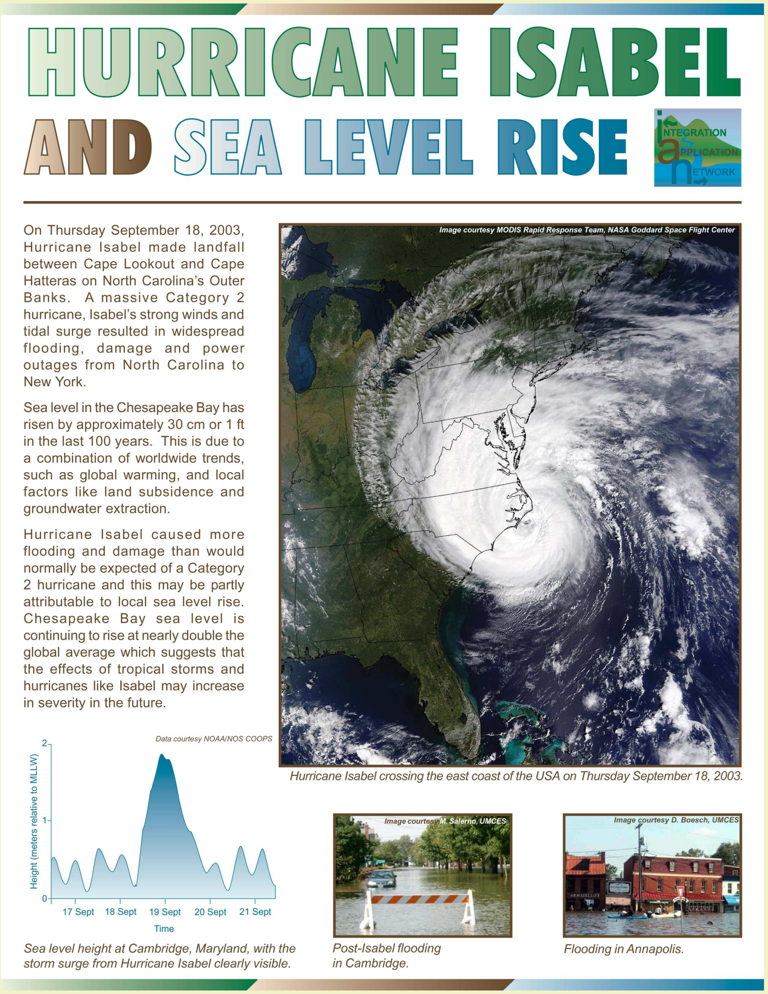
4-page spread



- Depending on size, use 2 or 3 columns pages
- Text boxes and visuals can take up 1,2, or 3 columns

Front page elements

- Descriptive title
- Abstract or summary of message
- Interesting visuals



HURRICANE ISABEL AND SEA LEVEL RISE

On Thursday September 18, 2003, Hurricane Isabel made landfall between Cape Lookout and Cape Hatteras on North Carolina's Outer Banks. A massive Category 2 hurricane, Isabel's strong winds and tidal surge resulted in widespread flooding, damage and power outages from North Carolina to New York.

Sea level in the Chesapeake Bay has risen by approximately 30 cm or 1 ft in the last 100 years. This is due to a combination of worldwide trends, such as global warming, and local factors like land subsidence and groundwater extraction.

Hurricane Isabel caused more flooding and damage than would normally be expected of a Category 2 hurricane and this may be partly attributable to local sea level rise. Chesapeake Bay sea level is continuing to rise at nearly double the global average which suggests that the effects of tropical storms and hurricanes like Isabel may increase in severity in the future.

Image courtesy MODIS Rapid Response Team, NASA Goddard Space Flight Center

Hurricane Isabel crossing the east coast of the USA on Thursday September 18, 2003.

Sea level height at Cambridge, Maryland, with the storm surge from Hurricane Isabel clearly visible.

Image courtesy M. Salerno, UMCES

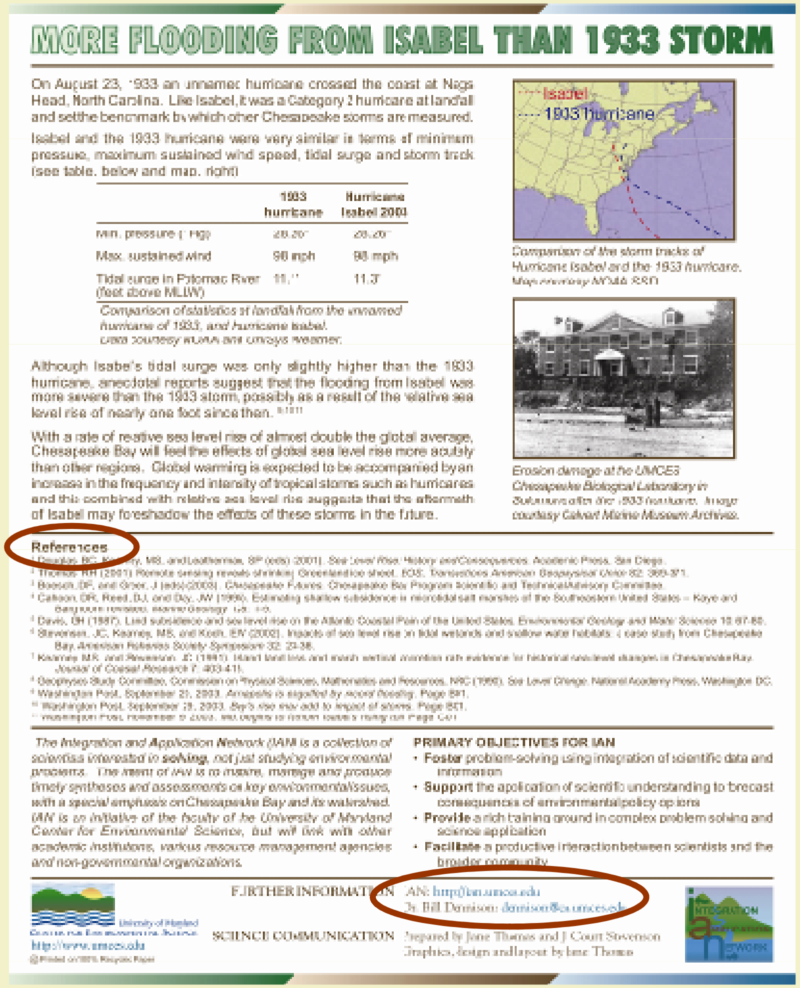
Post-Isabel flooding in Cambridge.

Image courtesy D. Boesch, UMCES

Flooding in Annapolis.

Back page elements

- Reference list
- Contact information
- Acknowledgements



MORE FLOODING FROM ISABEL THAN 1933 STORM

On August 23, 1933 an unnamed hurricane crossed the coast at Nags Head, North Carolina. Like Isabel, it was a Category 2 hurricane at landfall and set the benchmark by which other Chesapeake storms are measured.

Isabel and the 1933 hurricane were very similar in terms of minimum pressure, maximum sustained wind speed, tidal surge and storm track (see table, below and map, right)

	1933 hurricane	Hurricane Isabel 2003
Min. pressure (" Hg)	28.20"	28.20"
Max. sustained wind	98 mph	98 mph
Tidal surge in Potomac River (feet above MLLW)	11.1'	11.3'

Comparison of statistics at landfall from the unnamed hurricane of 1933, and hurricane Isabel. Data courtesy NOAA and Unisys Weather.

Comparison of the storm tracks of Hurricane Isabel and the 1933 hurricane.

Although Isabel's tidal surge was only slightly higher than the 1933 hurricane, anecdotal reports suggest that the flooding from Isabel was more severe than the 1933 storm, possibly as a result of the relative sea level rise of nearly one foot since then.

With a rate of relative sea level rise of almost double the global average, Chesapeake Bay will feel the effects of global sea level rise more acutely than other regions. Global warming is expected to be accompanied by an increase in the frequency and intensity of tropical storms such as hurricanes and this combined with relative sea level rise suggests that the aftermath of Isabel may foreshadow the effects of these storms in the future.

Erosion damage at the UMCES Chesapeake Biological Laboratory in Solomons after the 1933 hurricane. Image courtesy Calvert Marine Museum Archives.

References

The Integration and Application Network (IAN) is a collection of scientists interested in solving, not just studying environmental problems. The intent of IAN is to inspire, manage and produce timely syntheses and assessments on key environmental issues, with a special emphasis on Chesapeake Bay and its watershed. IAN is an initiative of the faculty of the University of Maryland Center for Environmental Science, but will link with other academic institutions, various resource management agencies and non-governmental organizations.

PRIMARY OBJECTIVES FOR IAN
- **Foster** problem-solving using integration of scientific data and information
- **Support** the application of scientific understanding to forecast consequences of environmental policy options
- **Provide** a rich training ground in complex problem solving and science application
- **Facilitate** a productive interaction between scientists and the broader community

FURTHER INFORMATION

SCIENCE COMMUNICATION

integration application network

Reminders

- Consider your audience
- Apply the general design principles
- Mock-up and review
- Consider your timeline